

Programmatic Environmental Assessment for Army 2020 Force Structure Realignment



January 2013



Assisted by:
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Gaithersburg, MD 20878

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**Chapter 1, Purpose, Need, and Scope
Chapter 2, Description of the Proposed Action
Chapter 3, Alternatives and Screening Criteria
Chapter 4, Affected Environment and Environmental
Consequences**

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Approved and Reviewed by the U.S. Army Environmental Command

A handwritten signature in black ink, appearing to read 'Mark A. Lee', with a stylized flourish at the end.

Mark A. Lee

Colonel, US Army

Commanding

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1 PURPOSE, NEED, AND SCOPE

1.1 Introduction

This Programmatic Environmental Assessment (PEA) conducts an analysis of the environmental and socioeconomic impacts associated with the Proposed Action and alternatives to realign the Army's force structure by 2020. For this and other reasons discussed below, the action is referred to as Army 2020. The Army must field a force of sufficient size, capability, and configuration to meet the Nation's current and projected future security and defense requirements. It must also do so within budget constraints. This PEA looks at possible force structure changes at 21 installations and their associated maneuver training areas. This PEA will not result in a decision on where changes will occur, though information contained in this PEA will support a series of future Army 2020 force structure decisions in the years to come. These decisions will be made based on mission requirements, resource efficiencies, analysis of impacts in this PEA and other factors. This PEA provides an overarching perspective that will provide decision makers, as well as regulatory agencies and the public, with information on these potential impacts, enabling them to assess and compare those impacts and make informed decisions when selecting locations for reduction or realignment of force structure.

The Army is in a period of critical transition as the Nation has concluded major combat operations in Iraq, assesses force requirements in Afghanistan, and develops new strategy and doctrine for future conflicts. During this transition, the Army as part of the Department of Defense (DoD) must identify prudent measures to reduce spending without sacrificing critical operational capabilities necessary to implement national security and defense priorities. To help achieve mandated spending reductions, the Army is decreasing the current total number of Soldiers and civilians, while reorganizing the current force structure. The Army's Active Duty end-strength will decline from a fiscal year (FY) 2012 end strength of 562,000 to 490,000, and would include a reduction of at least eight Brigade Combat Teams (BCTs) from the current total of 45. This PEA looks at total Soldier population loss of about 126,000 Soldiers and Army civilians (military employees). Reductions to this extent are not required to reach an end-strength of 490,000; however, analyzing the larger number provides flexibility to decision makers over the next several years as conditions change. These factors include changing fiscal, policy, and security considerations that are beyond the scope of the Army to control.

In January 2011, the Secretary of Defense announced that the Army would move forward with a force reduction of 27,000 Soldiers from the Army's FY 2012 end-strength of 562,000. The FY 2013 defense budget request calls for a further reduction from the FY 2012 end-strength of 562,000 to 490,000. The 490,000 level in part reflects a \$487 billion decrease in DoD funding over the next decade under the Budget Control Act of 2011.¹

The Army must posture itself to meet national security objectives with potentially reduced levels of resourcing and personnel moving into the future. This will require changes in operations and will require the Department of the Army (DA) to consider how best to make trade-offs between programs and operations while strategically moving forward to preserve and adapt mission capabilities.

In order to meet national security and defense requirements, further Army operational effectiveness, and maintain training and operational readiness (while preserving a high quality of life for Soldiers and Families, all at sustainable levels of resourcing), the Army has identified the need to reduce, reorganize, and rebalance (collectively, "realign") its force structure. This realignment will result in reductions to overall Army end-strength as well as relative numbers of

¹ See "Defense Budget Priorities and Choices"; Department of Defense, January 2012

1 different types of units. The intent of force rebalancing is to enhance operational readiness and
2 the ability to respond to national defense and security challenges, while preparing to do so in a
3 fiscally constrained environment. The Army must also reduce the strength of its supporting
4 civilian workforce.

5 The Army's Proposed Action is to conduct force reductions and realign existing forces to a size
6 and configuration that is capable of meeting national security and defense objectives,
7 implements Quadrennial Defense Review (QDR) recommendations, sustains unit equipment
8 and training readiness, and preserves a high quality of life for Soldiers and their Families. Army
9 2020 realignment would allow for the adjustment of the composition of its forces to meet force
10 requirements in high demand military occupational specialty areas, while rebalancing the
11 number and types of units in lower priority military occupational skill areas. The implementation
12 of Army force realignment will enable the Army to reduce its operational costs, while allowing
13 the Army to field a smaller force that still can meet the mission requirements of the current and
14 future global security environment.

15 The overall purpose of the Proposed Action is to shape the Army to meet changing mission
16 requirements and to do so in a fiscally sound way. To meet this purpose, the Army must
17 balance resource availability and critical mission requirements while looking for ways to
18 increase operational efficiencies. As part of this effort, the Army must reduce the number of
19 Soldiers on active duty and at the same time reorganize them to ensure the preservation of key
20 defense capabilities. The Army of 2020 will be more agile and cost less than it does today. The
21 Army will have to make optimum use of land and facilities. It will have to be stationed in places
22 that fit the evolving strategic mission. Finally, it must do all of these things in a very cost-
23 efficient manner, implementing changes consistent with defense priorities while preserving the
24 ability to accomplish the mission.

25 In January, 2012, the DoD issued a document titled "Defense Budget Priorities and Choices"
26 (Budget Priorities and Choices). It stated that achieving savings would be "hard, but
27 manageable. It is hard because we have to accept many changes and reductions in areas that
28 previously were sacrosanct.... It is manageable because the resulting joint force, while smaller
29 and leaner, will remain agile, flexible, ready, innovative, and technologically advanced."

30 This PEA looks at those Army installations that have the potential to lose 1,000 or more full-time
31 military employees from FY² 2013 to FY 2020, or that have the potential to gain 1,000 or more
32 Soldiers through force restructuring. The 1,000-Soldier/civilian threshold was chosen because it
33 represents a level of increase or reduction at a majority of installations that warrants analysis at
34 the programmatic level. It also represents, in the case of a loss, a number that Army planners
35 thought could produce significant economic impacts. This threshold was recently established by
36 Congress in 10 U.S.C. §993 for reporting of planned reductions of members of the Armed
37 Forces at military installations. The information in this PEA will assist the Army in complying
38 with new Congressional notification requirements, when the Army plans to reduce more than
39 1,000 Soldiers at an installation. The Budget Priorities and Choices document states that the
40 Army plans to inactivate at least eight BCTs³. BCTs are a fundamental building block of the
41 Army and represent the largest units that might be inactivated at Army installations. Many
42 smaller units, some associated with these BCTs would also face possible inactivation. At the
43 same time, the Army wants to avoid a "hollowing of the force". This would be a force whose
44 structure is preserved, but a force that cannot be adequately equipped or trained, nor could it

² Fiscal year runs from October 1 to September 30.

³ The Budget Priorities and Choices document also states that there will be delays in procurement of new equipment and attempts to slow the growth of costs related to personnel. These initiatives are not considered in this PEA analysis because specific proposals are not known at this time, and because these initiatives would not have immediate environmental impacts that could be evaluated at the programmatic level.

1 credibly respond to national security threats. As the Army gets smaller, actual units will be
2 inactivated or reconfigured. This process will start with the basic building block of the Army, the
3 BCT. The Army's modular structure and the function of BCTs are explained in Section 1.4.1.
4 As stated above, the cornerstone of the Army's restructuring will be the inactivation of at least
5 eight BCTs.

6 It is important to remember that the Soldiers in these units would not be discharged from the
7 Army when their units are eliminated. Instead, some would leave the Army through the normal
8 course of events, to include retirement, and others would be reassigned to other units.

9 This PEA looks at major adjustments that are tied to specific installations. There are many
10 other possible reductions that will come into play as the Army and the DoD make adjustments
11 between now and 2020. All Army installations, even the smallest, will likely have reductions in
12 Soldier-strength. These reductions are also likely to lead to corresponding reductions in the
13 numbers of trainees and students in Army schools, as overall training requirements diminish.
14 There could also be reductions in the number of civilian employees at most Army installations.

15 The changes to the Army will be made gradually, and will be subject to periodic adjustment as
16 national defense requirements are periodically reassessed. This PEA provides Army decision
17 makers with an analysis of the environmental and socioeconomic impacts associated with the
18 proposed realignment the Army's force structure by FY 2020.

19 In the 21st Century Strategic Guidance, the DoD introduced the term "Joint Force of 2020." The
20 date indicates a goal for achieving the long-range transformation outlined in the strategy. The
21 Chief of Staff of the Army (CSA) issued "Marching Orders" that stated as a goal, "Develop the
22 force of the future, Army 2020 as part of Joint Force 2020 – a versatile mix of capabilities,
23 formations, and equipment." Army planners have also begun using the term "Army 2020" to
24 reflect our participation in the joint transformation and as a way to represent the process by
25 which the Army will transform between FY 2013 and FY 2020. This PEA, therefore, uses "Army
26 2020" as the title of its Proposed Action.

27 **1.2 Purpose and Need of the Proposed Action**

28 The purpose of the Proposed Action is to shape the Army to meet changing mission
29 requirements and to do so in accordance with budgetary constraints. The President stated that
30 we must "meet the challenges of this moment responsibly and ... emerge even stronger in a
31 manner that preserves American global leadership, maintains our military superiority and keeps
32 faith with our troops, military Families, and veterans⁴". The President concluded: "The fiscal
33 choices we face are difficult ones, but there should be no doubt – here in the United States or
34 around the world – we will keep our Armed Forces the best-trained, best-led, best-equipped
35 fighting force in history. In a changing world that demands our leadership, the United States of
36 America will remain the greatest force for freedom and security that the world has ever known."

37 According to the 21st Century Strategic Guidance, the missions of the United States (U.S.)
38 Armed Forces are:

- 39 • **Counter Terrorism and Irregular Warfare.** Acting in concert with other means of
40 national power, U.S. military forces must continue to hold al-Qa'ida and its affiliates and
41 adherents under constant pressure, wherever they may be. *Achieving our core goal of*
42 *disrupting, dismantling, and defeating al-Qa'ida and preventing Afghanistan from ever*
43 *being a safe haven again will be central to this effort.* As U.S. forces draw down in
44 Afghanistan, our global counter terrorism efforts will become more widely distributed and
45 will be characterized by a mix of direct action and security force assistance. Reflecting

⁴ President's Guidance, Jan. 3, 2012

1 lessons learned of the past decade, we will continue to build and sustain tailored
2 capabilities appropriate for counter terrorism and irregular warfare. We will also remain
3 vigilant to threats posed by other designated terrorist organizations, such as Hezbollah.

- 4 • **Deter and Defeat Aggression.** U.S. forces will be capable of deterring and defeating
5 aggression by any potential adversary. *Credible deterrence results from both the*
6 *capabilities to deny an aggressor the prospect of achieving his objectives and from the*
7 *complementary capability to impose unacceptable costs on the aggressor.* As a Nation
8 with important interests in multiple regions, our forces must be capable of deterring and
9 defeating aggression by an opportunistic adversary in one region even when our forces
10 are committed to a large-scale operation elsewhere. Our planning envisages forces that
11 are able to fully deny a capable state's aggressive objectives in one region by
12 conducting a combined arms campaign across all domains – land, air, maritime, space,
13 and cyberspace. This includes being able to *secure territory and populations and*
14 *facilitate a transition to stable governance on a small scale for a limited period using*
15 *standing forces and, if necessary, for an extended period with mobilized forces.* Even
16 when U.S. forces are committed to a large-scale operation in one region, *they will be*
17 *capable of denying the objectives of – or imposing unacceptable costs on – an*
18 *opportunistic aggressor in a second region.* U.S. forces will plan to operate whenever
19 possible with allied and coalition forces. Our ground forces will be responsive and
20 capitalize on balanced lift, presence, and prepositioning to maintain the agility needed to
21 remain prepared for the several areas in which such conflicts could occur.
- 22 • **Project Power Despite Anti-Access/Area Denial Challenges.** In order to credibly
23 deter potential adversaries and to prevent them from achieving their objectives, the U.S.
24 must maintain its ability to project power in areas in which our access and freedom to
25 operate are challenged. In these areas, sophisticated adversaries will use asymmetric
26 capabilities, to include electronic and cyber warfare, ballistic and cruise missiles,
27 advanced air defenses, mining, and other methods, to complicate our operational
28 calculus. Other countries will continue to pursue asymmetric means to counter our
29 power projection capabilities, while the proliferation of sophisticated weapons and
30 technology will extend to non-state actors as well. *Accordingly, the U.S. military will*
31 *invest as required to ensure its ability to operate effectively in anti-access and area*
32 *denial environments.* This will include implementing the Joint Operational Access
33 Concept, sustaining our undersea capabilities, developing a new stealth bomber,
34 improving missile defenses, and continuing efforts to enhance the resiliency and
35 effectiveness of critical space-based capabilities.
- 36 • **Counter Weapons of Mass Destruction.** U.S. forces conduct a range of activities
37 aimed at preventing the proliferation and use of nuclear, biological, and chemical
38 weapons. These activities include implementing the Cooperative Threat Reduction
39 (Nunn-Lugar) Program, and planning and operations to locate, monitor, track, interdict
40 and secure weapons of mass destruction (WMD) and WMD-related components and the
41 means and facilities to make them. They also include an active whole-of-government
42 effort to frustrate the ambitions of nations bent on developing WMD, to include
43 preventing Iran's pursuit of a nuclear weapons capability. In partnership with other
44 elements of the U.S. Government, DoD will continue to invest in capabilities to detect,
45 protect against, and respond to WMD use, should preventive measures fail.
- 46 • **Operate Effectively in Cyberspace and Space.** Modern Armed Forces cannot conduct
47 high-tempo, effective operations without reliable information and communication
48 networks and assured access to cyberspace and space. Today, space systems and their
49 supporting infrastructure face a range of threats that may degrade, disrupt, or destroy
50 assets. *Accordingly, DoD will continue to work with domestic and international allies and*

1 partners and invest in advanced capabilities to defend its networks, operational
2 capability, and resiliency in cyberspace and space.

- 3 • **Maintain a Safe, Secure, and Effective Nuclear Deterrent.** As long as nuclear
4 weapons remain in existence, the U.S. will maintain a safe, secure, and effective
5 arsenal. We will field nuclear forces that can, under any circumstances, confront an
6 adversary with the prospect of unacceptable damage, both to deter potential adversaries
7 and to assure U.S. allies and other security partners that they can count on America's
8 security commitments. *It is possible that our deterrence goals can be achieved with a*
9 *smaller nuclear force, which would reduce the number of nuclear weapons in our*
10 *inventory as well as their role in U.S. national security strategy.*
- 11 • **Defend the Homeland and Provide Support to Civil Authorities.** U.S. forces will
12 continue to defend U.S. territory from direct attack by state and non-state actors. We will
13 also come to the assistance of domestic civil authorities in the event such defense fails
14 or in case of natural disasters, potentially in response to a very significant or even
15 catastrophic event. Homeland defense and support to civil authorities require strong,
16 steady state force readiness, to include a robust missile defense capability. Threats to
17 the homeland may be highest when U.S. forces are engaged in conflict with an
18 adversary abroad.
- 19 • **Provide a Stabilizing Presence.** U.S. forces will conduct a sustainable pace of
20 presence operations abroad, including rotational deployments and bilateral and
21 multilateral training exercises. These activities reinforce deterrence, help to build the
22 capacity and competence of U.S., allied, and partner forces for internal and external
23 defense, strengthen alliance cohesion, and increase U.S. influence. A reduction in
24 resources will require innovative and creative solutions to maintain our support for allied
25 and partner interoperability and building partner capacity. *However, with reduced*
26 *resources, thoughtful choices will need to be made regarding the location and frequency*
27 *of these operations.*
- 28 • **Conduct Stability and Counterinsurgency Operations.** In the aftermath of the wars in
29 Iraq and Afghanistan, the U.S. will emphasize non-military means and military-to-military
30 cooperation to address instability and reduce the demand for significant U.S. force
31 commitments to stability operations. U.S. forces will nevertheless be ready to conduct
32 limited counterinsurgency and other stability operations if required, operating alongside
33 coalition forces wherever possible. Accordingly, U.S. forces will retain and continue to
34 refine the lessons learned, expertise, and specialized capabilities that have been
35 developed over the past 10 years of counterinsurgency and stability operations in Iraq
36 and Afghanistan. *However, U.S. forces will no longer be sized to conduct large-scale,*
37 *prolonged stability operations.*
- 38 • **Conduct Humanitarian, Disaster Relief, and Other Operations.** The Nation has
39 frequently called upon its Armed Forces to respond to a range of situations that threaten
40 the safety and well-being of its citizens and those of other countries. U.S. forces possess
41 rapidly deployable capabilities, including airlift and sealift, surveillance, medical
42 evacuation and care, and communications that can be invaluable in supplementing lead
43 relief agencies, by extending aid to victims of natural or man-made disasters, both at
44 home and abroad. DoD will continue to develop joint doctrine and military response
45 options to prevent and, if necessary, respond to mass atrocities. U.S. forces will also
46 remain capable of conducting non-combatant evacuation operations for American
47 citizens overseas on an emergency basis. The aforementioned missions will largely
48 determine the shape of the future Joint Force. The overall capacity of U.S. forces,
49 however, will be based on requirements that the following subset of missions demand:

1 counter-terrorism and irregular warfare; deter and defeat aggression; maintain a safe,
2 secure, and effective nuclear deterrent; and defend the homeland and support civil
3 authorities.

4 In addition to the 21st Century Strategic Guidance referenced above, source documents
5 referenced in this section include the National Security Strategy (NSS, 2010), Defense Strategic
6 Guidance (DSG) (Jan, 2012), the National Military Strategy (NMS, 2011), the QDR (2010), and
7 the Army Campaign Plan. Army 2020 realignment must meet the requirements defined in these
8 guiding national security and defense policy documents, which lay the framework for the Army
9 mission and how the U.S. will utilize its military to deter conflict and shape the global security
10 environment. While the documents above define the Army's requirements to take action from
11 an organizational perspective, this section also discusses the needs of the Army from a unit
12 level perspective, and requirements to maintain training readiness and Soldier and Family
13 quality of life.

14 The need for the Proposed Action is derived primarily from the Army's need to meet strategic
15 security and defense objectives while balancing manning, training, equipping, stationing, and
16 deployment and readiness activities with reduced levels of funding and personnel. The intent of
17 Army 2020 rebalancing is to maximize operational readiness while preparing to meet national
18 security objectives with potentially reduced levels of resourcing. This requires the Army to
19 prioritize among force structure, programs, and operations while strategically moving forward to
20 preserve and maintain mission capabilities.

