



## THE UNDER SECRETARY OF DEFENSE

3010 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3010

ACQUISITION,  
TECHNOLOGY  
AND LOGISTICS

The Honorable Carl Levin  
Chairman  
Committee on Armed Services  
United States Senate  
Washington, DC 20510

OCT 18 2012

Dear Mr. Chairman:

Pursuant to section 332 of the National Defense Authorization Act for Fiscal Year 2009 (Public Law 110-417), this report describes how fuel logistics are addressed in the analyses and force planning that informs the capability requirements and acquisition decision processes. Specifically, the statute directed the Secretary of Defense to develop and implement two new concepts, an Energy Key Performance Parameter (KPP) and a Fully Burdened Cost of Energy (FBCE) analysis, and to report on compliance within 3 years. This report satisfies reporting requirements under Section 332 (e) and (f).

The Department of Defense (DoD) has fully developed both of these measures and has actively begun using them to consider energy impacts and costs earlier and more dynamically in the requirements development and acquisition processes. Both measures are providing new insights into the military utility of developing more energy efficient forces.

Last year, the Department published its first Operational Energy Strategy and earlier this year followed up with an associated Implementation Plan. These documents provide DoD direction and context on how to appropriately integrate operational energy considerations into our requirements development and acquisition processes. In addition to these guidance documents, significant work is underway across the Services, Joint Staff, and Office of the Secretary of Defense to incorporate lessons learned from the initial efforts.

The importance of this work is highlighted by the scale of DoD energy purchases. Last year, the Department purchased nearly 5 billion gallons of fuel at a direct cost of over \$15 billion to conduct worldwide military operations. However, as we have seen in Iraq and Afghanistan, the indirect costs associated with moving and protecting fuel are often much higher – in dollars, lives, and combat capability. Reducing our demand for energy can make U.S. forces more agile and effective by extending their range and reducing their dependence on vulnerable battlefield supply lines. As we build the force we need to meet tomorrow's threats, the Energy KPP, FBCE, and related efforts will inform energy efficient design decisions for our future planes, ships, and combat vehicles and ultimately drive down energy demand in combat.

Preparation of this report/study cost the Department of Defense a total of approximately \$1,800 for the 2012 Fiscal Year.  
Cost estimate generated on September 11, 2012 RefID: 0-61C6A18

## **Energy Key Performance Parameter:**

Section 332(b) of Public Law 110-417 directed the development and implementation of a fuel efficiency KPP in the requirements development process. In January 2012, the Chairman of the Joint Chiefs of Staff (CJCS) revised the Joint Capabilities Integration Development System (JCIDS) Instruction (CJCS Instruction 3170.01) to include a mandatory Energy KPP. The manual published with that instruction (available at [http://www.dtic.mil/cjcs\\_directives/](http://www.dtic.mil/cjcs_directives/)) states: “The purpose of the Energy KPP is to address growing threats against the provisioning of energy to systems (forces) during operations while sustaining the capabilities required by the operational commander.” It also includes the first-ever methodological guidance to the Services on factors that should be included in the Energy KPP. For DoD systems, the product of these considerations will be energy performance targets and thresholds set early in system development, which will drive specific energy-improved technical metrics in later phases of development for energy-demanding components within these systems.

The Joint Staff J-4 and Assistant Secretary of Defense for Operational Energy Plans and Programs will provide oversight of Service implementation of the Energy KPP and provide recommendations to the Joint Requirements Oversight Council.

## **Fully Burdened Cost of Energy:**

Section 332(c) of Public Law 110-417 directed the development and implementation of a FBCE metric to help inform cost, schedule, and performance trade decisions in Analyses of Alternatives and acquisition programs. Shortly after passage of section 332, the Defense Acquisition Guidebook was revised to direct the inclusion of FBCE in trade-off analyses. On July 23, 2012, the Department released updated FBCE guidance, which provides specific guidance on how to implement this tool. FBCE informs the acquisition process, helping to illuminate the relative benefits of better energy performance for military equipment and weapons. Specifically, the policy provides a framework to incorporate costs associated with moving and protecting fuel into design processes for tomorrow’s military equipment. By using data to more realistically depict the logistics burden of the fuel, DoD planners can better inform tradeoff analyses, seek more efficient design alternatives, and ultimately give our forces more flexible, mobile, and sustainable capabilities in combat.