21 The need for the Proposed Action focuses on four primary areas:

- 22 • **Matching Army Force Structure and Capabilities with Mission Requirements.** The
23 Army must determine the best mix of capabilities and stationing concepts to achieve the
24 greatest degree of effectiveness to carry out national security priorities. The DSG, NSS,
25 and NMS provide a framework which directs Army mission requirements and
26 contingency planning. The Army must be able to meet the Nation's security and defense
27 policy objectives as defined in these documents. The Army Campaign Plan is the
28 Army's guiding document for managing operational and generating forces (See Section
29 1.2.1.2) and carrying out recommendations put forth in the QDR.
- 30 • **Sustaining Force Readiness.** Sustaining the force entails ensuring that the Army
31 consists of enough Soldiers to support mission requirements abroad, while providing
32 enough time to units at home station to train and maintain equipment. Striking the
33 proper balance of these activities is critical to ensure a professional, well-trained, and
34 well-equipped force can consistently meet unit readiness standards and successfully
35 accomplish national security and defense missions.
- 36 • **Preserving Soldier and Family Quality of Life and the All-Volunteer Force.**
37 Maintaining a long-term sustainable balance between operational activities and
38 maintaining a quality of life for Soldiers and their Families is critical to maintaining Army
39 capabilities. Balancing operations and deployments with quality of life reduces stress
40 placed on individual Soldiers and their Families and allows the Army to more effectively
41 manage the all-volunteer force. In turn, this encourages Soldier retention and attracts
42 qualified new recruits making the Army a more effective and capable organization.
- 43 • **Adapting the Force to Reduce Army Expenditures.** In order to support increased
44 national security posture following the September 11, 2001 terrorist attacks, the DoD
45 budget increased by approximately 119 percent from FY 2001 to FY 2010 (Sustainable
46 Defense Task Force, 2010). During this timeframe, the DoD achieved many of the
47 Nation's critical security objectives to include disrupting terrorist organizations and
48 securing the U.S. from direct attack. In May 2010, an updated NSS was released that

1 recognizes that current levels of DoD funding must be re-evaluated and adjusted to take
2 into account a sustainable balance of current security priorities and the broader threats
3 of fiscal imbalance. The 2011 Budget Control Act requires DoD to reduce expenditures
4 by \$487 billion over the next 10 years. As the 21st Century Strategic Guidance points
5 out, deficit reduction through a lower level of defense spending is itself a national
6 security imperative. The NSS broadly summarizes the need to balance security
7 priorities and spending priorities:

8 *At the center of our efforts is a commitment to renew our economy, which*
9 *serves as the wellspring of American power... Rebuilding our economy*
10 *must include putting ourselves on a fiscally sustainable path. As such,*
11 *implementing our national security strategy will require a disciplined*
12 *approach to setting priorities and making tradeoffs among competing*
13 *programs and activities. Taken together, these efforts will position our*
14 *nation for success in the global marketplace, while also supporting our*
15 *national security capacity—the strength of our military, intelligence,*
16 *diplomacy and development, and the security and resilience of our*
17 *homeland.*

18 In his Congressional testimony, the CSA summarized part of the need for implementing
19 Army 2020:

20 *Our Army must remain a key enabler in the Joint Force across a broad*
21 *range of missions, responsive to the combatant commanders and*
22 *maintain trust with the American people. It's my challenge to balance the*
23 *fundamental tension between maintaining security in an increasingly*
24 *complicated and unpredictable world, and the requirements of a fiscally*
25 *austere environment. The U.S. Army is committed to being a part of the*
26 *solution in this very important effort (General Odierno, 2011).*

27 Finally, the 21st Century Strategic Guidance stated:

28 *The balance between available resources and our security needs has*
29 *never been more delicate. Force and program decisions made by the*
30 *Department of Defense will be made in accordance with the strategic*
31 *approach described in this document, which is designed to ensure our*
32 *Armed Forces can meet the demands of the U.S. National Security*
33 *Strategy at acceptable risk.*

34 **1.2.1 Matching Army Force Structure and Capabilities with Mission** 35 **Requirements**

36 The Army is a land-based military force that is organized, trained, and equipped to protect the
37 Nation's global security interests and provide for national defense. The Army does this primarily
38 through prompt intervention and sustained combat, peacekeeping enforcement, and support
39 and stability operations in key regions of interest defined by national strategic policies and
40 objectives. As Commander in Chief of the Armed Forces, the President, in conjunction with his
41 security advisors, promulgates and defines national security and defense policy. Using these
42 policies as strategic guidance, military commanders conduct contingency planning to ensure
43 that their forces are able to respond to crises, shape the global security environment, and
44 implement security and defense policies in their regions of interest. The Army is responsible for
45 the implementation of national security and defense policy as outlined in these over-arching
46 security and defense policy documents.

1 The President establishes the Nation's goals and objectives for promoting secure global
2 conditions and for shaping of the global security environment. The NSS establishes the policy
3 goals and objectives that begin to shape mission requirements for the DoD and DA. The 2010
4 NSS *National Security Strategy* reaffirmed America's commitment to retaining its global
5 leadership role and defined our enduring national interests to secure U.S. citizens, support a
6 strong economic system, and work with allies and partners to promote peace and security while
7 addressing global security challenges. The NSS provides direction and guidance to inform DoD
8 and DA Commanders and planners in establishing a framework for formulation of the National
9 Defense Strategy.

10 In addition to the NSS, the President and Secretary of Defense issued additional national
11 security strategy guidance in January 2011. The 21st Century Strategic Guidance stated that
12 "The DoD will manage the force in ways that protect its ability to regenerate capabilities that
13 might be needed to meet future, unforeseen demands, maintaining intellectual capital and rank
14 structure that could be called upon to expand key elements of the force." Thus, the Army and
15 other service branches will ensure that the training force required to generate trained and ready
16 Soldiers remains intact to accomplish necessary training missions.

17 Analyses in the QDR pointed emphatically to two overarching conclusions. The first is that U.S.
18 forces would be able to perform their missions more effectively—both in the near-term and
19 against future adversaries—if they had more and better key enabling capabilities at their
20 disposal. These enablers include rotary-wing aircraft, unmanned aerial systems (UAS),
21 intelligence analysis and foreign language expertise, and tactical communications networks for
22 ongoing operations, as well as more robust space-based assets, more effective electronic
23 attack systems, more resilient base infrastructure, and other assets essential for effective
24 operations against future adversaries.

25 The second theme to emerge from QDR analyses is the importance of ensuring that U.S. forces
26 are flexible and adaptable so that they can confront the full range of challenges that could
27 emerge from a complex and dynamic security environment. The recommendations of the QDR
28 will accelerate the evolution of our Armed Forces toward a mix of activities and capabilities
29 better suited to the demands of the emerging security environment. To implement QDR
30 recommendations, the Army must reconfigure the numbers and types of combat and combat
31 support forces and adjust unit equipping strategies and acquisition programs.

32 Specific QDR recommendations include:

- 33 • Enhancing capabilities for domain awareness and cyber security;
- 34 • Accelerating the development of standoff radiological/nuclear detection capabilities;
- 35 • Fielding faster, more flexible consequence management response forces including
36 chemical, biological, radiological, nuclear, and high-yield explosives response forces;
- 37 • Increase the availability of rotary-wing assets to enable a more expeditionary force;
- 38 • Expand manned and unmanned aircraft systems for intelligence, surveillance, and
39 reconnaissance;
- 40 • Expand intelligence, analysis, and targeting capacity;
- 41 • Increase Special Operations Force assets to include logisticians, communications
42 assets, information support specialists, forensic analysts, and intelligence experts;
- 43 • Increase counter-insurgency capabilities, stability operations capabilities, and counter-
44 terrorism competency and capacity in general purpose forces;
- 45 • Expand civil affairs capacity; and
- 46 • Build the Security Capacity of Partner states.

1.2.1.1 National Military Strategy

The purpose of the NMS is to provide the ways and means by which the military will advance enduring national interests as explained in the 2010 NSS and accomplish the defense objectives in the 2010 QDR. Those national military objectives are:

1. **Counter Violent Extremism.** The Nation's strategic objective is to disrupt, dismantle, and defeat al-Qa'ida, its affiliates, and other extremist organizations that resort to violence and to prevent their organization and re-establishment.
2. **Deter and Defeat Aggression.** This military objective includes the dissuasion, deterrence, and defeat of organizations and states that seek to harm the U.S. and its citizens directly.
3. **Strengthen International and Regional Security.** A secure international system requires collective action. The U.S. has an interest in broad-based and capable partnerships with like-minded states. This objective seeks to strengthen security relationships with traditional allies and friends, developing new international partnerships, while working to increase the capabilities of our partners to contend with common challenges.
4. **Shape the Future Force.** The DoD and Army strategy is focused on fielding a modular, adaptive, general purpose force that can be employed in the full range of military operations. The Army, working with Joint Forces partners, will improve its ability to surge on short notice, deploy agile command and control systems, and be increasingly interoperable with other U.S. Government agencies. The Army will continue to focus on becoming more expeditionary in nature with a smaller logistical footprint in part by reducing large fuel and energy demands. The Joint Force must ensure access, freedom of maneuver, and the ability to project power globally through all domains. While implementing Army force reductions, it will be critical that the Army maintain a tailorable mix of networked organizations that can operate on a rotational basis with joint service and multinational coalitions. In accordance with new defense priorities, the Army of 2020 must have a versatile mix of formations and equipment that is lethal, agile, adaptable, and responsive. As the Army undergoes this transition, it will prioritize force structure and Joint Force assets to focus on the Pacific Region and Middle East to fulfill the Nation's strategic defense priorities. As the Army repostures and realigns, it will continue to improve its cyberspace and cyber defense capabilities.

1.2.1.2 Army Campaign Plan and Transformation

The Army Campaign Plan serves as the Army's roadmap to implementing the goals and objectives put forth in the QDR and its overarching planning document that guides Army Transformation. To implement decisions made in the QDR, senior Army leadership is responsible for developing and managing the Army's force structure. The process of Army force management is not a static one; force management decision making is an evolving process that is based on changing global conditions and mission requirements. As mission requirements increase or decrease, Army leadership has recognized the need to re-evaluate the size and unit composition of the modular force. This evaluation and determination to change the size or structure of the modular force will take mission requirements into account and will build on previous decisions that direct the Army to transform to a modular force.

1.2.1.3 Summary of Strategic Requirements

The policies and guidance put forth in strategic defense documents provide directives and explicit guidance for the Army to adjust its capabilities to project power rapidly to prevent, deter,

1 or defeat the actions of those who would do the Nation harm while maintaining stability in key
2 regions of interest. Effective deterrence requires that those who would undermine U.S. security
3 have awareness that U.S. defense forces can credibly act to halt those activities that threaten
4 U.S. national security. Rapid power projection to respond to the wide range of potential
5 contingencies present in an increasingly complex global security environment is a foundational
6 capability needed to support national security. The Army remains committed to its strategic goal
7 of having the capability to deploy a BCT anywhere in the world within a few days of notification.
8 This requires advance planning to respond to contingencies in key areas of interest and detailed
9 planning based on a unit's deployment facilities, logistics, and available transportation.
10 Deployment considerations and Combatant Commanders' force requirements assist the Army in
11 selecting stationing locations that can support contingency operations and national defense
12 requirements. As the Army reduces its overall end-strength, the Army must plan and structure its
13 forces to provide the capabilities to implement defense policies and guidance put forth in the
14 NSS, NMS, and QDR.

15 **1.2.2 Sustaining Force Readiness**

16 While at home station, it is critical that Army units retain or develop those skills necessary to
17 deploy and execute their respective mission. Effective training, carried out to a high doctrinal
18 standard, is the cornerstone of operational success. High quality training, which prepares
19 Soldiers for what will be encountered in the operational environment, is essential to ensuring the
20 success of the Nation's strategic defense objectives, to national security, and to the safety of
21 those who serve.

22 A critical element of need for the permanent stationing of units as part of Army 2020 is ensuring
23 that units can attain high levels of training proficiency to prepare for future missions and
24 deployment abroad. Training and qualifying Soldiers and units typically requires three types of
25 training facilities: individual and crew weapons qualification ranges; live-fire range complexes
26 that allow units to conduct live-fire training simultaneously as one team; and maneuver areas for
27 units to rehearse and train on the full complement of mission essential tasks required by a unit's
28 training doctrine. In addition, to live training, the Army also augments its leader development
29 and unit training strategies with virtual and battle simulations. This training is necessary for
30 Army units to execute a full array of combat, stability, and peace support operations as part of
31 preparations for the full spectrum of potential future operations.

32 The level of combat readiness of an Army unit is directly related to the availability and capability
33 of its supporting training infrastructure. All modular BCTs require a full suite of supporting
34 training infrastructure to meet individual, crew, and collective unit training requirements to be
35 certified for operational deployments. Unit range requirements are fully articulated along with
36 range specifications and standard designs in Army Training Circular (TC) 25-8 *Army Training*
37 *Ranges*, which serves as the definitive source document for Army training range requirements.
38 Locations selected for the stationing of Army units as part of the consolidation or realignment of
39 Army units must possess or be able to accommodate the construction of range requirements for
40 the unit so that the unit can adequately train to meet doctrinal training readiness standards.

41 In addition to adequate firing ranges, installations must have enough combat maneuver space
42 for units to be able to rehearse and execute a full range of combat and peace support
43 operations, and to certify themselves as a deployable unit. TC 25-1 *Training Land* serves as the
44 definitive source document for requirements for maneuver land training.

45 **1.2.2.1 Readiness and Garrison Operations Facilities**

46 When an Army unit is not deployed it requires adequate garrison facilities to conduct routine
47 operations and maintenance to sustain its equipment. Garrison operations ensure the unit is

1 administratively prepared and functionally equipped to support deployment operations. This
2 requires dedicated administrative office space for its Soldiers, motor pools, vehicle maintenance
3 facilities, weapons armories, and many other administrative facilities needed to ensure
4 successful garrison preparation and maintain operational readiness. The U.S. Army Corps of
5 Engineers (USACE) has designed and implemented a program of standard facilities
6 requirements for Army units. These standards ensure that the Army provides adequate facilities
7 for its units. Stationing sites selected must be able to accommodate unit garrison operations
8 and construction of necessary support facilities, if needed, as an essential component of need
9 for the stationing of new units.

10 **1.2.3 Preserving Soldier and Family Quality of Life and the All-Volunteer Force**

11 Preserving Soldier and Family quality of life and the all-volunteer force are two of the Army's
12 highest priorities and concepts that are inseparably linked. The Army strives to maintain the
13 highest possible quality of life for those who serve by establishing deployment predictability and
14 balancing the timeframes for which Soldiers are deployed away from home station against
15 mission requirements.

16 Meeting the needs of the Soldiers and their Family members means having access to quality
17 schools, medical facilities, housing, services, and recreation opportunities. In a typical Army
18 Brigade of between 3,500-4,000 Soldiers, approximately 55 percent of Soldiers are married and
19 may be accompanied by more than 1,800 spouses and 3,400 children. Army installations are
20 used not only for military training, but are also the communities where Families remain behind
21 and are supported as members of the Army community where they live. The Army is absolutely
22 committed to providing the highest quality of life that can be attained for the Soldiers and their
23 Families who have endured multiple deployments. Stationing locations considered must have
24 or be able to build housing and living space, schools, and medical facilities, and support the
25 recreational opportunities for the Soldiers and Families. Retaining the all-volunteer force has
26 been defined by the Senior Leadership of the Army as an essential component for sustaining a
27 high quality force capable of implementing the Nation's defense and security needs.

28 **1.2.4 Adapting the Force to Reduce Expenditures**

29 The NSS and NMS increasingly recognize the connection between national economic prosperity
30 and security goals and objectives. The NMS (2011) states that, "*The United States will remain*
31 *the foremost economic and military power for the foreseeable future, though national debt poses*
32 *a significant national security risk*". Defense spending rose considerably in response to attacks
33 on the homeland. Defense spending is the largest discretionary component of federal spending
34 (Sustainable Defense Task Force, 2010). Implementing the NSS envisioned by the Army would
35 be aimed at achieving a more balanced and fiscally sustainable path moving forward. It will
36 require a disciplined approach to setting priorities and making tradeoffs among competing
37 programs and activities while focusing on implementing key DoD objectives.

38 **1.3 Ongoing Army Initiatives (Army Modular Forces and Global Defense Posture** 39 **Realignment)**

40 Decisions that shape the Army 2020 must take into consideration current and ongoing Army
41 initiatives to include the Army Modular Forces (AMF) initiative and the Global Defense Posture
42 Realignment (GDPR) that evaluates U.S. force levels and requirements outside of the U.S.
43 Each of these initiatives is discussed in greater detail below.

44 **1.3.1 Army Modular Forces**

45 For several years, the Army has been implementing the AMF initiative. Transformation under
46 this initiative makes the Army more modern and enables it to deploy to meet evolving

1 contingencies. The reduction in size of the Army will involve these transforming forces and
2 must be consistent with force modernization. For this reason, a detailed discussion of AMF is
3 appropriate.

4 As a part of the overall Army transformation effort, the Army has transitioned to a modular or
5 standardized force structure at all levels of its organization. This process of modular
6 standardization has entailed a change to self-contained, logistically supportable brigade-sized
7 units of 3,400-4,200 Soldiers referred to as BCTs. The units within these BCTs are similar in
8 their equipment and manning. The modular initiative allows for greater levels of planning and
9 organizational efficiency.

10 There are three primary types of BCTs that are designed to be self-contained, deployable,
11 expeditionary units in nature, that can be augmented with other units to support the intent of
12 theater commanders.

- 13 • **Infantry Brigade Combat Team.** The Infantry Brigade Combat Team (IBCT) consists
14 of approximately 3,400-3,500 Soldiers and 950 wheeled vehicles. The unit is designed
15 for rapid deploy ability, speed, and agility, but lacks firepower, protective armaments,
16 and staying power to sustain engaged conflict against an opposing armored force.
- 17 • **Armored Brigade Combat Team.** The Armored Brigade Combat Team (ABCT)⁵ is
18 composed of M1 Abrams tanks, M2 Bradley fighting vehicles and supporting tracked and
19 wheeled vehicles. When fully manned, the ABCT consists of approximately 3,850
20 Soldiers. This type of unit has considerable firepower and protective armament, but
21 requires more logistical support to deploy, and lacks the maneuverability and agility of
22 the IBCT. In addition, the ABCT requires more logistics support to sustain its military
23 operations once deployed.
- 24 • **Stryker Brigade Combat Team.** The Stryker Brigade Combat Team (SBCT) provides
25 the Army with capability that offsets the strategic gaps between the capabilities of the
26 ABCT and IBCT. The SBCT consists of approximately 4,200 Soldiers, 320-330 Stryker
27 vehicles, and 500-600 wheeled support vehicles. The SBCT provides levels of
28 deployability, maneuverability, firepower, communications capability, and armament that
29 allow the unit to accomplish a broad range of operations. Its increased mobility and
30 digital communications capability make the unit ideal for conducting urban and small
31 scale contingency operations.

32 As part of the implementation of the Proposed Action, the Army is considering changes to the
33 modular structure of these BCTs. Changes could include the addition of another combat
34 maneuver battalion, the addition of an engineering battalion within these BCTs, or additional
35 changes to Combat Support Units included within BCTs. Augmentation of modular BCTs, if
36 pursued, would be intended to enhance the expeditionary capabilities and combat power of the
37 modular BCT to meet a broader array of mission requirements.

38 In addition to the BCTs that represent the Army's primary ground combat forces; there are five
39 other types of brigades which support the ground operations of the BCT. At a minimum, these
40 supporting brigades consist of a modular standardized headquarters that have fixed manning
41 and equipment requirements. The remaining structure of support brigades, however, is
42 tailorable to the needs of the mission commanders. With the exception of aviation brigades,
43 these units, therefore, have no set number of Soldiers and vehicles.

- 44 • **Fires Brigade.** The fires brigade uses mounted and towed artillery and Multiple Launch
45 Rocket Systems (MLRS) to provide close support and precision strikes. The brigade

⁵ The ABCT was formerly referred to under the Army Modular Forces concept as a Heavy BCT or HBCT. This HBCT, consisting of tanks and other armored mechanized vehicles, is now referred to as an ABCT.

1 employs artillery within the unit but also can control and direct the fires of other Armed
2 Forces or coalition partners.

- 3 • **Aviation Brigade.** There are several types of aviation brigades, each with a different
4 function. Aviation Brigades include Combat Aviation Brigades (CABs); Medium and
5 Heavy lift Aviation Brigades, and multi-functional Aviation Brigades. Aviation Brigades
6 typically consist of over 100 helicopters and 2,000 to 3,000 Soldiers.
- 7 • **Battlefield Surveillance Brigade.** The Battlefield Surveillance Brigade (BfSB) provides
8 reconnaissance, surveillance, target acquisition, and intelligence support to build the
9 common operational picture, and focus the efforts and resources of the Army and its
10 sister services.
- 11 • **Combat Support Brigade (Maneuver Enhancement Brigade).** The Maneuver
12 Enhancement Brigade (MEB) enables, enhances, and provides freedom of maneuver
13 and engineering support to an Army, joint, or multinational headquarters. The MEB
14 augments maneuver and support brigades with functional assets to provide combat
15 maneuverability and focused logistics across multiple areas of operation and can provide
16 a headquarters to command and control an assigned area of operations including
17 maneuver forces.
- 18 • **Sustainment Brigade.** The Sustainment Brigade (SUSBDE) consists of a modular
19 headquarters unit of approximately 350 Soldiers and light, medium, and heavy tactical
20 trucks. In addition to this headquarters unit, logistics units are attached in accordance
21 with mission requirements. There is no fixed structure for a SUSBDE, but for the
22 purpose of this analysis we have used 3,500 Soldiers, which is the maximum ceiling of
23 logistics Soldiers in support units going to any installation. The primary mission of the
24 unit is to provide a complete range of logistics support supplies and services to combat
25 BCTs and supporting brigades. Often, this support is in the form of fuel, ammunition,
26 parts, food, and contracting services, to highlight just a few of the many logistical
27 requirements of the BCT.

28 Each of these brigades is supported by different military skill sets such as military intelligence,
29 communications, or explosives ordnance, to name a few. Each of these skill sets are combined
30 in a precise manner within a BCT or support brigade to provide the right skill sets to meet
31 mission requirements.

32 In addition to these types of brigades, the Army also has training brigades established for the
33 purpose of preparing Soldiers for assignments to operational units. These brigades are found at
34 U.S. Army Training and Doctrine Command (TRADOC) training centers.

35 **1.3.2 Possible Restructure of Brigade Combat Teams**

36 Even as this transformation process is executed, the Army continues to modernize its forces.
37 The Army has identified, through the last 8 years of conflict, that there is a serious capabilities
38 gap in its modular force structure. TRADOC has evaluated BCT capabilities and identified that
39 BCTs without a 3rd Maneuver Battalion conduct less effective wide area security, combined
40 arms maneuver, and peace support operations. The addition of a 3rd Maneuver Battalion to
41 ABCTs and IBCTs has been a key recommendation raised by BCT Commanders returning from
42 Iraq and Afghanistan.

43 In addition to BCT capabilities gaps, the Army is evaluating the force structure of engineer units.
44 The Brigade Engineer Battalion (BEB) Force Design Update (FDU) is being studied to address
45 engineer capability gaps in BCTs. The FDU was based on a 2009 Army Capabilities Integration
46 Center Organizational Based Assessment, a May 2009 Maneuver Support Center of Excellence
47 War Fighter Symposium, and concurrent work to inform the Army on how to best redesign

1 engineer force structure. The FDU directly addresses engineer capability gaps in Command &
2 Control, Route Clearance, Assault Gap Crossing, Assault Breach and Horizontal Construction.
3 The BEB would replace the brigade special troops battalion in IBCTs and ABCTs and adds a
4 Battalion Headquarters in the SBCT. The BEB FDU includes an engineer battalion
5 headquarters, an assault gap crossing/breaching capability, limited horizontal construction, and
6 route clearance capability. As part of the Army 2020 proposal, there may be other unit
7 augmentations, such as additional indirect fires units, reconnaissance elements, and other
8 Combat Support unit changes that occur between now and 2020 based on the need to establish
9 the optimum configuration for the BCT.

10 **1.3.3 Global Defense Posture Realignment**

11 GDPR is another transformation process that will continue as the Army reduces its force
12 structure. National security is enhanced in part by forward based capabilities and forces present
13 in theaters overseas that can quickly undertake military actions when called upon to do so.
14 Although the U.S. will retain forward-positioned forces in the Pacific, Europe, Korea, and other
15 locations, more Soldiers and their units will be relocated to Army installations in the U.S. where
16 increased levels of readiness can be attained at reduced operational costs. Where possible, the
17 U.S. will work with security partners and allies to support operations of common interest. This
18 strategy will enable the Army to restructure in a manner that enhances the efficiency and
19 effectiveness of response to emerging threats while reducing funding requirements. The
20 decisions of GDPR will affect some of the future basing decisions made as part of Army 2020
21 stationing to the extent that some forces will return to the U.S. from overseas basing locations.
22 This analysis is intended to look at the impacts of decisions to return forces to bases located in
23 the U.S., and not at the impacts of force reductions to host nation locations.

24 There is a focus on a sustainable pace of rotational deployments to places around the world.
25 The Germany-based 170th Infantry Brigade will be inactivated, followed by the 172nd Separate
26 Infantry Brigade, as part of a broad restructuring of the military forces in Europe that also calls
27 for the inactivation of two U.S. Air Force Squadrons, the eventual inactivation of the Army's V
28 Corps, and the closing of Army garrisons. The Army will now plan for a rotational presence of
29 forces in Europe. This will mean, primarily, that forces in the U.S. will deploy for short-term
30 durations to support operations in Europe.

31 **1.4 Scope of the Analysis**

32 This PEA has been prepared in accordance with the National Environmental Policy Act (NEPA),
33 the regulations issued by the Council on Environmental Quality (CEQ), 40 Code of Federal
34 Regulations (CFR) Parts 1500-1508, and the Army's procedures for implementing NEPA,
35 published in 32 CFR Part 651 Environmental Analysis of Army Actions. This PEA addresses
36 the proposed restructuring of Army forces to adjust the composition and current stationing
37 locations of the Army's forces. Implementing Army 2020 includes evaluating stationing actions
38 at locations within the U.S. in accordance with NEPA regulations. This PEA will provide to the
39 decision maker important information regarding potential environmental and socioeconomic
40 impacts associated with the Proposed Action and alternatives. This information will be used to
41 determine whether an Environmental Impact Statement (EIS) is required, and will also assist in
42 later decisions on specific unit changes. The scope of this PEA is broad and encompasses
43 activities to support Army stationing and overarching facilities plans projected to take place from
44 FY 2013 to FY 2020.

45 The analysis does not address changes at locations outside of the U.S. The Army has
46 determined installations outside the U.S. fell out of the scope of this PEA as not meeting the
47 purpose and need for the Proposed Action. Army forces outside of the U.S. will continue to be

1 considered for realignment as part of GDPR, but these decisions represent a different set of
2 stationing decisions with separate factors for consideration.

3 This PEA looks at those Army installations that have the potential to lose 1,000 or more full-time
4 military employees from FY 2013 to FY 2020, or that have the potential to gain 1,000 or more
5 Soldiers through force restructuring. The 1,000-Soldier/civilian threshold was chosen because it
6 represents a level of increase or reduction at a majority of installations that warrants analysis at
7 the programmatic level. It also represents, in the case of a loss, a number that Army planners
8 thought could produce significant economic impacts. This threshold was recently established by
9 Congress in 10 U.S.C. §993 for reporting of planned reductions of members of the Armed
10 Forces at military installations. The information in this PEA will assist the Army in complying
11 with new Congressional notification requirements, when the Army plans to reduce more than
12 1,000 Soldiers at an installation.

13 In general terms, a change in Army federal civilian employees is anticipated to occur in
14 conjunction with Soldier reductions. A decrease from 562,000 to 490,000 uniformed Soldiers
15 (approximately a 12.5 percent reduction) would result in some level of reduction in Army
16 government civilian positions across the Army, though there could be variations at different
17 installations.

18 This PEA assesses the environmental capacity of Army installations to accommodate force
19 realignment options as part of Army 2020 restructuring. This PEA conducts a broad,
20 programmatic analysis to examine the potential environmental and socioeconomic impacts
21 associated with reducing the end strength of the Army while restructuring the force; therefore,
22 this document is intended to inform senior Army Leadership at the Headquarters, Department of
23 Army (HQDA) level. The programmatic approach is designed to allow for early planning,
24 coordination, and flexibility throughout implementation of the Army growth and restructuring
25 process. This PEA is designed to leverage into multi-year analyses that can assist force
26 managers in making stationing decisions. At the site-specific level, additional analysis, if
27 determined necessary and appropriate to support HQDA decisions, would be conducted to
28 address changes and environmental effects of the implementation of stationing.

29 As the programmatic decision made at HQDA is implemented, follow-on NEPA documentation
30 may be prepared, as appropriate and necessary, to evaluate the environmental impacts likely to
31 result from alternative means of carrying out stationing decisions. Stationing decisions could
32 include changes in number and type of support units, structural changes to units such as adding
33 a combat maneuver or engineering battalion to modular BCTs, or combinations of these actions
34 at a given stationing location. Broad analysis has been conducted as part of this PEA to
35 determine the environmental and socioeconomic areas of concern, as well as general capacity
36 and baseline conditions of proposed installations. The comparison of current training activities
37 and their impacts on current environmental and socioeconomic conditions, with the proposed
38 stationing activities and their impacts, will provide decision makers the appropriate tools and
39 information to effectively execute Army 2020 changes. Information on these elements is
40 presented in the sections that follow.

41 The reduction in force structure and end strength being analyzed in this PEA is unconnected to
42 past or future Base Realignment and Closure (BRAC) efforts. The need to consider changes to
43 force structure and reduce the Army's end-strength is being driven by national defense strategy,
44 as well as federal budget considerations. The recent DOD request to seek authorization for one
45 or more additional base closure rounds is not addressed in this PEA. BRAC-related closure and
46 realignment recommendations would only occur after Congress authorized a future BRAC
47 round, and would only occur after a long and thorough analysis. At this time, Congress has not
48 authorized any future BRAC rounds and the Army has not analyzed or developed future BRAC

1 recommendations. In addition, the determinations made in this PEA and the stationing
2 decisions that may follow do not dictate or preclude recommendations that might be made
3 under a future BRAC process. Finally, BRAC includes its own NEPA requirements to which the
4 Army would be subject if its facilities were involved. The realignments considered in this PEA
5 and any future BRAC recommendations are not “connected” actions for purposes of NEPA.

6 This NEPA analysis examines installations with their current boundaries. It does not consider
7 possible expansion of land holdings at installations. The process of land acquisition for federal
8 agencies is a lengthy one, requiring multiple approvals, a series of environmental and real
9 estate planning studies, specific Congressional authorization, and Congressional
10 appropriations. Because of these uncertainties, there are no installation expansion actions that
11 are included in the scope of this environmental analysis to accommodate any proposed
12 stationing realignment actions. Fort Polk has an expansion action where acquisition of additional
13 land has begun. But even in that case it is not clear how much land will be acquired, and how it
14 will be used; therefore, even at Fort Polk, the analysis is based on current boundaries.

15 The Army National Guard (National Guard) and U.S. Army Reserve (Army Reserve) are not
16 included in this analysis. The National Guard and Army Reserve are not expected to have any
17 substantial reductions as part of the transformation to Army 2020. Soldiers in these
18 components are generally not serving full time at installations. They serve at a variety of
19 locations, including many installations not included in this PEA because potential losses at
20 those installations would not exceed 1,000 military employees. There are no locations at which
21 changes in National Guard and Army Reserve strength would cause significant environmental
22 or socioeconomic impacts. Therefore, the limited transformation of the National Guard and
23 Army Reserve to Army 2020 was not included in this analysis.

24 **1.5 Public Involvement**

25 As part of the NEPA process, the Army has made this Final PEA and Draft Finding of No
26 Significant Impact (FNSI) available to the public and interested stakeholders. The Notice of
27 Availability (NOA) of the Draft FNSI was published in the *Federal Register*, announced
28 nationally in *USA Today*, and locally by Army public affairs specialists. The public will be given
29 30 days to comment on this PEA and Draft FNSI prior to the signing of the FNSI. Public
30 comments will be made part of the administrative record and will be considered in the
31 preparation of the Final FNSI.

32 This PEA is available electronically on the U.S. Army Environmental Command website
33 <http://aec.army.mil/usaec/nepa/topics00.html> for your review. There will be a 30-day waiting
34 period prior to the signing of a Final FNSI. Please direct requests for further information on this
35 PEA/Draft FNSI and comment submissions to Public Comments USAEC, Attn: IMPA-AE (Army
36 2020 PEA), 2450 Connell Road (Bldg 2264), Fort Sam Houston, Texas 78234-7664.

37 **1.6 Army Decision Making Process**

38 The Army’s decision maker will consider all relevant environmental information and public
39 issues of concern associated with this PEA. In addition to environmental impacts discussed in
40 this PEA, the decision maker will also consider several non-environmental factors critical to a
41 final force structure decision, as discussed below. One such factor will be socioeconomic
42 impacts.

43 The socioeconomic impacts analyzed in this PEA are of particular concern to the Army.
44 Socioeconomic impacts analyzed within this PEA may approach or exceed significance
45 thresholds. CEQ and Army NEPA regulations, however, do not require preparation of an EIS
46 when the *only* significant impacts are socioeconomic. The CEQ’s regulation states that
47 “economic or social effects are not intended by themselves to require preparation of an

1 environmental impact statement” [40 CFR 1508.14]. In the same vein, the Army’s NEPA
2 regulations do not require preparation of an EIS for realignment or stationing actions where the
3 only significant impacts are socioeconomic, with no significant biophysical impact [32 CFR
4 651.42(e)]. Absent significant biophysical environmental impacts, the exceedance of
5 significance thresholds for socioeconomic impacts will not require the Army to issue a Notice of
6 Intent to prepare an EIS.

7 The decision maker will consider both the environmental and socioeconomic impacts analyzed
8 in this PEA, along with all other relevant information, such as public issues of concern rose
9 during the comment period, prior to making a final decision. If the decision maker determines
10 that there are no significant environmental impacts, that decision will be documented in the Final
11 FNSI, which will be signed no earlier than 30 days from the publication of the NOA of this PEA
12 and Draft FNSI in the *Federal Register*. The Army may initiate a Notice of Intent for an EIS if
13 new information warrants the need for additional analysis of potentially significant environmental
14 impacts.

15 **1.6.1 Decisions to be Made**

16 It is important to understand the programmatic nature of both the action alternatives analyzed in
17 this PEA and the stationing decisions to be made by the Army over the next 8 years. This PEA
18 looks at possible losses and gains at 21 installations using the greatest anticipated possible
19 upper and lower population changes. This does not mean that these losses or gains will actually
20 occur. This PEA, for instance, will look at far more Soldier losses than would likely occur at
21 most installations. These scenarios, however, are being evaluated as this PEA is a long-term
22 planning document that must take into account the possibility of future force realignments and
23 reductions over the course of the next 8 years; therefore, a broad range of stationing growth and
24 reduction numbers were utilized to support this analysis and future decision-making, even
25 though the Army does not anticipate the extent of force structure changes described by the
26 alternatives. This PEA process, however, will provide the Army with an understanding as to
27 whether changes within the ranges analyzed in this PEA will cause significant impacts to the
28 human environment.

29 The Final FNSI is not anticipated to identify the specific installations at which losses and gains
30 will occur. The specific changes in force structure required over the remainder of the decade
31 have not been identified sufficiently at this time to designate installations and units to be
32 affected. The Army does not project that it will be able to make final decisions on its force
33 structure until sometime in 2013. Army force requirements will change over time, and are
34 subject to modification and even reversal as time goes on. Factors producing this uncertainty
35 include world politics and an evolving threat to American interests as well as fluctuating
36 economic conditions.

37 Army force structure decisions are subject to issues of funding, evolving mission requirements,
38 and other factors that are not fully known at this time. Thus, this PEA process will determine
39 whether either any of the action alternatives will result in significant impacts. The Army will then
40 be able to make decisions on BCT reorganization, with supporting information from this PEA
41 analysis at the appropriate time. This PEA analyzes the potential environmental effects of the
42 entire program of Army 2020 transformation.

43 Several additional factors will be taken into account in future stationing decisions, in addition to
44 the environmental issues presented in this PEA. These factors include:

- 45 • **Operational.** The Army must take full advantage of training resources, deployment
46 infrastructure, and facilities to support readiness and quality of life of Soldiers and their
47 Families. Units must be aligned with appropriate oversight and leadership by senior

1 headquarters, and command and control. Training land considerations include
2 availability of maneuver land and training facilities, indirect fire (artillery) capability, and
3 range capacity and sustainability, as well as airspace. It also involves deployment
4 infrastructure and the ability to rapidly transport troops and equipment from air and sea
5 port locations.

- 6 • **Cost.** The Army must seek to reduce and contain costs, to include military construction
7 investments, systems acquisition, operational costs, and requirements.
- 8 • **Strategy and Geographic Distribution.** The Army must align force structure with
9 planning guidance and the DOD priority to focus on the Pacific Region along with other
10 national defense priorities. Army forces must be aligned in such a way as to be able to
11 respond to a broad array of global contingencies, if called upon to do so.
- 12 • **Investment and Regeneration.** This factor seeks to preserve options to quickly expand
13 the Army, when and if necessary in the future, to support future national defense needs.
14 In February, 2012, the Army submitted its 2012 annual posture statement to the U.S.
15 Congress. This posture statement presents the Army's strategy for reshaping and
16 reducing its forces while preserving critical operational capabilities. Two critical concepts
17 for Army restructuring are "investment" and "regeneration". Regeneration involves
18 structuring and pacing reductions in such a way that preserves the ability of the Army to
19 regenerate, mobilize, and surge troops for future contingency operation, as needed.
20 Investment involves managing the force in ways to protect the Army's ability to quickly
21 train and generate a larger force in the future by preserving enough of the training force
22 and assets to quickly stand up a larger trained and ready force.
- 23 • **Soldier and Family Quality of Life.** Facilities for Soldier and Family well-being, access
24 to medical care schools, and recreation opportunities, and administrative and living
25 facilities are key considerations. Installation stationing locations must have the facilities,
26 or ability to construct new facilities, to support a high quality of life for Soldiers and their
27 Families.

28

2 DESCRIPTION OF THE PROPOSED ACTION

2.1 Introduction

This section provides a description of the Proposed Action and those supporting actions the Army would undertake to implement force restructuring. The Proposed Action addresses the need to reduce Army end-strength and realign the Army's current force structure to meet national security and defense mission requirements, within budget constraints. To enhance the configuration of its available forces, the Army would engage in four primary activities to ensure that the Proposed Action could meet needs set forth in Chapter 1 of this PEIS. Activities the Army would implement that are anticipated to have an environmental and/or socioeconomic impact at stationing locations, include stationing (unit activation, realignment, and inactivation), garrison construction and demolition, live-fire training, and maneuver training. This section describes the Proposed Action and activities associated with unit stationing actions.

2.2 Proposed Action

The Army's Proposed Action is to reduce and realign its forces; both uniformed military and federal civilian Army employees, in order to meet current and future national security and defense requirements. The reductions and realignments will take place between FY 2012 and FY 2020. As part of the Proposed Action, it is anticipated that the Army's force structure would be reduced to 490,000 active component Soldiers.

The Proposed Action involves the stationing of units in a manner that supports 21st Century Strategic Guidance, the NSS, QDR, NMS, and Army Campaign Plan. The Proposed Action will implement defense guidance and recommendations, sustain unit equipment and training readiness, and preserve a high quality of life for Soldiers and their Families. Army 2020 realignment would allow for the adjustment of the composition of its forces to meet force requirements in high demand military occupational specialties areas while rebalancing the number and types of units in lower priority military occupational skill areas. The implementation of Army 2020 realignment will be necessary to operate on a reduced budget, while allowing the Army to field a smaller force that can meet the mission requirements of the current and future global security environment.

The realignment must modify the force in accordance with Army transformation, sustain unit equipment and training readiness, preserve Soldier and Family quality of life, and reduce operational costs while maintaining critical capabilities. To fully implement the Proposed Action, units must be stationed at locations that will be able to accommodate unit requirements for training, garrison and maintenance activities, and preserve Soldier and Family quality of life. In addition, final stationing locations must support the strategic deployment and mobilization requirements of the Nation's Combatant Commanders to ensure they will have the forces necessary to support regional contingency operations and planning requirements.