The guidance applies to all Acquisition Category I and II systems that demand fuel or electric power. In addition to its use in the acquisition process, the JCIDS manual directs that FBCE be considered in requirements development as part of the “Ownership Cost” Key System Attribute, within the Materiel Availability Key Performance Parameter, to support sustainment cost assessments of fuel consuming systems. The Services have already begun implementing FBCE in developmental programs, and wider implementation is expected in the months and years ahead. The updated guidance for calculating FBCE is posted in the Defense Acquisition Guidebook Chapter 3, “Affordability and Life-Cycle Resource Estimates” (cross posted at <http://energy.defense.gov>).

### **Additional Approaches:**

In addition to the Energy KPP and FBCE, the Department is pursuing other options for achieving more energy-informed capability and cost decisions. This includes requesting more energy- and logistics-informed scenario analysis while setting requirements, applying exit and entry criteria to acquisition program milestone decisions, and leveraging best practices on how incentives can be included at source selection and in performance contracts to ensure the systems we buy meet or exceed the energy performance they promise. Furthermore, the Operational Energy Strategy Implementation Plan directs the Services to reform some of their modeling and simulation tools to account for the vulnerability and force protection demands required to deliver fuel within the same combat scenarios used to justify the need for the system itself. In sum, these improved tools will help make the energy characteristics of the competing systems more visible and will better inform acquisition decisions.

We anticipate consideration of energy impacts and costs in the requirements and acquisition processes will improve as this new branch of operations analysis improves with experience. In conjunction with the Departmental and Service Energy Strategies, these reforms are poised to help mitigate our energy vulnerabilities while increasing the agility of our future deployed forces and reduce our operating costs.

A similar letter has been sent to the other congressional defense committees.

Sincerely,

A handwritten signature in black ink, appearing to read 'Frank Kendall', with a stylized, cursive script.

Frank Kendall

cc:  
The Honorable John McCain  
Ranking Member



## THE UNDER SECRETARY OF DEFENSE

3010 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3010

ACQUISITION,  
TECHNOLOGY  
AND LOGISTICS

The Honorable Daniel K. Inouye  
Chairman  
Committee on Appropriations  
United States Senate  
Washington, DC 20510

Dear Mr. Chairman:

Pursuant to section 332 of the National Defense Authorization Act for Fiscal Year 2009 (Public Law 110-417), this report describes how fuel logistics are addressed in the analyses and force planning that informs the capability requirements and acquisition decision processes. Specifically, the statute directed the Secretary of Defense to develop and implement two new concepts, an Energy Key Performance Parameter (KPP) and a Fully Burdened Cost of Energy (FBCE) analysis, and to report on compliance within 3 years. This report satisfies reporting requirements under Section 332 (e) and (f).

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The importance of this work is highlighted by the scale of DoD energy purchases. Last year, the Department purchased nearly 5 billion gallons of fuel at a direct cost of over \$15 billion to conduct worldwide military operations. However, as we have seen in Iraq and Afghanistan, the indirect costs associated with moving and protecting fuel are often much higher – in dollars, lives, and combat capability. Reducing our demand for energy can make U.S. forces more agile and effective by extending their range and reducing their dependence on vulnerable battlefield supply lines. As we build the force we need to meet tomorrow's threats, the Energy KPP, FBCE, and related efforts will inform energy efficient design decisions for our future planes, ships, and combat vehicles and ultimately drive down energy demand in combat.

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The Joint Staff J-4 and Assistant Secretary of Defense for Operational Energy Plans and Programs will provide oversight of Service implementation of the Energy KPP and provide recommendations to the Joint Requirements Oversight Council.

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A similar letter has been sent to the other congressional defense committees.

Sincerely,

Frank Kendall

cc:

The Honorable Thad Cochran  
Vice Chairman



## THE UNDER SECRETARY OF DEFENSE

3010 DEFENSE PENTAGON  
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ACQUISITION,  
TECHNOLOGY  
AND LOGISTICS

The Honorable Harold Rogers  
Chairman  
Committee on Appropriations  
U.S. House of Representatives  
Washington, DC 20515

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Sincerely,

Frank Kendall

cc:  
The Honorable Norman D. Dicks  
Ranking Member



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ACQUISITION,  
TECHNOLOGY  
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The Honorable Howard P. "Buck" McKeon  
Chairman  
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U.S. House of Representatives  
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Sincerely,

Frank Kendall

cc:  
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Ranking Member