2.3 Site Specific Actions Required to Implement the Proposed Action

Alternatives for implementing the Proposed Action will ultimately involve a combination of four specific actions that must be integrated and synchronized by the Army to support the execution of the Proposed Action. These activities are necessary components of the Proposed Action for meeting unit stationing and realignment requirements. The actions are separated out in this section and discussed in detail to facilitate an understanding of the primary activities taking place that are projected to result in impacts to the natural and human environment and lead to direct, indirect, and cumulative effects. Essential activity groups required to implement the Proposed Action are stationing (activations, realignments, and inactivations), garrison

1 construction and demolition, live-fire training, and maneuver training. A brief description of each
2 activity is provided in the following sections.

3 **2.3.1 Force Management**

4 The primary method by which the Army manages its force structure to ensure that it is fielding
5 an appropriately sized force of proper capability and configuration is through the Army's Total
6 Army Analysis (TAA) process. The TAA is a multi-phased force structure review process that
7 generates the force requirements and recommended resourcing in all three components (Active,
8 Army Reserves, National Guard) necessary to support execution of the National Security and
9 Military strategies, given resource constraints and end-strength guidance and limits from
10 Congress. The TAA results are used to develop the Army's future force requirements. Based
11 on the results of the TAA analysis, the Army routinely activates, inactivates, and realigns units to
12 achieve better command and control, operational effectiveness, and increased efficiencies. TAA
13 decisions in FY 2012 shaped and informed by this analysis will influence future stationing
14 adjustments from FY 2013 to FY 2018. The Army would implement TAA force structure
15 recommendations as part of the Proposed Action.

16 In January 2011, the Secretary of Defense announced that the Army would move forward with a
17 force reduction of 27,000 Soldiers by 2015. In January 2012, the Secretary of Defense
18 announced that the Army would further reduce its forces to 490,000 active duty Soldiers. To
19 support this announcement and other future anticipated force reductions, the Army will need to
20 inactivate a variety of units and consolidate other units for increased organizational efficiency.
21 The TAA process will be used to conduct an assessment of how to restructure the force.

22 The Army has made the strategic decision that a majority of force reductions will occur in its
23 operational forces, and not to those generating forces that train Soldiers for future operational
24 requirements. This strategy will enhance the Army's ability to expand rapidly to meet future
25 mission requirements. This strategy influences which installations are being considered in this
26 programmatic analysis (see Section 3.4). This is why installations such as Army Materiel
27 Command depots and arsenals, reserve centers, and major training centers are not part of this
28 analysis. These locations do not have large concentrations of operational units that are the
29 focus of Army realignment and potential reductions.

30 **2.3.2 Garrison Construction & Demolition**

31 The Army has developed a facilities strategy, "Army Facility Strategy 2020", which outlines a
32 broad plan for facilities management to support the Army's transition. Implementation of this
33 strategy is part of the Proposed Action. The strategy provides the Army with an enterprise
34 approach to enhance readiness and lower costs to build the best force for the Army of 2020 with
35 the right facilities configured in the most resource efficient manner. As part of the strategy, the
36 Army would look to maximize the use of existing space, with only limited new construction to
37 support unit activations and realignments. In addition, the Army will consider retention of
38 relocatable facilities (approximately 3,000 in Army inventory) to provide flexibility as force
39 structure reductions are refined. Facilities not in full use or at locations where units are
40 inactivated could be re-purposed, demolished, or out granted to other Services (Navy, Air Force,
41 Marines) or other federal agencies to increase efficiency of facility operations. In addition, under
42 the concept of reversibility, the Army may retain facilities in a 'warm base'⁶ status so that they
43 can be used if force reductions are reversed and new units arrive at the installation. Limited built

⁶ Warmbasing refers to the retention of facilities at a temperature and humidity that allows for maximum preservation, prevents moisture damage, while conserving energy and minimizing costs to retain the facility. In a warm climate, for example, this could mean retaining the facility at 85 degrees Fahrenheit and low humidity, while in a cold climate this would mean retaining the facility at 50 degrees Fahrenheit to reduce energy costs.

1 out of critical facilities would take place, where necessary, to augment existing facilities to
2 support Army realignment.

3 The Army proposes to take the following actions as part of the Proposed Action:

- 4 • Sustain Required Facilities
- 5 • Dispose of Excess Facilities
- 6 • Build-out Critical Facility Shortfalls

7 Critical facilities required by Army units include office space for battalion and company
8 headquarters, barracks space for single enlisted Soldiers, Family housing, dining facilities,
9 maintenance shops, parking for vehicles, storage space, and classrooms. The types of facilities
10 required have been determined by Army facilities planners.

11 The requirements for construction would be based on the type of unit being stationed at a given
12 location and the availability of existing facilities at the installation. Construction requirements for
13 unit stationing actions would be determined at the installation depending on these factors. As
14 part of Army 2020 reduction implementation, older less efficient facilities may be demolished or
15 renovated and existing facilities may be reassigned to better support Army units. Major military
16 construction (MILCON) would only be anticipated as part of Alternative 2 (see Section 3.2)
17 where BCT restructuring is being considered.

18 **2.3.3 Live-Fire Training**

19 Live-fire training is an essential component of Army training and of the implementation of the
20 Proposed Action. To be operationally effective, Soldiers must have the skills and experience
21 necessary to operate and maintain their weapons. Live-fire involves both munitions and
22 explosives that would be used in combat, as well as non-explosive training rounds designed to
23 meet Soldiers' training needs. In order to conduct effective live-fire training, units must have
24 access to a suite of modern range infrastructure to achieve trained and ready status. A listing of
25 Army Training and Qualification Ranges can be found in TC 25-8 *Training Ranges*. As part of
26 force reduction implementation, there would be expected to be more training range capacity to
27 support fewer Army units competing for training ranges and training lands. As part of Alternative
28 2, some limited range construction may be needed at certain installations to ensure units have
29 the ability to conduct live-fire training qualifications.

30 **2.3.4 Maneuver Training**

31 Army units must conduct "combined-arms" training to ensure that all of the units' capabilities can
32 be integrated and synchronized to execute missions under stressful operational conditions.
33 Maneuver training consists of collective training of the constituent units of the BCT working
34 together to integrate their combined capabilities and skills. Modular BCTs must conduct and
35 rehearse maneuver training at every echelon from platoon through brigade level to ensure they
36 can accomplish their mission-critical tasks. As part of force reduction implementation, there
37 would be expected to be less overall use of training lands and less training maneuver activity
38 across the Army. As part of Alternative 2, some limited increases in maneuver training
39 associated with additional units and BCT restructuring could occur at some locations that would
40 represent an overall increase from current conditions.

41 Maneuver training is a critical component of unit training that synchronizes the execution of
42 battle tasks and enables units to shoot, move, and communicate on the battlefield. Large-scale
43 battalion and brigade maneuver training events are often the capstone training exercise that
44 tests and certifies units for operational deployments abroad. Maneuver training builds on all of
45 the individual skills that Soldiers possess and tests each echelon of command of the BCT.
46 Platoons, companies, and battalions conduct maneuvers to ensure unit proficiency at each

1 successive level of Command within a BCT. Army TC 25-1 *Training Land* is the Army's
2 definitive source for defining maneuver training land requirements. As part of the
3 implementation of the Army's Proposed Action, most installations will experience a decrease in
4 environmental impacts from maneuver training activities.

5 To support unit training, each platoon, company, battalion, and brigade must conduct maneuver
6 events to ensure the operational capabilities of the BCT. Each platoon and company must train
7 up to 5 weeks per year to meet maneuver training requirements. In addition, each battalion must
8 conduct semi-annual maneuvers lasting approximately 3 to 4 weeks each to certify its
9 subordinate units, and each brigade must conduct maneuvers every 12 to 18 months and in
10 advance of operational deployments. Army Field Manual 7-0 *Training Units and Developing*
11 *Leaders for Full Spectrum Operations* (DA, 2011) lists the operations that must be rehearsed by
12 Army units in combat maneuver training.

13 **2.3.5 Description of Combat Unit Training**

14 **2.3.5.1 Introduction**

15 Training is the Army's number one priority for units, and commanders train their units to be
16 combat ready. "Battle Focus" is a concept used to derive training requirements, and units train
17 according to their Mission Essential Task List (METL). This is derived from wartime operational
18 plans (why they fight); specific (to unit) combat capabilities (how they fight); the operational
19 environment (where they fight); directed missions (what they must do); and any external
20 guidance. The Army trains Soldiers in individual skills, units on collective tasks, and different
21 levels of units through multi-echelon training. The Army trains as it fights, as a combined arms
22 team. Training ranges and training lands allow Army units to fire weapons, maneuver as a
23 combined arms team, and incorporate protective measures against enemy actions.

24 All Soldiers qualify with their individual weapon (rifle or pistol) at least twice annually; crew-
25 served weapons qualification varies by type of unit. This training is usually accomplished at the
26 company level on fixed ranges described in TC 25-8 *Training Ranges*. Weapons system
27 training (Abrams Tank, Bradley Fighting Vehicle, and Attack Helicopter) consists of a series of
28 "tables" and occurs on large range complexes.

29 All units must establish logistical and command and control operations in the installation's
30 maneuver areas. From those maneuver area locations the units will train on their mission
31 essential tasks. The size of the area, and frequency and duration of the training exercises will
32 vary by type of unit.

33 Units train to maintain proficiency on key tasks as defined by their METL. Training strategies
34 and events for Army BCTs are described in more detail below.

- 35 • **Armored Brigade Combat Team.**

36 **Equipment.** The ABCT currently consists of approximately 3,800 Soldiers and 55 M1
37 Abrams tanks and 85 Bradley Infantry fighting vehicles. In addition to these armored
38 tracked combat vehicles, the ABCT also possesses 16 self-propelled 155mm howitzers,
39 tracked earthmoving vehicles, recovery vehicles, and an assortment of other tracked
40 vehicles. The ABCT also has a large number and variety of wheeled-vehicles, to include
41 light tactical trucks, medium trucks, and large cargo and fuel trucks. All vehicles are
42 capable of on-road and off-road maneuver.

43 **Training.** Abrams Tank or Bradley Fighting Vehicle crews in the combined arms
44 battalion practice and qualify on their vehicles on a series of 4 individual gunnery "tables"
45 once every 6 months, and as sections and platoons once every 12 months. A company
46 will complete a Combined Arms Live-Fire Exercise (CALFEX) once every 12 months on

1 its own or as part of a battalion CALFEX. This training also occurs on large fixed ranges
2 such as the Multi-Purpose Training Range (MPTR) or Multi-Purpose Range Complex
3 (MPRC) that have multiple lanes for mounted maneuver and live-fire target
4 engagements.

5 The ABCT's smaller subordinate units will train on a specific event as many as 4 times
6 per 12 months; the larger units may train as many as 2 times per 12 months.

7 • **Stryker Brigade Combat Team.**

8 **Equipment.** A SBCT currently consists of approximately 4,200 Soldiers, 317 Stryker
9 combat vehicles, 588 wheeled support vehicles, 18 155mm howitzers, and numerous
10 trailers and other pieces of equipment. The Stryker vehicle is an eight-wheeled armored
11 combat vehicle. Each Stryker platform is equipped with a crew served weapon, usually
12 a machine gun, or in the case of the mobile gun system (MGS), a direct fire cannon.

13 **Training.** Stryker unit training involves a mixture of mounted and dismounted tasks.
14 Stryker units, from squad to company also participate in quarterly and semi-annual Live-
15 Fire Exercises (LFXs) that includes all weapons systems on a large and more complex
16 range. Stryker units will train on a specific event as many 4 times per 12 months, the
17 larger units (e.g., battalion and BCT) as many as 2 times per 12 months. Stryker units
18 train to move rapidly over larger operational distances in order to bring infantry forces
19 and their equipment to an objective. Stryker vehicles can move cross-country, but are
20 more likely to move on hardened surfaces for speed and mobility purposes.

21 • **Infantry Brigade Combat Team.**

22 **Equipment.** The modular IBCT consists of approximately 3,450 Soldiers and
23 possesses towed M777 155mm artillery, light engineer equipment, and light tactical and
24 medium and large cargo trucks. All vehicles are capable of on-road and off-road
25 maneuver.

26 **Training.** Infantry training is weapons intensive as individual Soldiers, crews, teams,
27 and squads practice and qualify with a variety of weapons. Weapons qualification is a
28 semi-annual requirement, practice firing is completed as time, ammunition, and other
29 resources permit. Infantry units, from squad to company also participate in quarterly and
30 semi-annual LFXs that include all weapons systems on a large and more complex
31 range.

32 Infantry units can incorporate airborne, airmobile and air assault operations into their
33 training. Like the ABCT, the IBCT's smaller subordinate units will train on a specific
34 event as many 4 times per 12 months, the larger units such as the battalion may train as
35 many as 2 times per 12 months.

36 • **Combat Support and Combat Service Support Units.**

37 **Equipment.** Combat Support and Combat Service Support units consist of units with a
38 variable number of Soldiers, depending on unit type, that support a wide array of
39 functions in the Army. Combat Support and Combat Service Support units consist of
40 military police, engineers, logistics support, medical units and other types of units
41 supporting combat and non-combat functions. These units use a wide variety of
42 vehicles, based in part of the types of units it is supporting and the missions it needs to
43 accomplish. Vehicles used by these units may consist of maintenance vehicles, and
44 light, medium, and heavy cargo trucks of all sizes (e.g., 5,000 gallon fuel trucks and
45 Heavy Equipment Transports [HETs]). Vehicles used by Combat Support and Combat
46 Service Support units are generally capable of on-road and off-road maneuver, but will
47 more often travel on-road.

1 **Training.** Combat Support and Combat Service Support units will often establish an
2 operating base in the maneuver areas and train on force protection and conducting
3 combat support and logistical operations in this environment. The training can include
4 repairing vehicles, providing medical treatment, conducting security operations,
5 rehearsing engineering tasks, re-supplying units with petroleum products, rations, and
6 other materials. The operating bases can be large and there is considerable vehicle
7 traffic in and around the base. Like combat units, Combat Support and Combat Service
8 Support units must conduct individual qualification on training ranges to qualify on
9 individual and crew served weapons systems.

3 ALTERNATIVES AND SCREENING CRITERIA

3.1 Introduction

This section discusses the alternatives the Army is considering to implement the Proposed Action. The Purpose and Need described in Chapter 1 provides the context in which to analyze the viability of alternatives. The Purpose and Need define necessary elements of the Proposed Action and allow consideration of alternatives for realignment and restructuring of Army's forces. This section provides a discussion of the alternative selection criteria that the Army used to assess whether an alternative is "reasonable" and carried forward for evaluation in this PEA. The screening criteria were developed based on the Purpose and Need for the Proposed Action set forth in Chapter 1. In addition, this section will discuss criteria used to select candidate installations for stationing actions to support the realignment of the force.

Two Army-wide action alternatives and the "No Action" Alternative have been analyzed for implementation at 21 installation stationing locations.

3.2 Alternatives Carried Forward for Analysis

In addition to the No Action Alternative, two action alternatives have been formulated that take into account the Army's needs for Army 2020 realignment. Common elements to these alternatives include implementing force reductions and Combat Support and Combat Service Support unit realignments from FY 2013 to FY 2020. Both alternatives consider Grow the Army stationing actions that have occurred from FY 2008 to FY 2012 as part of the baseline condition for stationing analysis.

3.2.1 Alternative 1 - Implement Force Reductions: Inactivate Brigade Combat Teams and Realign Combat Support and Service Support Units Between Fiscal Year 2013 and Fiscal Year 2020

Under Alternative 1, the Army would eliminate a minimum of eight BCTs, as well as other Combat Support and Combat Service Support units. Installations would experience force reductions through unit in activations and unit realignments that could also include the relocating of units to other locations. Additionally, the Army would reduce its federal civilian workforce in parallel with a reduced demand for Soldier support services. The structure of BCTs would not change as part of this alternative. Some portion of civilian reductions would be directly associated with Soldier losses, though a majority of civilian reductions would be associated with overall realignment of the workforce across the Army being conducted in order to achieve greater operational efficiencies. Table 3.2-1 presents the potential military employee reductions that could take place as part of Alternative 1 at each installation. These reductions are used as the maximum potential force reduction thresholds for the installations. This PEA looks at the maximum possible thresholds for reductions at its installations that could result in an Army strength considerably below 490,000. Currently, the Army does not envision reducing its forces below this level; therefore, the full extent of the reductions discussed are not anticipated.

1 **Table 3.2-1. Alternative 1: Army 2020 Force Reduction and Combat Support/Combat**
 2 **Service Support Realignment**

Installation Name	Potential Population Loss to be Analyzed	Fiscal Year 2011 Army Population ¹	Projected Fiscal Year 2020 Army Population
Fort Benning, Georgia	7,100	39,243	32,143
Fort Knox, Kentucky	3,800	13,665	9,865
Fort Polk, Louisiana	5,300	10,877	5,577
Fort Wainwright, Alaska	4,900	7,430	2,530
Joint Base Elmendorf-Richardson, Alaska	4,300	6,923	2,623
Fort Bliss, Texas	8,000	32,352	24,352
Fort Bragg, North Carolina	8,000	56,983	48,983
Fort Campbell, Kentucky	8,000	32,425	24,425
Fort Carson, Colorado	8,000	25,823	17,823
Fort Drum, New York	8,000	19,079	11,079
Fort Hood, Texas	8,000	47,437	39,437
Fort Riley, Kansas	8,000	20,009	12,009
Fort Stewart, Georgia	8,000	24,622	16,622
Joint Base Lewis-McChord, Washington	8,000	36,777	28,777
Schofield Barracks, Hawai'i	8,000	18,563	10,563
Fort Gordon, Georgia*	4,300	13,864	9,564
Fort Lee, Virginia*	2,400	16,257	13,857
Fort Leonard Wood, Missouri*	3,900	27,213	23,313
Fort Sill, Oklahoma*	4,700	22,444	17,744
Joint Base Langley-Eustis, Virginia*	2,700	9,899	7,199
Fort Irwin, California*	2,400	5,539	3,139

* Non-BCT installation

¹Populations include: Army military, Army students, Army civilians (Excludes other military service personnel, contractors, and transients); Population reduction numbers include full-time military and civilian projections only. Source of data is the Army Stationing Installation Plan (Feb, 2012).

3 For each installation with one BCT, Alternative 1 assumes the loss of that BCT (approximately
 4 3,450 for IBCTs, 3,850 for ABCTs, and 4,200 for SBCTs), as well as 30 percent of the
 5 installation's non-BCT Soldiers and 15 percent of the civilian workforce. In some instances
 6 involving installations with major training missions, the potential loss is lowered slightly. This is
 7 because personnel associated with the training mission, referred to as the "generating force,"
 8 are not expected to decline (see Section 2.1).

9 For installations with multiple BCTs, Alternative 1 assumes the loss of a BCT, 30 percent of the
 10 installation's non-BCT Soldiers, and 15 percent of the civilian workforce. In order to

1 approximate the maximum likely loss, a total of 8,000 military employees were used for these
2 installations. Application of the formula above could produce a higher figure, but it would be
3 unlikely that any one installation would be selected to sustain a force reduction of more than
4 8,000 military employees.

5 For an installation with no BCTs, Alternative 1 assumes a loss of 35 percent of the installation's
6 Soldiers, as well as a loss of up to 15 percent of civilian employees. Analysis of Alternative 1
7 includes these installations; if the total losses would exceed 1,000 military employees. Other
8 non-BCT installations could experience reductions as part of Army 2020 realignment, but these
9 reductions would not exceed 1,000 military employees. These smaller reductions are outside
10 the scope of this programmatic document and, therefore, are not included in this PEA.

11 Installations with major training missions would also experience about a 10 percent reduction in
12 Soldiers attending temporary training. These Soldiers are not included in the calculations of
13 losses because of the limited nature of their impacts on communities, community services, and
14 the environment. Most Soldiers attending temporary training are unaccompanied by Family
15 members and do not reside in, or draw services from, the community. Reductions in permanent
16 party Soldiers and Army civilians would be anticipated to affect an estimated 1.52 dependent
17 Family members (children up to the age of 18, and spouses) per service member or civilian.
18 Additional discussion of socioeconomic impacts and methodologies is provided in Section 4.0.

19 These numbers serve as the upper-bound loss estimate for both Active Component Soldiers
20 and Army civilian employees. It is important to understand that these scenarios represent the
21 maximum potential reduction at these installations and are not currently being proposed by the
22 Army as immediate decisions being made as part of this PEA. Rather, the Army will continue to
23 review and determine how best to structure its forces through the TAA process within the FY
24 2013 to FY 2020 timeframe, and make decisions to best meet the Army's needs. These
25 decisions will fall within the range of stationing changes evaluated in this PEA.

26 Force realignment outcomes will be inherently tied to future budget decisions and future national
27 defense requirements. It is also important to remember that the transformation would occur
28 over a number of years and that it would be subject to change during that period because of
29 external events.

30 **3.2.2 Alternative 2 – Implement Alternative 1: Inactivate Additional Brigade** 31 **Combat Teams and Restructure Brigade Combat Teams to include adding** 32 **a 3rd Combat Maneuver Battalion**

33 Under Alternative 2, the Army would implement force reductions and realignments discussed as
34 a result of implementation of Alternative 1. In addition, the Army would reduce further the total
35 number of BCTs to provide the additional troops that would be added to the remaining BCT
36 force structure. The implementation of Alternative 2 would result in the inactivation of more
37 BCTs across the Army. The exact number of inactivations would depend on the final force
38 structure designs, number of Soldiers added to each BCT, and number of BCTs that would
39 eventually implement the new force structure design concept. The Army also would restructure
40 BCTs by taking combat maneuver battalions of inactivating ABCTs and IBCTs and adding them
41 to existing ABCTs and IBCTs either at the same location or at other installations. Each
42 realigned combat maneuver battalion would add approximately 700 additional Soldiers per BCT.
43 This alternative would provide those Brigade Commanders with a 3rd combat maneuver
44 battalion to support their operations and enhance the combat power of each BCT. The addition
45 of a combat maneuver battalion to the SBCT is not being considered, since the SBCT, already
46 has three combat maneuver battalions. As part of this alternative, the Army would also
47 restructure its engineering units to add a BEB to each ABCT, IBCT, and SBCT, which would
48 add several hundred more Soldiers to the BCT. There may be other augmentations, such as

1 additional indirect fire units, reconnaissance elements, and other Combat Support unit changes
 2 between now and 2020, based on the need to establish the optimum configuration for the BCT
 3 and its supporting elements. For planning purposes, and for purposes of analysis in this
 4 document, it is assumed that 1,000 Soldiers would be added to ABCTs and IBCTs and 500
 5 Soldiers would be added to SBCTs. The actual numbers may vary slightly as the force structure
 6 analysis continues. The numbers used in this PEA reflect the upper range of possible changes.

7 As a result of the implementation of Alternative 2, all installations could experience force
 8 reductions discussed as part of Alternative 1 in addition to growth from BCT consolidations.
 9 Under Alternative 2, changes could include further Soldier and Army civilian reductions, and
 10 changes in the numbers of dependents associated with these Soldiers leaving the surrounding
 11 community⁷. Dependents of civilian employees may be more likely to stay in the local
 12 geographic area. There would also be changes in the temporary student training population at
 13 installations. In many cases, these changes would offset any growth of BCT consolidation.
 14 Some BCT installations, however, could experience a marginal overall increase in permanent
 15 party population as a result of the implementation of Alternative 2. Table 3.2.2 provides an
 16 overview of the maximum increase of potential Soldier population gain that would be anticipated
 17 to occur to BCT installations as a result of the implementation of Alternative 2.

18 **Table 3.2-2. Installation Gains Resulting from Implementation of Alternative 2**

Installation Name	Potential Population Gain to be Analyzed	Fiscal Year 2011 Army Population ¹	Projected Fiscal Year 2020 Army Population
Fort Knox, Kentucky	1,000	13,665	14,665
Fort Polk, Louisiana	1,000	10,877	11,877
Fort Wainwright, Alaska*	1,000	7,430	8,430
Joint Base Elmendorf-Richardson, Alaska	1,000	6,923	7,923
Fort Bliss, Texas	3,000	32,352	35,352
Fort Campbell, Kentucky	3,000	32,425	35,425
Fort Carson, Colorado	3,000	25,823	28,823
Fort Drum, New York	3,000	19,079	22,079
Fort Hood, Texas	3,000	47,437	50,437
Fort Riley, Kansas	3,000	20,009	23,009
Fort Stewart, Georgia	3,000	24,622	27,622
Schofield Barracks, Hawai'i*	1,500	18,563	20,063

*Stryker Brigade Combat Team Stationing Site

¹Populations include: Army military, Army students, Army civilians (Excludes other military service personnel, contractors, and transients); Population reduction numbers include full-time military and civilian projections only; Source of data is the Army Stationing Installation Plan (Feb, 2012).

19
 20

⁷ The surrounding community is later referred to as the installation region of influence.

1 The numbers included in Table 3.2-2 assume that ABCTs and IBCTs stationed at Army
2 installations could receive an extra combat maneuver battalion consisting of approximately 700
3 additional Soldiers. These numbers account for the BEB and other units such as additional
4 indirect fires units, reconnaissance elements, and other critical Combat Support units. The
5 addition of 1,000 Soldiers was determined to be reasonable for locations with a single BCT (500
6 for the installations with a single SBCT), and 3,000 Soldiers additional authorizations for
7 locations with multiple BCTs. There would be no locations in Alternative 2 that would not
8 experience some level of loss through unit inactivation or realignment; therefore, growth to the
9 levels reflected in Table 3.2-2 is unlikely at most locations. For locations without BCTs, no
10 increase in Soldier population would occur as part of this alternative, so they are not further
11 analyzed as part of this alternative.

12 BCT restructuring scenarios represent the maximum ceiling of troop increase. No decisions on
13 BCT restructuring have yet been made. The Army will continue to review and determine how
14 best to structure its forces through the TAA process within the FY 2013 to FY 2020 timeframe,
15 and make decisions to best meet the Army's needs. These recommendations will fall within the
16 range of stationing changes evaluated in this PEA. It is important to note that as a result of
17 implementation of Alternative 2, there would still be an overall reduction in Army strength. The
18 gains coming as a result of BCT restructuring would be offset by losses either at the BCT's
19 installations or elsewhere.

20 Schofield Barracks has a reduced potential for Soldier increases compared to other locations
21 with multiple BCTs; therefore, a reduced number for Soldier growth was considered. At Fort
22 Wainwright (also a SBCT installation), a potential growth of 1,000 Soldiers was used instead of
23 500 Soldiers because the installation may need to accommodate the stationing of additional
24 Combat Support Units in the future, depending on Army-wide force structure decisions.

25 Fort Benning, Fort Bragg, and Joint Base Lewis-McChord (JBLM) were not considered under
26 Alternative 2 because of a lack of capacity and facilities to accommodate additional Soldiers in a
27 cost effective manner. Further discussion of these installations and screening criteria is
28 presented in Section 3.4.2.3.

29 **3.2.3 No Action Alternative**

30 The No Action Alternative would retain the Army at a FY 2012 end-strength of about 562,000
31 Active Duty Soldiers, 358,200 National Guard Soldiers, 205,000 Army Reserve Soldiers, and
32 more than 320,000 DA civilians, as is currently authorized. The No Action Alternative assumes
33 that units will remain stationed where they are currently stationed at the end of FY 2012. Under
34 the No Action Alternative, no additional Army personnel would be realigned or released from the
35 Army to balance the composition of Army skill sets to match current and projected future
36 mission requirements, or to address budget requirements. No BCT restructuring would occur as
37 proposed in Alternative 2, and no unit inactivations would occur. Implementation of the No
38 Action Alternative will not address the Army's needs for force realignment and reduction. The
39 No Action Alternative provides baseline conditions and a benchmark against which to compare
40 environmental impacts from the Proposed Action alternatives. Consideration of the No Action
41 Alternative is also required by CEQ regulations.

42 **3.3 Alternatives Eliminated from Further Review**

- 43 • **Permanently Station Brigades at Overseas Host Nation Locations.** Under the No
44 Action Alternative, existing brigades or their constituent units would be stationed at
45 overseas locations, such as Germany or Korea. This alternative would not adhere to
46 national defense policy or decisions and recommendations put forward in the QDR.
47 These QDR outlines DoD strategies to project power abroad from within the U.S. where

1 Soldiers have increased levels of force protection and access to training resources.
2 Overseas locations could also be more costly and this would impede the Army's effort to
3 meet budget constraints.

- 4 • **Execute Brigade Combat Team Restructuring (Alternative 2) at Non-Brigade**
5 **Combat Team Locations.** Under this alternative, the Army would station existing BCTs
6 at installations that do not currently have one. This alternative would not be cost-
7 effective to implement, as locations which do not currently have a BCT would require a
8 new set of facilities for the unit. Construction of an entirely new set of facilities and
9 infrastructure to support a BCT and their dependents would not meet the purpose and
10 need for the proposed action to realign Army units in a cost effective manner.
- 11 • **Station Brigade Combat Team's 3rd Maneuver Battalions at a Reserve Component**
12 **Sites.** Under this alternative, units would be stationed at a Reserve Component Site
13 such as Camp Shelby, Mississippi or Fort Dix, New Jersey. While these installations do
14 possess some of the range infrastructure required to support an Active Duty battalion,
15 the installations' primary mission is to focus on training National Guard and Reserve
16 Component Soldiers on Mission Critical Tasks to prepare them for deployment to
17 support on-going missions. These installations do not possess the garrison
18 infrastructure to support an Active Duty BCT and the infrastructure and services required
19 by their dependents.
- 20 • **Apply a Fixed Percentage Reduction to all Installations.** Under this alternative, all
21 Army installations would be reduced by a percentage necessary to meet the overall
22 490,000 end strength goal. The Army's critical capabilities and priorities to meet the
23 future strategic mission requirements would be placed at risk, because key units would
24 not be preferentially preserved. The use of strategic locations would not be maximized
25 and, therefore, would not reflect strategic priorities.
- 26 • **Further Reduce Troop Levels Overseas.** Under this alternative, force structure would
27 be further reduced overseas as opposed to reductions occurring at installations within
28 the U.S. To a large extent, this alternative is in the process of being implemented,
29 already. In January, 2012, the U.S. Army announced major force reductions in Europe
30 and other overseas locations that will occur by 2015. Further reductions are, therefore,
31 not being considered as a viable alternative for the realignment of Army forces as it
32 would preclude the ability of U.S. forces to meet critical overseas mission requirements.

33 **3.4 Screening and Evaluation Criteria Used to Identify a Range of Potential** 34 **Installation Stationing Locations**

35 The Army used elements of the need for action defined in Chapter 1, in conjunction with other
36 external limiting factors, to narrow the field of installations to those capable of supporting the
37 Proposed Action.

38 **3.4.1 Alternative 1 Screening Criteria**

39 All installations of every size were initially considered. Installation locations carried forward for
40 analysis in this PEA for Alternative 1 are installations that have the potential to lose more than
41 1,000 Soldiers and Army civilians as part of force reductions from FY 2013 to FY 2020. These
42 installations also must be ones with units in the operational Army that could produce the
43 reductions that are needed to meet the end strength requirements. Installations with fewer
44 operational Army forces do not have the potential for large reductions and were excluded from
45 the analysis. For example, Fort Sam Houston, Texas, (part of Joint Base San Antonio) has
46 5,904 active Army Soldiers but was not included because this installation is part of a major Army
47 medical center whose mission will be expected to continue. The installation also has a major
48 medical training mission that supports the Army's generating force for the U.S. Army Medical

1 Command that is not expected to be reduced. It also does not have the operational Army units
2 with large numbers that would meet the threshold for inclusion in this programmatic analysis.
3 Fort Meade, Maryland, has 4,401 Active Duty Soldiers; however, the mission at Fort Meade is
4 the “Center of Excellence in Information, Intelligence, and Cyber”. It is also the home of the
5 Defense Adjudication Activities, the Defense Information Systems Agency, and the Defense
6 Media Activity. It does not include major operational Army units and, therefore, does not meet
7 the threshold for inclusion in this document. As a final example, Fort Huachuca, Arizona, has
8 3,004 Active Duty Soldiers; it is the home of the Army’s Intelligence Center and School, and,
9 therefore, has many Soldiers in the generating force. It also does not have the operational Army
10 units and the potential for a reduction of 1,000 military personnel that would meet the threshold
11 for inclusion in this analysis.

12 All installations where a BCT is currently stationed were carried forward for consideration under
13 Alternative 1. These are:

- 14 • Fort Benning, Georgia
- 15 • Fort Knox, Kentucky
- 16 • Fort Polk, Louisiana
- 17 • Fort Wainwright, Alaska
- 18 • Joint Base Elmendorf-Richardson, Alaska
- 19 • Joint Base Lewis-McChord, Washington
- 20 • Fort Bliss, Texas
- 21 • Fort Bragg, North Carolina
- 22 • Fort Campbell, Kentucky
- 23 • Fort Carson, Colorado
- 24 • Fort Drum, New York
- 25 • Fort Hood, Texas
- 26 • Fort Riley, Kansas
- 27 • Fort Stewart, Georgia
- 28 • Schofield Barracks, Hawai’i

29 Additionally, installations that support major training schools or Combat Training Centers and
30 have the potential to lose 1,000 or more military employees are carried forward for analysis and
31 include:

- 32 • Fort Gordon, Georgia
- 33 • Fort Lee, Virginia
- 34 • Fort Leonard Wood, Missouri
- 35 • Fort Sill, Oklahoma
- 36 • Joint Base Langley-Eustis, Virginia
- 37 • Fort Irwin, California

38 It is important to note that nearly all installations will be affected by some force reduction, though
39 not at the population size or unit type to warrant their consideration at the programmatic level.

40 **3.4.2 Alternative 2 Screening Criteria**

41 For Alternative 2, the screening and evaluation criteria are: being a current BCT stationing
42 location; possessing the capability to provide the necessary training for new units and the ability

1 to provide garrison support infrastructure; and supporting Army cost reductions. These
2 screening criteria were applied to the full range of reasonable potential stationing locations
3 capable of supporting Army 2020.

4 **3.4.2.1 Current BCT Stationing Locations**

5 These installation locations are:

- 6 • Fort Benning, Georgia
- 7 • Fort Knox, Kentucky
- 8 • Fort Polk, Louisiana
- 9 • Fort Wainwright, Alaska
- 10 • Joint Base Elmendorf-Richardson, Alaska
- 11 • Joint Base Lewis McChord, Washington
- 12 • Fort Bliss, Texas
- 13 • Fort Bragg, North Carolina
- 14 • Fort Campbell, Kentucky
- 15 • Fort Carson, Colorado
- 16 • Fort Drum, New York
- 17 • Fort Hood, Texas
- 18 • Fort Riley, Kansas
- 19 • Fort Stewart, Georgia
- 20 • Schofield Barracks, Hawai'i

21 **3.4.2.2 Training Capacity**

22 The installation's current training facilities and maneuver acreage are considered as part of this
23 screening criterion. This includes possessing sufficient land for training and maneuver areas for
24 realigned units, and sufficient live-fire and qualification ranges to support unit live-fire training.
25 None of the installations were eliminated as a result of this screening criteria and all of the
26 installations listed in Section 3.4.2.1 could support training of additional units (i.e., Alternative 2).

27 **3.4.2.3 Garrison Support Facilities Availability and Ability to Support** 28 **Expenditure Reductions**

29 The current capability of the installation to support Soldiers, Families, and civilians (e.g., Soldier
30 and Family housing, offices, barracks, classrooms, medical clinics, child and youth development
31 centers, and school systems) was considered. The presence of adequate available
32 infrastructure to support Soldiers and their Families as part of Army BCT restructuring was
33 considered, along with the ability of the installation to support expenditure reductions.
34 Installations at which changes are considerably more expensive to implement would be
35 eliminated from detailed evaluation. Installations considered for stationing realignments must
36 have a majority of the existing facilities needed to support new units, or the buildable space for
37 them. If installations do not have sufficient facilities or buildable space, they were not carried
38 forward for analysis as part of Alternative 2.

39 Fort Bragg and JBLM do not have additional or excess garrison support facilities or buildable
40 space to accommodate additional units, though their BCTs could restructure without
41 experiencing net growth at the installation. This is because BCT gains would be offset by
42 inactivation of other units. Because there would not be a situation where Fort Bragg or JBLM

1 would see a net increase in Soldiers overall, even with BCT restructuring, they were not carried
2 forward for analysis as part of Alternative 2.

3 Fort Benning is also not being carried forward for analysis as part of Alternative 2. While
4 restructuring of the Fort Benning BCT could occur, there would not be a situation where Fort
5 Benning would see a net increase in Soldiers overall; therefore, Fort Benning is not being
6 carried forward for analysis as part of Alternative 2. Fort Benning does not have sufficient
7 unrestricted maneuver land to support the training needs of additional maneuver units.

8 The installations below were carried forward for consideration as part of Alternative 2:

- 9 • Fort Knox, Kentucky
- 10 • Fort Polk, Louisiana
- 11 • Fort Wainwright, Alaska
- 12 • Joint Base Elmendorf-Richardson, Alaska
- 13 • Fort Bliss, Texas
- 14 • Fort Campbell, Kentucky
- 15 • Fort Carson, Colorado
- 16 • Fort Drum, New York
- 17 • Fort Hood, Texas
- 18 • Fort Riley, Kansas
- 19 • Fort Stewart, Georgia
- 20 • Schofield Barracks, Hawai'i

21 **3.5 Restructuring/Realignment Considerations**

22 It is important to remember that under either action alternative, the overall end-strength of the
23 Army will decline by the same amount. Increases at an installation under Alternative 2, in many
24 cases, would likely be offset by losses identified in Alternative 1. It is also important to
25 remember that the transformation would occur over a number of years and that it would be
26 subject to change during that period because of external events.

27 Soldiers whose units would be inactivated under this process would not be immediately
28 released from the Army. They would be re-assigned to other units or to schools. Eventually,
29 they would leave the Army after their enlistments ended, upon retirement, or through other
30 regularly-occurring events. In addition, the Army would control its size through reduced
31 accessions and re-enlistments. For civilian reductions, the Army anticipates managing a
32 majority of its workforce reduction through scheduled and incentivized retirements and
33 cessation and reduced pace of new hiring actions, though some additional measures, such as
34 Reductions in Force, may be needed to match budget authorizations with workforce size.

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4 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

4.0.1 Introduction

This section presents a consolidated discussion of the affected environment (baseline environmental conditions) at each installation, and the environmental and socioeconomic impacts anticipated as a result of the implementation of the alternatives. The baseline for the Proposed Action is considered the installation's current condition in 2012, to include the implementation of HQDA stationing decisions that have been made, but not yet implemented.

This PEA provides decision makers, regulatory agencies, and the public with information on the environmental and socioeconomic impacts that could result from the implementation of Army 2020 force structure realignments. This information will allow decision makers to review the environmental and socioeconomic impacts of the alternatives and select one. It will also enable the Army to make informed decisions in coming years as they reshape the structure of Army forces to meet future national security requirements. As they do so, they will determine whether future actions are sufficiently covered by this EA and whether supplementation is necessary.

4.0.2 Valued Environmental Component Impact Ratings

This PEA adopts an analytic methodology similar to that used in the Army's *Programmatic Environmental Impact Statement for Army Transformation* (March 2002) and the *Programmatic Environmental Impact Statement for Army Growth and Force Structure Realignment* (October, 2007). The Army utilized the process in the Army's *NEPA Analysis Guidance Manual* (2007) for evaluating impacts to each environmental media area or valued environmental component (VEC) for each of the 21 installations and their associated maneuver sites. A general description of these VECs is provided in Section 4.0.4 of this section. Through coordination with installation staff and subject matter experts at each location, VEC ratings were identified and verified, and are described in this section. VEC ratings are the basis for determining whether the impact is significant or not. VEC ratings range from beneficial to significant:

- **Beneficial** – A positive net impact.
- **No Impact/Negligible** – An environmental impact that could occur, but would be less than minor and might not be perceptible.
- **Minor** – While impacts would be perceptible, they would clearly not be significant.
- **Less than Significant** – An impact that is not significant, but is readily apparent. Additional care in following standard procedures, or applying precautionary measures to minimize adverse impacts, may be called for.
- **Significant but Mitigable** – A significant impact anticipated, but the Army can put management actions or other mitigation measures in place to reduce impacts to less than significant.
- **Significant** – An adverse environmental impact, which, given the context and intensity, violates or exceeds regulatory or policy standards or otherwise exceeds the identified threshold. The significant impact, however, cannot be mitigated with practical means to a level below significance.

A summary of environmental impacts is provided in Section 4.22 and presented in consolidated tables of anticipated impacts in Tables 4.22-1 (No Action Alternative), 4.22-2 (Alternative 1), and 4.22-3 (Alternative 2). Each installation sub-section also includes a table of anticipated impacts.

1 Additional installation site-specific analyses will be conducted, if required, to address actions
2 necessary to implement Army 2020 force structure realignment decisions. This is appropriate
3 given the extended duration and numerous decisions that this PEA is designed to support.
4 Implementation of some of these decisions may require site-specific follow-on NEPA analysis to
5 evaluate local siting considerations and other environmental issues.

6 **4.0.3 Valued Environmental Components and Thresholds of Significance**

7 The Army uses a standardized methodology to complete NEPA analysis that is outlined in the
8 *Army's NEPA Guidance Manual* (2007). The discussion that follows provides an overview
9 description of each VEC evaluated in this document and provides a discussion of thresholds of
10 significance.

11 To maintain consistent evaluation of impacts in this PEA, thresholds of significance were
12 established for each resource area. The Army developed these thresholds to take into account
13 substantive environmental regulations and ensure an objective analysis of anticipated impacts.
14 Although some thresholds have been so designated based on legal or regulatory limits or
15 requirements, others reflect some discretionary judgment on the part of the Army. Quantitative
16 and qualitative analyses have been used, if appropriate, in determining whether, and the extent
17 to which, a threshold is exceeded.

18 It must be remembered, however, that significance is a matter of context and intensity. Loss of
19 a small number of trees in an arid area with few trees could be significant while loss of the same
20 number of trees in a forested area might not. Any variation in the significance criteria is set out
21 in the discussion of impacts for specific locations.

22 An impact may trigger one of these thresholds, but mitigation could reduce the impact to less-
23 than-significant. Also, note that regions of influence (ROI) may vary at installations because of
24 specific circumstances. In addition, the context of the affected environment at a given
25 installation may mean that a site-unique threshold is applicable.

26 **4.0.4 Valued Environmental Component Descriptions**

27 **Air Quality**

28 Air resources are affected by gases and particulates from stationary and mobile sources and
29 are influenced by meteorological conditions such as prevailing wind, sunlight, and temperature
30 inversions. The Clean Air Act (CAA), the primary federal statute regulating air emissions,
31 applies fully to the Army and all its activities.

32 Depending on the installation's location and whether or not it is considered a "major source" of
33 air pollutants, the CAA may require permitting before construction, demolition, or stationing
34 commences. The specific requirements will depend on whether the installation is located in a
35 "nonattainment" or "maintenance" area.⁸ If the installation is located in an "attainment" or
36 "unclassifiable" area, it may have to assess the project's contribution to the local air shed to
37 ensure Prevention of Significant Deterioration (PSD). The PSD regulations provide special
38 protection from air quality impacts for certain areas, primarily National Parks and Wilderness
39 Areas that have been designated as "Class I" areas. These are areas where air quality
40 (especially visibility and acid deposition) has been given special emphasis.

41 **Conformity.** The CAA (Section 176(c)) prohibits federal activities from taking various actions in
42 nonattainment or maintenance areas unless they first demonstrate conformance with the
43 applicable State Implementation Plan (SIP). Regardless of compliance with other
44 environmental regulations, failure to satisfy the requirements of the conformity rule can, by itself,

⁸ This status is based on six criteria air pollutants for which there are National Ambient Air Quality Standards (NAAQS).

1 preclude an installation from moving forward with the project. A conformity review is a multi-
2 step process used to determine and document whether a Proposed Action meets the conformity
3 rule. The conformity review would require the installation to:

- 4 • Evaluate the nature of the Proposed Action and associated air pollutant emissions;
- 5 • Determine whether the action is exempted by the rule;
- 6 • Calculate air pollutant emissions and impacts associated with the Proposed Action;
- 7 • Mitigate emissions if regulatory thresholds are exceeded;
- 8 • Prepare formal documentation of the findings; and
- 9 • Publish findings to the public and regulatory community.

10 Some Army installations are located in non-attainment areas or maintenance areas. At these
11 locations, air conformity reviews would be conducted, if deemed appropriate. This analysis
12 cannot be done until the number of Soldiers and civilians, equipment, facilities requirements,
13 and stationing dates are known. At many installations, formal conformity determinations will not
14 be required because the action will be exempt or *de minimis*.

15 **Prevention of Significant Deterioration.** Installations that are classified as “major sources,”
16 and/or located in areas classified as “attainment” or “unclassifiable” must obtain approval to
17 construct a new emissions source or to modify existing emissions sources if the modification
18 project would result in a significant emission increase. It should be noted that “project” includes
19 operational changes that affect emissions, not only equipment construction or modification. The
20 purpose of the PSD program is to prevent areas that meet the CAA standards from becoming
21 nonattainment areas. A PSD Permit must be obtained in order to:

- 22 • Construct a new major stationary source of criteria pollutants, or
- 23 • Modify an existing major stationary source such that emissions from the source would
24 increase significantly. (The significance thresholds vary from 0.0004 to 100 tons per
25 year (tpy) depending on the pollutant).

26 **New Source Review.** The Nonattainment New Source Review (NNSR) Permit Program (also
27 known as Nonattainment Area New Source Review (NSR) or Major NSR) applies in
28 nonattainment areas only. Its purpose is to ensure that emissions in these areas are not
29 increased and preferably decreased as a result of new construction or modification projects.
30 This program applies to operational changes as well as equipment changes. It is important to
31 emphasize that NNSR only applies to the pollutants for which the area is in nonattainment.

32 A NNSR permit must be obtained in order to:

- 33 • Construct a new major stationary source of criteria pollutants, or
- 34 • Modify an existing major source such that emissions from the source would increase
35 significantly.

36 **Minor Source Pre-Construction Permitting.** To be sure all emissions sources are reviewed
37 with respect to CAA regulations and to prevent source owners from deliberately incrementing
38 their emission increases to avoid PSD/NNSR, the U.S. Environmental Protection Agency (EPA)
39 and the states developed Minor NSRs. This program has many different names - Notice of
40 Construction, Approval to Operate, Permit to Operate, etc. Each regulatory agency develops
41 regulations for a pre-construction permit program. Typically, the regulations will include a list of
42 exempt sources such as temporary sources to be on-site less than 90 days (this often includes
43 construction equipment), small boilers or furnaces (residential size), and ventilation systems.
44 This list may have 100 exempt source types. Most regulators also exempt sources that have a
45 potential to emit below a specific threshold. These thresholds should not be confused with any

1 of the other thresholds previously discussed. For example, some states exempt emissions of
2 any pollutant less than 1 tpy from a single emission source from Minor NSR permitting, if no
3 other regulations apply.

4 Generally, an impact would be considered significant if it led to a violation of a Title V operating
5 permit or synthetic minor permit.

6 **Airspace**

7 The Federal Aviation Administration (FAA) manages all airspace within the U.S. and its
8 territories. The FAA recognizes the military's need to conduct certain flight operations and
9 training within airspace that is separated from that used by commercial and general aviation.

10 *Airspace* is defined in vertical and horizontal dimensions and by time. Airspace is a finite
11 resource that must be managed to achieve equitable allocation among commercial, general
12 aviation, and military needs. The FAA has established various airspace designations to protect
13 aircraft while operating near and between airports and while operating in airspace identified for
14 defense-related purposes. Flight rules and air traffic control procedures govern safe operations
15 in each type of designated airspace. Most military operations are conducted within designated
16 airspace and follow specific procedures to maximize flight safety for both military and civil
17 aircraft.

18 *Controlled airspace* is a generic term for the different types of airspace and defined dimensions
19 within which air traffic control service is provided to instrument-flight-rules flights and visual-
20 flight-rules flights in accordance with the airspace classification. The classifications of airspace
21 are as follows:

- 22 • **Class A Airspace.** This airspace occurs from 18,000 feet above mean sea level (MSL)
23 to 60,000 feet above MSL. All operations within this airspace are in accordance with
24 regulations pertaining to instrument-flight-rules flights. This airspace is dominated by
25 commercial aircraft using jet routes between 18,000 and 45,000 feet above MSL.
- 26 • **Class B Airspace.** This airspace occurs from the surface to 14,500 feet above MSL
27 around the Nation's busiest airports. Before operating in Class B airspace, pilots must
28 contact controlling authorities and receive clearance to enter the airspace. Aircraft
29 operating within Class B airspace must be equipped with specialized electronics that
30 allow air traffic controllers to accurately track aircraft speed, altitude, and position.
- 31 • **Class C Airspace.** This airspace occurs from the surface to 4,000 feet above the
32 airport elevation (charted in MSL) surrounding those airports that have an operational
33 control tower, are serviced by a radar approach control, and meet specified levels of
34 instrument-flight-rules operations or passenger enplanements. Aircraft operating within
35 Class C airspace must be equipped with a two-way radio and an operable radar beacon
36 transponder with automatic altitude reporting equipment. Aircraft may not operate below
37 2,500 feet above the surface within 4 nautical miles of the primary airport of a Class C
38 airspace area at an indicated airspeed of more than 200 knots (230 miles per hour).
- 39 • **Class D Airspace.** This airspace occurs from the surface to 2,500 feet above the
40 airport elevation (charted in MSL) surrounding those airports that have a control tower.
41 Class D airspace encompasses a 5 statute mile radius from the airport. Unless
42 authorized otherwise by air traffic control, aircraft must be equipped with a two-way
43 radio. Aircraft may not operate below 2,500 feet above the surface within 4 nautical
44 miles of the primary airport of a Class D airspace area at an indicated airspeed of more
45 than 200 knots (230 miles per hour).
- 46 • **Class E Airspace.** This airspace is any controlled airspace not designated as Class A,
47 B, C, or D airspace. It includes designated federal airways, portions of the jet route

1 system, and area low routes. Federal airways have a width of 4 statute miles on either
2 side of the airway centerline and occur between the altitudes of 700 feet above ground
3 level (AGL) and 18,000 feet above MSL, but they may have a floor located at ground
4 level at nontowered airfields. No specific equipment is required to operate within Class
5 E airspace.

- 6 • **Class G Airspace.** Class G airspace (uncontrolled) is that portion of the airspace that
7 has not been designated as Class A, B, C, D, or E airspace. Air traffic control does not
8 have authority over operations within uncontrolled airspace. Primary users of Class G
9 airspace are visual-flight-rules general aviation aircraft.
- 10 • **Special Use Airspace.** This airspace permits activities that either must be confined
11 because of their nature or require limitations on aircraft that are not a part of those
12 activities. Prohibited Areas and Restricted Areas are regulatory special use airspace
13 (SUA). They are established in Federal Aviation Regulation Part 73 through the rule-
14 making process of the Administrative Procedures Act (5 United States Code (USC) 551-
15 702). Warning Areas, Military Operations Areas (MOAs), Alert Areas, and Controlled
16 Firing Areas (CFAs) are non-regulatory SUA. The FAA may designate these types of
17 SUA without resort to the procedures demanded of the Administrative Procedures Act.

18 Generally, a significant impact would be one that led to a violation of FAA administration
19 regulations that undermines aviation safety or results in substantial infringement of private or
20 commercial flight activity.

21 **Cultural Resources**

22 Cultural Resources include both historic properties and historic resources. The regulations
23 guiding the management of cultural resources are set forth in Army Regulation (AR) 200-1.
24 Cultural resources include historic properties as defined by the National Historic Preservation
25 Act (NHPA), cultural items as defined by Native American Graves Protection and Reparation
26 Act (NAGPRA), archeological resources as defined by Archaeological Resources Protection Act
27 (ARPA), sacred sites as defined in Executive Order (E.O.) 13007 to which access is afforded
28 under American Indian Religious Freedom Act (AIRFA), and collections as defined in 36 CFR
29 79. The NHPA of 1966, as amended, states that historic resources are “any prehistoric or
30 historic district, site, building, structure, or object included in, or eligible for inclusion on the
31 National Register of Historic Places (NRHP), including artifacts, records and material remains
32 related to such property or resource.” Cultural resources on Army installations generally refer to
33 buildings, structures, and archaeological sites.

34 Significant impacts would occur if there were substantial concerns raised by Indian Tribes or
35 Native Hawaiian Organizations regarding potential impacts to properties of religious and cultural
36 significance to those tribes or organizations; or direct or indirect alteration of the characteristics
37 that qualify a property for inclusion in the NRHP (may include physical destruction, damage,
38 alteration, removal, change in use or character within setting, neglect causing deterioration,
39 transfer, lease, sale) without appropriate mitigation.

40 **Noise**

41 Noise can be defined as unwanted sound that interferes with normal human activities and may
42 disturb wildlife populations or disrupt breeding cycles. Impulse noise levels from high-intensity
43 military activities may cause buildings and objects nearby the source to vibrate, resulting in
44 potential structural damage.

45 The Noise Management Program is implemented Army-wide to protect the installation mission
46 and to protect the health and welfare of military personnel, their Families, and civilian
47 employees on the installation while also providing noise abatement and mitigation measures

1 that protects the public by reducing environmental noise from training where feasible. Army
 2 installations develop noise management plans to identify recommended land uses based on
 3 noise exposure, and to provide a noise management strategy that supports the installation's
 4 mission.

5 The Installation Operational Noise Management Plan (IONMP) includes education, complaint
 6 management, noise and vibration mitigation, noise abatement procedures, and the Installation
 7 Compatible Use Zone (ICUZ) Program. The ICUZ Program provides a methodology for
 8 analyzing exposure to noise and safety hazards associated with military operations and provide
 9 land use guidelines for achieving compatibility between the Army and the surrounding
 10 communities.

11 At this level of analysis, the Army will consider if there are actions that would expand these
 12 zones. Such expansion might be indicated, for instance, by a requirement that new ranges be
 13 established to support increased numbers of Soldiers.

14 **Noise Impacts to the Community.** The U.S. Army Public Health Command has defined three
 15 noise zones (NZs) to be considered in land use planning (see Table 4.0.4-1) and the noise
 16 impact on the community is translated into NZs. In general, within NZ I, where very few people
 17 will be bothered by the noise level, land use is unrestricted and thus deemed compatible with
 18 most noise-sensitive land uses. In NZ II, as outdoor noise levels increase and more people
 19 become annoyed by the noise, restrictions or qualifications are placed on certain land uses,
 20 specifically, residential development. NZ II is normally incompatible with noise-sensitive land
 21 uses. In NZ III, as noise levels escalate, fewer and fewer compatible land uses are indicated.
 22 NZ III is incompatible with noise-sensitive land uses.

23 Installations use the Land Use Planning Zone (LUPZ) to provide the means to predict possible
 24 complaints, and meet the public demand for a better description of what will exist during a
 25 period of increased operations. The associated noise levels for each zone are shown in the
 26 Table 4.0.4-1.

27 **Table 4.0.4-1. Noise Levels**

Noise Zone	Population Highly Annoyed (Percent)	Transportation (A-weighted ¹ Day-Night Average Sound Level)	Impulsive - Large Caliber (C-weighted ² Day-Night Average Sound Level)	Small Arms (Decibels A-weighted)
I	<15	<65 dBA	<65 dBA	<62 dBA
II	15 – 39	65 – 75 dBA	65 – 75 dBA	62 – 70 dBA
III	>39	>75 dBA	>75 dBA	>70 dBA

¹A weighting filters out the low frequencies and slightly emphasizes the upper middle frequencies around 2-3 kilohertz.

²By comparison, C weighting is almost unweighted, or no filtering at all.

dBA=A-weighted decibel

28 **Noise Impacts to Wildlife.** At ranges where training occurs, noise is generated from fixed-wing
 29 and rotary-winged aircraft overflights, large and small caliber weapon fire, and vehicle maneuver
 30 throughout the range. Several reference materials exist that summarize the impact of military
 31 training on wildlife. Two examples are the *Environmental Assessment for the Aerial Gunnery*
 32 *Range at Yakima Training Center, WA*; and, *“Effects of Military Noise on Wildlife”* (Bowles,
 33 1990). The following responses are common in wildlife exposed to training noise.

- 34 • Quality of habitat selection tends to outweigh disturbance impacts of training noise.
 35 Animals utilize Army installations as habitat because they contain large tracts of

1 relatively undeveloped land. Due to regulatory policies and conservation practices, the
2 land and wildlife are often managed to preserve species diversity and habitats where
3 these activities do not conflict with the military mission. Generally speaking, most
4 species of animals will choose higher quality habitats on military installations over lower
5 quality more fragmented habitats despite the noise from military activities (Bowles,
6 1990).

- 7 • Habitat supplies food, shelter from the elements in some cases, and vegetative cover.
8 Food supply is a limiting factor for survival. If the food supply is sufficient the habitat will
9 remain preferable to the animal species regardless of the magnitude of noise
10 disturbance, especially if the noise occurs in predictable patterns. Since Soldiers train
11 according to a prescribed schedule, the noise generated by training reduces the
12 occurrence of responses to unexpected training activities.
- 13 • Studies conducted on military noise impacts to wildlife have determined that mammals
14 will move away from loud noises, but with few exceptions, will return to their home
15 range.

16 Significant impacts generally include noise impacts causing reclassification of NZs to NZ II or III
17 around sensitive receptors (e.g., residences, school, hospital, churches or daycare).

18 **Soil Erosion**

19 Erosion is the gradual wearing away of land by water, wind, and other general weather
20 conditions, and can be influenced by many military and human activities within a given
21 landscape. Erosion impacts can be influenced by the types of soils, vegetative cover,
22 topography, weather, and climate, and may be amplified by the frequency and types of training.
23 Soil erosion can be an important concern on military lands where maneuver training involving
24 large vehicles (tracked and wheeled), and large and small arms fire occur. It can undermine the
25 ability of the natural environment to support the Army mission, and once the erosion process
26 has started, the direct effects can usually not be reversed.

27 The Army has numerous programs and management initiatives to reduce environmental
28 damage to training lands. The principal mechanism for this management is the Integrated
29 Training Area Management (ITAM) Program. The ITAM Program provides a comprehensive
30 means to address the cumulative effects of soil erosion on Army training lands (Canton, et. al.,
31 2006).

32 Significant impacts generally include soil loss or compaction from Army training to the extent
33 that natural reestablishment of native vegetation within two growing seasons is precluded on a
34 land area greater than a total of 1,000 acres; or loss of soil productivity due to construction
35 activities, which convert the soil to improved infrastructure on more than 5 percent of land under
36 administrative control of the installation.

37 **Biological Resources (Vegetation, Wildlife, Threatened and Endangered Species)**

38 The Endangered Species Act (ESA) was passed in 1973 to address concerns about the decline
39 in populations of many unique wildlife species. The purpose of the ESA is to rebuild populations
40 of protected species and conserve “the ecosystems upon which endangered and threatened
41 species depend” (USFWS, 2001). ESA offers two classes of protection for rare species in
42 decline: endangered or threatened. Endangered means a species is in danger of extinction
43 throughout all or a significant portion of its range. Threatened status indicates a species is likely
44 to become endangered within the foreseeable future. All species of plants and animals, except
45 pest insects, are eligible for listing as endangered or threatened (USFWS, 2001).

1 The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS)
2 are jointly responsible for administering the ESA. As of June 6, 2012, 1,393 federally-listed
3 species (794 plants, 599 animals) were listed under the ESA. The Army has identified 188
4 threatened and endangered species on 99 installations for FY 2007. By far, the most common
5 category is plants, which account for 62 percent of the threatened and endangered species,
6 followed by birds (14 percent). The other categories of threatened and endangered species are
7 amphibians, crustaceans, fish, insects, mammals, other invertebrates, reptiles, and snails
8 (USAEC, 2009). Out of these species, 112 occur on locations evaluated in this PEA. All federal
9 agencies are required to protect threatened and endangered species while carrying out projects
10 and to preserve threatened and endangered species habitats on federal land. The USFWS and
11 NMFS also coordinate threatened and endangered species conservation efforts with state
12 agencies and private landowners. Ideally, with sufficient protection under the ESA, the
13 threatened and endangered species populations will recover to the point that they no longer
14 need protection under the ESA. To facilitate this process, a team of experts develops a
15 recovery plan that describes the steps needed to restore the species to health.

16 Under the ESA, it is illegal to “take” threatened and endangered species. As defined in the ESA,
17 “the term take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect
18 or attempt to engage in any such conduct.” The Secretary of the Interior has defined the term
19 “harm” as “an act which actually kills or injures wildlife.” Such an act may include significant
20 habitat modification or degradation where it actually kills or injures wildlife, or by significantly
21 impairing essential behavioral patterns, including breeding, feeding, or sheltering (USFWS,
22 2001). Because most threatened and endangered species are not often hunted or collected,
23 habitat degradation is the primary reason for population declines of listed species.

24 The ESA contains provisions for designation of “critical habitat” for listed species when deemed
25 essential for the conservation and recovery of a species. Critical habitat includes geographic
26 areas “on which are found those physical or biological features essential to the conservation of
27 the species and which may require special management considerations or protection” (USFWS,
28 2001). Areas not occupied by the species at the time of listing but are considered essential to
29 the conservation of the species can be designated as critical habitat. Critical habitat
30 designations are limited to federal agency actions or federally-funded or permitted activities.

31 Under Section 7 of the ESA, federal agencies (including the Army) must carry out programs for
32 the conservation of threatened and endangered species. Installations must also adopt
33 integrated natural resources management plans, which include provisions for the conservation
34 of these species and their habitats.

35 Significant impacts would include:

- 36 • Substantial permanent conversion or net loss of habitat at landscape scale;
- 37 • Long-term loss or impairment of a substantial portion of local habitat (species-
38 dependent); and
- 39 • Unpermitted “take” of threatened and endangered species.

40 **Wetlands**

41 For regulatory purposes under the Clean Water Act (CWA), the term wetlands means “those
42 areas that are inundated or saturated by surface or ground water at a frequency and duration
43 sufficient to support, and that under normal circumstances do support, a prevalence of
44 vegetation typically adapted for life in saturated soil conditions [40 CFR 232.2(r)]. There are
45 many different kinds of wetlands to include swamps, marshes, bogs, and similar areas.
46 Wetland definitions can vary by agency, regulations, and policy. Wetland functions are of value
47 to the sustainable management of military lands because of the ecological functions wetlands

1 they provide in addition to training realism. Three wetland functions applicable to sustainable
2 management are flood attenuation, groundwater recharge, and improvement of water quality by
3 filtering sediment, nutrients, and toxics.

4 The National Wetlands Inventory (NWI) of the USFWS has identified and mapped most of the
5 known wetlands in the conterminous U.S., including those on military installations. DoD
6 Instruction 4715.3 states that installations will manage for “no net loss” of wetlands. In order to
7 manage wetlands properly, installations have used the NWI and have conducted planning level
8 surveys to determine the extent and location of wetlands across their installation. By identifying
9 wetlands early in the NEPA process, and utilizing a “Go/No-Go” approach where avoidance is
10 preferred to direct or indirect impacts, installations have the ability to avoid costly mitigation and
11 potential delays in implementation of the Proposed Action.

12 Significant impacts would include unpermitted loss or destruction of more than one acre of
13 jurisdictional wetlands.

14 **Water Resources**

15 Water resources include surface water, groundwater, and floodplains, as well as other
16 conservable resources such as estuaries and watersheds. Surface water is important for its
17 contributions to the economic, ecological, recreational, and human health of a community or
18 locale. Stormwater flows, which may be exacerbated by high proportions of impervious
19 surfaces (e.g., buildings, roads, and parking lots), are important to the management of surface
20 water. Stormwater is also important to surface water quality because of its potential to introduce
21 sediments and other contaminants into lakes, rivers, and streams. Groundwater consists of the
22 subsurface hydrologic resources. It is an essential resource often used for potable water
23 consumption, agricultural irrigation, and industrial applications. Groundwater typically may be
24 described in terms of its depth from the surface, aquifer or well capacity, water quality,
25 surrounding geologic composition, and recharge rate. Floodplains are areas of low-level ground
26 present along a river or stream channel. Such lands may be subject to periodic or infrequent
27 inundation due to rain or melting snow. Risk of flooding depends on topography, the frequency
28 of precipitation events, and the size (areal extent) of the watershed above the floodplain.
29 Federal, state, and local regulations generally limit development in floodplains to passive uses,
30 such as recreational and preservation activities, in order to reduce the risks to human health
31 and safety.

32 The CWA gives the EPA authority to regulate the discharge of pollutants into the waters of the
33 U.S. It set the ground rules for implementing pollution control programs as well as continuing the
34 requirement to set water quality standards for all surface water contaminants. The EPA
35 establishes thresholds for pollution and contaminants to water bodies that are referred to as
36 Total Maximum Daily Load (TMDL). A TMDL is a calculation of the maximum amount of a
37 pollutant that a water body can receive and still safely meet water quality standards. If these
38 thresholds are exceeded, the water body is classified as impaired.

39 Army activities subject to CWA regulation include activities involving the collection and
40 discharge of effluents (e.g., discharging pollutants from a point source into waters of the U.S.) or
41 construction activities near waterways or wetlands. Several compliance responsibilities under
42 the CWA result from the types of facilities used by the Army and the range of activities at Army
43 installations.

44 Significant impacts would include the exceedance of TMDLs for sediments that causes a
45 change in surface water impairment status, or an unpermitted direct impact to a water of the
46 U.S.

1 **Facilities**

2 Army real property includes lands, facilities, and infrastructure. Facilities are the buildings,
3 structures, and other improvements that support the Army's mission. Infrastructure is the
4 combination of supporting systems that enable the use of land and resident facilities.

5 Infrastructure consists of the systems and physical structures that enable a population in a
6 specified area to function. Infrastructure is wholly synthetic, with a high correlation between the
7 type and extent of infrastructure and the degree to which an area is characterized as "urban", or
8 developed. The availability of infrastructure and its capacity to support growth are generally
9 regarded as essential to economic growth of an area. Although there is no national consensus
10 as to what constitutes infrastructure, the following reflect the principal elements most often
11 associated with the term: water systems, wastewater systems, stormwater systems, solid waste
12 management, energy, traffic and circulation, transportation systems, and communication
13 systems.

14 Adding Soldiers to an installation could create a need for new facilities, requiring construction
15 and the impacts that would accompany it, and possibly renovation of historic buildings.
16 Reducing strength could mean that excess facilities would be demolished or receive less
17 maintenance. It could also mean that infrastructure use would decrease and this could cause
18 problems for certain systems. For instance, water pipe systems often require a certain flow for
19 optimum operation.

20 Significant impacts would occur if the capacity of current infrastructure or available space could
21 not support the Proposed Action or if violation of regulatory limits occurs.

22 **Socioeconomics**

23 Socioeconomics are defined as the basic attributes and resources associated with the human
24 environment, particularly population and economic activity. Population levels are affected by
25 regional birth and death rates, as well as immigration and emigration, which are often related to
26 regional employment availability. Economic activity typically encompasses employment,
27 personal income, and industrial or commercial growth. Changes in these two fundamental
28 socioeconomic indicators may be accompanied by changes in other components, such as
29 housing availability and the provision of public services. Socioeconomic data at county, state,
30 and national levels permit characterization of baseline conditions in the context of regional,
31 state, and national trends.

32 The principal factors affecting socioeconomics at Army installations are construction project
33 expenditures; salaries (Soldier, civilian, and contractor); procurement of goods and services
34 locally and regionally by Soldiers, civilians, and their Family members; and employment
35 changes. As the Army increases or decreases either expenditures or employment (Soldier or
36 civilian) at an Army installation, these impacts are felt within the economic ROI; by businesses,
37 local governments, and individuals. Impacts from military stationing actions can manifest
38 themselves as a loss or gain in jobs; change in real estate values; change in educational, social,
39 and medical services; or change in state or local tax revenue. Installation changes in Soldier or
40 civilian employee populations could result in varying degrees of economic impact depending on
41 the economic diversity and size of the regional economy. The ROI consists of the installation
42 and the counties where the people who work on the installation live, or where they or the
43 installation itself obtain goods and services.

44 Socioeconomic impacts are linked through cause-and-effect relationships. With the Proposed
45 Action, there would be direct impacts from proposed military employee (Soldier and civilian
46 employee) changes. Impacts to jobs, income, business volume, and personal spending in the
47 ROI would all be anticipated. These changes in Soldier and government civilian employee

1 population would also be associated with some change in the need for contract support and
2 lead to indirect impacts through a reduction in the overall demand for goods and business
3 services within the region. Economic modeling and forecasting provide an estimate of the
4 potential intensity of socioeconomic impacts. Modeling provides a method of qualifying and
5 quantifying certain potential monetary and employment impacts of the Proposed Action.

6 In order to model the socioeconomic impacts of the alternatives evaluated in this PEA, the Army
7 primarily utilized the Economic Impact Forecast System (EIFS), to determine and quantify the
8 magnitude of economic impact. EIFS was developed in support of BRA stationing actions, and
9 has been the Army's primary modeling tool for economic impacts since the late 1990s.

10 EIFS is a computer-based economic tool that calculates an estimate of the direct and indirect
11 effects resulting from a given action. Changes in installation employment and spending
12 represent the direct effects of the action. On the basis of the input data and calculated
13 multipliers, the model estimates ROI changes in sales volume, income, employment, and
14 population, accounting for the direct and indirect effects of the action. The model projects an
15 estimated total change in population, employment, income, and sales volume for the defined
16 ROI as a whole. In coordination with the staff of potentially affected installations, the USACE
17 conducted economic modeling of impacts using the EIFS model to determine the intensity of
18 economic impacts for each installation's ROI. EIFS projections of changes in total employment,
19 income, and sales are all presented in each installation analysis section.

20 The databases in EIFS are national in scope and cover the approximately 3,700 counties,
21 parishes, and independent cities that are recognized as reporting units by federal agencies.
22 EIFS allows the user to define an economic ROI by identifying the counties, parishes, or cities to
23 be analyzed. Once the ROI is defined, the system aggregates the data, calculates multipliers
24 and other variables used in the various models in EIFS, and prompts the user for forecast input
25 data. For purposes of the EIFS analysis, a change is considered significant if it falls outside the
26 historical range of ROI economic variation. To determine the historical range of economic
27 variation, the EIFS model calculates a rational threshold value (RTV) profile for the ROI. This
28 analytical process uses historical data for the ROI and calculates fluctuations in sales volume,
29 income, employment, and population patterns. The positive and negative historical extremes for
30 the ROI become the thresholds of significance (i.e., the RTVs) for economic change. If the
31 estimated effect of an action falls above the positive RTV or below the negative RTV, the effect
32 is considered to be significant (see EIFS and RECON explanatory example, below).

33 For the purposes of this socioeconomic impacts analysis, the Army recognizes that the EIFS
34 modeling tool has some potential for inaccuracy in its definition of RTVs. For example, the EIFS
35 model utilizes data for regional economic variability that ranges from the years 1969 through
36 2000. Unfortunately, given the timeframe for these Army-wide decisions, it was not possible to
37 update the EIFS model to reflect the latest economic data in the model. Determinations of
38 "significant" economic impacts and EIFS RTV values are, therefore, based on the economic
39 fluctuation that occurred between 1969 and 2000, and do not account for some of the more
40 extensive fluctuations that have occurred in the past decade. To some extent, exclusion of the
41 fluctuations of 2008 and the recent recession from the RTV calculations leads to a more precise
42 determination of significance. Inclusion of the 2008 data would raise the threshold for
43 significance and mask impacts that would otherwise be identified as significant. Use of the older
44 data from economically more stable years could only result in more, rather than fewer, impacts
45 being identified as significant, and, therefore, represents a more conservative assumption for
46 purposes of this analysis. The Army has used current census and economic data to update
47 EIFS and all other economic measurements.

1 To validate the results of EIFS, the Army also used the Regional Economic System (RECONS)
2 model as a predictor of potential economic impacts. The RECONS model is a regional
3 economic impact tool, which forecasts changes to the regional economy's sales, jobs, and
4 income. RECONS provides a snap-shot in time of the anticipated socioeconomic impacts to the
5 region. Unlike EIFS, the RECONS model was not specifically developed as a tool to model
6 economic impacts of Army stationing activities. It was primarily developed to estimate the
7 impact of cancellation or implementation of USACE civil works projects in a given region. For
8 the purposes of this PEA analysis, however, data inputs similar to those in EIFS were utilized to
9 generate a comparable projection of economic impacts, so that predictive data from the two
10 models could be utilized to assess and compare impacts. Data inputs and discussion of how
11 modeling data were utilized is presented in the Socioeconomics Analysis Methodology section
12 below. Unlike EIFS, the RECONS model does not generate a significance threshold.

13 **Socioeconomics Analysis Methodology.** All installation stationing scenarios were uniformly
14 evaluated using a consistent methodology to ensure comparable impacts are presented
15 between the two models utilized. The full-time military employee population was obtained from
16 the Army Stationing and Installation Plan (ASIP) (February, 2012). The baseline population
17 numbers used for the evaluation of impacts includes permanent party Soldiers and full-time
18 Army civilian employees. To update the EIFS model with the latest population 2010 census
19 data, the data from each of the counties within the installation ROI were collected. Military
20 personnel residing on-post were not captured in the 2010 census data for counties on which the
21 installation is located, as installations are federal property, so the affected installations provided
22 numbers of Soldiers and Family members living on post. The updated population of military and
23 their dependents residing on the installation was then added to the ROI population. Estimates of
24 non-farm employment within ROIs were obtained from the U.S. Census Bureau quickfacts
25 website (<http://quickfacts.census.gov>). These estimates provided employment numbers for
26 each county through 2009, and were used to estimate total non-farm employment within the
27 ROI. These were the most recent data available at the time the analysis was prepared that
28 could be used to generate employment estimates for the specific installation ROIs. While this
29 data does not capture the full impact of the economic downturn that began in late 2008, it does
30 capture a portion of the impacts to ROI employment.

31 For all installations, an estimate of the total number of dependents was generated using the
32 latest data from the Defense Manpower Data Center (DMDC). For example, in 2011, 55.8
33 percent of full-time Army Soldiers were married. All Soldiers had, on average, 0.96 children
34 ages 0-18 (DMDC, 2012). These percentages of 55.8 percent married and 0.96 children per
35 Soldier were used in estimating the total population of dependents within the ROI. To calculate
36 the number of dependents associated with an installation in the ROI population, the Army
37 multiplied the number of full-time Army Soldiers and civil service employees by 55.8 percent to
38 determine the projected number of spouses. The Army took the same full-time population of
39 military employees and multiplied this number by 0.96 to calculate the number of dependent
40 children associated with the installation population. These two numbers were then added
41 together to obtain the total estimate of dependents likely to be associated with the installation's
42 population in the ROI. Student trainees that are not on permanent change of station (PCS)
43 status were not included in the estimate of dependents, as students and trainees are not usually
44 accompanied by Family members.

45 Using this methodology to calculate dependent percentages may result in slightly higher
46 estimates of the potentially affected dependent population than might otherwise be predicted;
47 however, the Army chose to be conservative in its methodology so as not to underestimate
48 impacts. There are three reasons the estimates of ROI dependent population are likely high.
49 First, not all dependent spouses and children accompany their military sponsor to an

1 installation. The Army does have a small percentage of “geographic bachelors/ bachelorettes”
2 who do not bring their Families to the installation when assigned there. Second, some Soldiers
3 with dependent children are no longer married and do not have custody of those children within
4 the ROI. Third, for all military employees, the estimate uses Soldier rates for marriage and child
5 dependents, which are slightly higher than the comparable ratios for civilians.⁹ The proposed
6 alternatives include a mix of Soldiers and civil servants. In estimating the total potentially
7 affected population, the higher Soldier percentages were utilized to estimate the total military
8 and DoD civilian impacts, because a majority of those impacted by the alternatives would be
9 Soldiers and not civilians.

10 To assess the ROI’s loss or gain in population, the estimated change in dependents was added
11 to the total number of proposed installation military employees lost or gained. To calculate the
12 change in population, this total projected change in military employees and dependent
13 population was divided by the total population estimate within the ROI (see EIFS and RECONS
14 explanatory example below).

15 RECONS data is also presented in each installation socioeconomic consequences discussion
16 and its projections are compared to those of EIFS. The RECONS model presents an estimate
17 of total sales volume impacts, income, and employment impacts. The RECONS model
18 projections do not include a projection of the direct income and jobs impacts of stationing
19 realignments being proposed under each alternative. For example, if an installation alternative
20 included the loss of 1,000 military employees, the direct loss of income (1,000 x average salary)
21 and those jobs must be added back into the total RECONS model output to obtain the total
22 impact, as the RECONS model only provides data outputs to quantify the projected indirect and
23 secondary economic impacts to the surrounding community, but not the direct economic
24 impacts of the employment change itself. To make RECONS estimates consistent with EIFS
25 outputs, the calculation of direct economic impacts from the Army’s Proposed Action were
26 added to the model’s estimates. To calculate RECONS income impacts, for example, the total
27 direct impacts of the proposed alternatives (military employees x income), characterized as the
28 “direct impact” in EIFS, was added back into the RECONS model by adding this direct impact
29 number to regional data outputs in RECONS. These direct impacts numbers for income were
30 added to business support services and secondary effects numbers to generate an
31 approximation of total impact to income in the ROI. Adding business support services and
32 secondary effects estimates from RECONS will present a figure analogous to “indirect”
33 economic impact for EIFS. When these figures are added to include the direct impacts of a
34 proposed stationing action, a total income figure is generated by RECONS that will present a
35 comparable estimate to the EIFS model. At a multi-BCT installation, a total military population
36 loss of 8,000 Soldiers and civil servants could potentially occur. The average salary estimate of
37 these personnel (\$41,830)¹⁰ is multiplied by the number of personnel directly impacted (8,000),
38 and this must be added back into the RECONS impact projections of direct regional business
39 reductions, or projected reductions in contractor support, and indirect loss of jobs in the ROI that
40 are not connected to the military but result simply from a reduced regional demand in goods and
41 services. When this is done, an estimate of both income loss or gain is obtained. Each section
42 then compares this data to EIFS projections for the ROI.

⁹ The overall average marriage rate for the civilian population in the U.S. in 2012 was 49 percent, and the average number of dependents is 0.91 per adult (U.S. Census, 2012).

¹⁰The average salary for a Soldier in an IBCT is \$41, 830. This figure was used for the average salary of all Soldiers who could potentially be eliminated at installations. Because the Army does not know which units would be involved, it is impossible to determine the precise salaries that would be at stake; \$41,830, the yearly salary of a mid-career non-commissioned officer, was selected. The IBCT serves as a good representative example. The analysis also uses \$41,830 as the average salary for civilian employees. This amount is the approximate salary for employees in the GS 5-9 range. Again, the Army does not know which civilian employees would be involved in reductions, but \$41,830 is valid as an average salary for civilians involved in potential reductions.

1 In order to provide the most updated analysis for two of the most important socioeconomic
 2 impact indicators, the Army updated employment and income values using the most recent data
 3 (i.e., 2009 Census quickfacts data).

4 Income forecast values were updated by multiplying per capita money income for each county
 5 by overall county population, to determine the overall income for the ROI. The total change in
 6 income as determined by the EIFS and RECONS models (see 'Total' under 'Income' in Tables
 7 4.0-3 and 4.0-4) was then divided by the new income total to determine the new percentages of
 8 increase/decrease in income in the ROI (see 'Percent' under 'Income' in Tables 4.0.4-3 and
 9 4.0.4-4).

10 Similarly, employment forecast values were updated by combining private non-farm
 11 employment figures for each county with on-post military employment totals to determine the
 12 total private non-farm employment for the ROI. The total change in employment as determined
 13 by the EIFS and RECONS models (see 'Total' under 'Employment' in Tables 4..4-3 and 4.0.4-4)
 14 was then divided by the new employment total to determine the new percentages of
 15 increase/decrease in employment in the ROI (see 'Percent' under 'Employment' in Tables 4.0.4-
 16 3 and 4.0.4-4).

17 The installation impact discussions also present a calculation of predicted change to state tax
 18 revenue. This figure is generated by taking the total sales volume reduction and multiplying it by
 19 the state tax rate. At some installations, two states may be impacted. In these situations, the
 20 distribution of impacts are discussed, though precise estimates of the apportionment of how
 21 state tax revenue would be lost or gained was not an output of the models.

22 **Economic Impact Forecast System and Regional Economic System Explanatory**
 23 **Example.** Tables 4.0.4-2 through 4.0.4-4 are examples of the EIFS and RECONS tables
 24 provided for each installation.¹¹ As discussed above, significant impacts would occur if a
 25 forecast value falls outside of the economic growth or contraction significance values as shown
 26 in 4.0.4-2. For example, the sales volume, income, and employment forecast values are within
 27 the forecast ranges in Table 4.0.4-2; while the population change is outside the range (-2.44,
 28 where the range is 3.21 to -1.57). Population change is a significant socioeconomic impact
 29 because it falls outside of this range. Details on the calculations of sales volume, income,
 30 employment, and population are discussed above under Socioeconomics Analysis
 31 Methodology.

32 **Table 4.0.4-2. Example Economic Impact Forecast System and Rational Threshold Value**
 33 **Summary of Implementation of Alternative 1**

Region of Influence Economic Impact Significance Thresholds	Sales Volume (Percent)	Income (Percent)	Employment (Percent)	Population (Percent)
Economic Growth Significance Value	7.56	8.06	3.74	3.21
Economic Contraction Significance Value	- 8.16	- 7.74	- 4.23	- 1.57
Forecast Value	- 2.16	- 1.93	- 3.66	- 2.44

34

¹¹ Tables are taken from Section 4.5 (Fort Carson) and are the actual tables of predicted economic impacts associated with the implementation of Alternative 1 at Fort Carson.

1 **Table 4.0.4-3. Economic Impact Forecast System: Summary of Projected Economic**
 2 **Impacts of Implementation of Alternative 1**

Region of Influence Impact	Sales Volume	Income	Employment	Population
Total	- \$554,736,100	- \$417,692,300	- 8,844 (Direct) - 2,017 (Indirect) - 10,861 (Total)	- 20,144
Percent	- 2.16 (Annual Sales)	- 1.93	- 3.66	- 2.44

3 **Table 4.0.4-4. Regional Economic System: Summary of Projected Economic Impacts of**
 4 **Implementation of Alternative 1**

Region of Influence Impact	Sales Volume	Income	Employment
Total	- \$365,808,847 (Local) - \$647,147,505 (State)	- \$406,640,553	- 9,037 (Direct) -1,152 (Indirect) -10,189 (Total)
Percent	- 1.42 (Total Regional)	- 1.88	- 3.4

5 The basis of the EIFS analytical capabilities is the calculation of multipliers that are used to
 6 estimate the impacts resulting from military-related changes in local expenditures or
 7 employment. In calculating the multipliers, EIFS uses an economic modeling approach, which
 8 relies on the ratio of total economic activity to basic economic activity. Basic, in this context, is
 9 defined as the production or employment engaged to supply goods and services outside the
 10 ROI or by federal activities (such as military installations and their employees). According to
 11 economic base theory, the ratio of total income to basic income is measurable (as the multiplier)
 12 and sufficiently stable so that future changes in economic activity can be forecast. This
 13 technique is especially appropriate for estimating aggregate impacts and makes the economic
 14 base model ideal for the NEPA process.

15 Depending on the size and diversity of the economy within the ROI, a different set of multipliers
 16 may be used to predict the economic impacts. In Table 4.0.4-3, EIFS predicts that for the
 17 regional economy, the loss of 8,000 jobs as part of the implementation of Alternative 1 would
 18 lead to the collateral loss of an additional 2,861 jobs (a multiplier of -.36). Total sales volume
 19 would be generated by multiplying total income in Table 4.0.4-3 by an EIFS multiplier of 1.32 to
 20 get total estimated impacts to sales volume. In RECONS, the income figure is multiplied by two
 21 separate multipliers, one for the region, and one for the state. The multipliers will vary
 22 depending on the regional setting and if the installation ROI is predominately rural, semi-rural, or
 23 urban. In the example in Table 4.0.4-4, income at the regional level is multiplied by
 24 approximately .89 to obtain regional impacts to sales and a multiplier of 1.59 to obtain impacts
 25 at the larger state level. EIFS does not distinguish between the two geographic scales and its
 26 multiplier of 1.32 falls between the two RECONS estimates. The percentage of sales is the
 27 amount of change calculated based on annual sales for the ROI. For example, in Table 4.0.4-3
 28 the loss in sales predicted by EIFS is - \$554,736,100. This represents a change of -2.16
 29 percent of annual sales in the ROI, which has a total estimated sales volume of approximately
 30 \$25.68 billion For the RECONS prediction of -1.42 percent change predicted in Table 4.0.4-4,
 31 the total change in sales volume (locally) is divided by total sales within the ROI, as well. So, for
 32 example, RECONS predicts a change in sales volume of \$365,808,847, which equates to an
 33 estimated change in sales of -1.42 percent within the ROI when divided by the total ROI sales
 34 volume of approximately \$25.68 billion. The income percentage is based on the loss or gain in
 35 income over the total of non-farm income for the ROI. Total employment within the ROI was
 36 added using estimates of 2009 employment from the U.S. Census Bureau for each county or

1 parish within the ROI.¹² The estimates of ROI employment were then multiplied by the median
2 income and added to the total income of those living on post to determine the total income
3 within the ROI. Individuals living on post were not included in U.S. Census Bureau employment
4 or income figures; and, their estimated income was also added to the total income of the ROI.
5 The percentage of change was then calculated by dividing the predicted change in income by
6 total ROI income. The percentage of population change is based on the predicted change over
7 the ROI population. For each socioeconomic analysis, 2010 census data was used to calculate
8 the populations of the ROI off post, and populations residing on post were then added to the
9 totals. For example, EIFS predicts a change in population of -20,144 total individuals
10 associated with a reduction of 8,000 military employees in Table 4.0.4-3. This includes
11 Soldiers, Army government civilians, and their dependents. To obtain the estimated percentage
12 loss this represents within the ROI, the populations of each county were added to the estimate
13 of the on-post population. When -20,144 was divided by the ROI population of approximately
14 825,000 people, the percentage of population change was determined to be -2.44 percent,
15 which falls outside of the EIFS significance threshold value and would, therefore, be predicted to
16 be significant.

17 **Socioeconomic Impacts.** Installation population loss under the Proposed Action would
18 negatively impact regional economies. Cities, towns, and counties in the ROI, whose economies
19 are supported by military employment, contribute to local and regional employment and
20 economic activity and could be adversely affected.

21 An installation principally affects local communities through salaries paid to Soldier and civilian
22 employees, and subsequently spent in the local economy; and through procurements in the
23 local economy, which can include purchases and contracts. Installation personnel reductions
24 would be expected to result in adverse economic impacts due to the loss of jobs, income, and
25 sales in an affected region.

26 In addition, adverse impacts to regional community services and schools could occur because
27 they receive funding, support, time, donations, and tax revenue directly related to the installation
28 military authorizations and their dependents. The housing market, public health and safety
29 services, Family support services, and recreational facilities could also be affected. Most Army
30 installations included in this analysis have a considerable percentage of the Soldier and civilian
31 population that rents or owns homes off post. Increases or decreases in the number of Army
32 personnel assigned to a given installation can, therefore, have direct impacts on housing
33 demand and the local housing market. In addition, the need for public services and recreational
34 facilities in the surrounding communities can also fluctuate with Army stationing decisions.

35 Installation population gains would represent beneficial economic impact within the ROI. Gains
36 also can have variable impacts to school districts with regard to student population. It would be
37 anticipated that most Soldiers would be accompanied by their Families and that there would be
38 an increase in school student population growth; this increase could also result in more impact
39 aid for the schools.

40 Environmental Justice (E.O. 12898) analysis requires federal agencies to identify and address,
41 as appropriate, disproportionately high and adverse human health or environmental effects of
42 federal agency programs, policies, and activities on minority and low-income populations.
43 Minority populations are identified as Black or African American, American Indian and Alaska
44 Native, Asian, Native Hawaiian and other Pacific Islander, Hispanic, of two or more races, and
45 other. The Proposed Action may have disproportionate or adverse health impacts on low-

¹² 2009 employment estimates were the latest employment estimates that were universally available for all counties and parishes within the installation ROI; these numbers were obtained from the U.S. Census quickfacts website (<http://quickfacts.census.gov/qfd/index.html>).

1 income or minority populations in that it may involve adverse economic impacts to communities
2 with higher minority populations than the state as a whole. Within the ROI, however, the
3 economic effect would be distributed among community members regardless of race, ethnic
4 origin, or economic status, and therefore is not disproportionate.

5 In addition, E.O. 13045 requires federal agencies to identify and assess environmental health
6 risks and safety risks that may disproportionately affect children. Such risks to health and safety
7 are attributable to products or substances that a child would be likely to come in contact with or
8 ingest. The impacts of the alternatives are not projected to have disproportionate adverse
9 impacts on children, because no aspects of the action would be anticipated to increase the risks
10 described in the E.O.

11 Significant impacts would include:

- 12 • Long-term substantial loss or displacement of recreational opportunities and resources
13 relative to baseline;
- 14 • Substantial disproportionate environmental health or safety risk to children;
- 15 • Substantial increased public safety hazard from military operations;
- 16 • A regional job decline or regional income decline that exceeds 5 percent according to
17 the RECONS model;
- 18 • Indication from Economic Modeling that impact to the economy would exceed RTV or
19 historical precedent for past economic fluctuation for employment and regional income;
20 and
- 21 • Substantial disproportionate adverse environmental economic, social, or health impacts
22 on minority or low-income populations.

23 **Energy Demand and Generation**

24 The primary sources of energy on Army installations are electricity, natural gas, fuel oil,
25 propane, and to a much lesser extent, solid fuels, such as coal and wood. Army installations
26 use all of these forms of energy. Choices regarding energy can extend to selection of type of
27 fuel, conservation measures, availability, costs, or consumption rates. Energy consumption is
28 perhaps the major infrastructure and budgetary challenge to Army leadership, encompassing
29 both domestic challenges and garrison and tactical challenges abroad. Power generation,
30 transmission, and use have major economic, environmental, and mission implications (Canton,
31 et al., 2006). Changes in installation stationing, could result in changes to installation energy
32 use. Significant impacts would occur if the energy demands of the Proposed Action exceed the
33 capacity of existing transmission infrastructure or the generating capacity of the energy provider.

34 **Land Use Conflicts and Compatibility**

35 Land use refers to the planned development of property to achieve its highest and best use and
36 to ensure compatibility among adjacent uses. In the Army, land use planning is the mapping and
37 planned allocation of the use of all installation lands based on established land use categories
38 and criteria (Canton, et al., 2006).

39 The land use planning process is iterative because it needs feedback and ideas from the
40 installation unit, tenant organizations, and residents. Land use planning is used on a continuing
41 basis as a component of real property master planning.

42 An installation's Real Property Master Plan, which typically covers a 20-year planning horizon, is
43 focused on the management and development of real property resources. This plan should
44 contain information that is vital for addressing cumulative effects on land use. The Real
45 Property Master Plan analyzes and integrates the plans prepared by the Director of Public

1 Works and other garrison staff, mission commanders, and other tenant activities, higher
2 headquarters, and those of neighboring communities to provide for orderly development, or in
3 some cases, realignment and closure of real property resources (DA, AR 210-20, May 2005).

4 Change to land use under the Proposed Action could occur if additional land has to be
5 converted to use for training or if land currently used for administrative buildings is converted to
6 another use when the buildings are eliminated. Such changes would be reflected through
7 changes to the master plan.

8 Significant impacts generally would occur when more than 5,000 acres of land is removed from
9 public use. This amount is a matter of context and intensity, however, and could vary depending
10 on the size of the installation.

11 **Hazardous Materials and Hazardous Waste**

12 Hazardous material is defined as any substance with the physical properties of ignitability,
13 corrosivity, reactivity, or toxicity that might cause an increase in mortality, serious irreversible
14 illness, and incapacitating reversible illness or that might pose a substantial threat to human
15 health or the environment. Hazardous waste is defined as any solid, liquid, contained gaseous,
16 or semisolid waste or any combination of wastes that poses a substantial present or potential
17 future hazard to human health or the environment.

18 Evaluation of environmental impacts from hazardous materials and wastes focuses on
19 underground storage tanks (USTs) and aboveground storage tanks (ASTs) and the storage,
20 transport, and use of pesticides and herbicides; fuels; petroleum, oils, and lubricants (POLs),
21 and a variety of chemicals. Impacts also may occur with the generation, storage, transportation,
22 and disposal of hazardous wastes when such activities occur at or near the project site of a
23 Proposed Action. In addition to being a threat to humans, the improper release of hazardous
24 materials and wastes can threaten the health and well-being of wildlife species, botanical
25 habitats, soil systems, and water resources. In the event of a release of a hazardous materials
26 or wastes, the extent of contamination varies based on type of soil, topography, and water
27 resources.

28 In general, hazardous material and hazardous waste issues are governed by such statutes as
29 the Resource Conservation and Recovery Act (RCRA), Toxic Substances Control Act (TSCA),
30 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), CAA,
31 CWA, Safe Drinking Water Act (SDWA), Federal Facilities Compliance Act, Military Munitions
32 Rule, and Federal Hazardous Materials Transportation Law. ARs and E.O.s have also been
33 established pursuant to these and subsequent federal and state regulations.

34 Special hazards are those substances that might pose a risk to human health but are not
35 regulated as contaminants under the hazardous waste statutes. Included in this category are
36 asbestos, radon, lead-based paint (LBP), polychlorinated biphenyls (PCBs), and unexploded
37 ordnance (UXO). The presence of special hazards or controls over them may affect or be
38 affected by implementation of the stationing actions described in this PEA. Information on
39 special hazards describing their locations, quantities, and condition assists in determining the
40 significance of the effects of the Proposed Action.

41 Significant impacts would occur when substantial additional risk to human health or safety would
42 be attributable to Army actions.

43 Table 4.0.4-5 shows examples of hazardous materials and hazardous waste issues that could
44 occur as a result of the Proposed Action alternatives.

1

Table 4.0.4-5. Facilities: Hazardous Materials and Waste Issues

Action Alternative	Issues
Use of Existing Facilities	Underground storage tanks maintenance and replacement
	Existing lead-based paint
	Existing asbestos
	Existing equipment with polychlorinated biphenyls
	Radon
Renovation of Existing Facilities	Underground storage tanks replacement and disposal
	Lead-based paint removal and disposal
	Asbestos disposal
	Replacement of polychlorinated biphenyls-containing equipment
	Radon
Demolition of Existing Facilities	Underground storage tank disposal
	Lead-based paint disposal
	Asbestos disposal
	Disposal of polychlorinated biphenyls-containing equipment
Construction of New Facilities	Installation of underground storage tanks
	Radon

USACE, 2002. Final Programmatic Environmental Impact Statement for Army Transformation. Prepared by USACE Mobile District. February, 2002.

2

3 **Traffic and Transportation**

4 Traffic and transportation systems refer to organized means of moving people and commodities
 5 (Canter et al., 2006). Principal transportation systems include commercial air carriers, waterway
 6 and maritime shipping, railroads, and trucking. Movement of people by privately owned vehicles
 7 (POVs) on a local or regional scale is related to traffic and circulation. In many instances, the
 8 location and availability of transportation system hubs and their capacities, can affect or be
 9 affected by installation activities. The smooth flow of traffic and the adequacy of on post and off
 10 post road networks to move people efficiently contribute materially to the quality of the human
 11 environment in the vicinity of the installation. Unless mitigation measures are implemented,
 12 increased volume can pose an additional risk to the safety of pedestrians and bicyclists.

13 Traffic impacts could include congestion and delays on public roadways and key access points
 14 within and near the installation. In the event that an installation is selected to receive additional
 15 Soldiers, site-specific traffic studies may be required.

16 Significant impacts would generally occur when a reduction by more than two Levels of Service
 17 (LOS) at roads and intersections within the ROI occurs.

18 **4.0.5 Cumulative Effects Analysis Methodology**

19 CEQ regulations implementing NEPA define a “cumulative impact” as follows:

20 *“Cumulative impact is the impact on the environment, which results from*
 21 *the incremental impact of the action when added to other past, present,*
 22 *and reasonably foreseeable actions regardless of what agency (federal or*

1 *non-federal) or person undertakes such other actions. Cumulative impacts*
2 *can result from individually minor but collectively significant actions taking*
3 *place over a period of time.” (40 CFR §1508.7).”*

4 EPA guidance to reviewers of cumulative impacts analyses further adds:

5 *“...the concept of cumulative impacts takes into account all disturbances*
6 *since cumulative impacts result in the compounding of the effects of all*
7 *actions over time. Thus, the cumulative impacts of an action can be*
8 *viewed as the total effects on a resource, ecosystem, or human community*
9 *of that action and all other activities affecting that resource no matter what*
10 *entity (federal, non-federal or private) is taking the action (EPA, 1999).”*

11 For the purposes of this PEA, significant cumulative impacts would occur if incremental impacts
12 of the Proposed Action, added to the environmental impacts of past, present, and reasonably
13 foreseeable actions, would exceed significance thresholds for resources at an installation and
14 the surrounding regions. The Army considered a wide range of past, present, and reasonably
15 foreseeable future actions by researching existing literature and contacting local area planners
16 and state and federal agencies to identify other projects in the region of each installation that
17 could contribute to cumulative environmental impacts. The Army considered other past,
18 present, or foreseeable future actions regardless of whether the actions are similar in nature to
19 the Proposed Action or outside the jurisdiction of the Army.

20 Cumulative impacts are addressed within each installation section following the discussion of
21 environmental consequences for each alternative. This installation cumulative effects analysis
22 offers a fuller understanding of resource conditions that implementation of the Proposed Action
23 might magnify, amplify, or otherwise exacerbate or cause beneficial or adverse impacts to
24 resources on a regional or long-term scale. There are few impacts from actions proposed for
25 installations that when taken together have the potential to cause a nationwide cumulative
26 impact. These few potential impacts are discussed in Section 4.24.

27 Generally, installation analyses included past and present impacts in the discussion of the
28 affected environment, and, therefore, most of the cumulative impacts discussion addresses
29 reasonably foreseeable future actions.

30

