

**Advance Questions for Sharon Burke**  
**Nominee to be Director of Operational Energy Plans and Programs**

**Defense Reforms**

**The Goldwater-Nichols Department of Defense Reorganization Act of 1986 and the Special Operations reforms have strengthened the warfighting readiness of our Armed Forces. They have enhanced civilian control and clearly delineated the operational chain of command and the responsibilities and authorities of the combatant commanders, and the role of the Chairman of the Joint Chiefs of Staff. They have also clarified the responsibility of the Military Departments to recruit, organize, train, equip, and maintain forces for assignment to the combatant commanders.**

**Do you see the need for modifications of any Goldwater-Nichols Act provisions?**

Currently, I see no specific changes in the Act that I would recommend.

**If so, what areas do you believe might be appropriate to address in these modifications?**

See above.

**Duties**

**Section 139b of title 10, United States Code, establishes the duties and functions of the Director of Operational Energy Plans and Programs (DOEPP).**

**What is your understanding of the duties and functions of the DOEPP?**

My understanding of the duties and functions of the DOEPP, as established by the law, are as follows:

- Provide leadership, facilitate communication, and conduct oversight of operational energy plans and programs within the Department of Defense and the Army, Navy, Air Force, and Marine Corps;
- Establish an operational energy strategy;
- Coordinate and oversee planning and program activities of the Department of Defense and the Army, Navy, Air Force, and the Marine Corps related to implementation of the operational energy strategy; the consideration of operational energy demands in defense planning, requirements, and acquisition processes; research and development investments related to operational energy demand and supply technologies; and monitor and review all operational energy initiatives in the Department of Defense;

- Serve as the principal adviser to the Secretary of Defense and the Deputy Secretary of Defense regarding operational energy plans and programs and as the principal policy official within the senior management of the Department of Defense regarding operational energy plans and programs.

**What background and experience do you possess that you believe qualifies you to perform these duties?**

With more than 20 years of relevant experience, I have extensive background in energy security policy and Department of Defense programs and priorities. I first worked in energy policy at the Office of Technology Assessment of the U.S. Congress, where I researched a range of energy and public works issues. In the 1990s, after graduate education that focused on energy policy, I was selected to join the Office of the Secretary of Defense as a Presidential Management Intern. This program involved a two-year period of postings across the Defense Department, including the Office of the Undersecretary for Acquisition and Technology. After joining the civil service, I served as a Country Director for South Asia in the Office of the Undersecretary of Defense for Policy, where I was the lead in coordinating U.S. defense policy toward the region with defense agencies, the Joint Staff, the Military Departments, and the interagency. Subsequently, I served as an aide to the Secretary of Defense and then the Deputy Secretary of State, with direct exposure to leadership challenges during military operations. Most recently, as an executive at a small non-profit business, I directed a research program on energy security and related issues, such as critical minerals, and have conducted research on national energy security strategy, energy security roles and missions in the federal government, Department of Defense use of operational fuels, and how climate change may affect strategic planning in the Department of Defense.

**Do you believe that there are actions you need to take to enhance your ability to perform the duties of the DOEPP?**

If confirmed, I will need to take actions common to many new officials, such as deepening my knowledge of the portfolio and developing partnerships with key stakeholders across the Department, in other agencies, and in the private sector. In addition, if confirmed, I will need to take actions that may be less common for incoming officials in standing up a new office fully capable of executing a new mission for the Department of Defense.

**Assuming you are confirmed, what duties and functions do you expect that the Secretary of Defense would prescribe for you?**

If confirmed, I expect that the Secretary of Defense will prescribe duties and functions in accordance with the requirements in the law. He may also expect me to play a supporting role in addressing other Department of Defense energy challenges.

**What is your vision for how the DOEPP should interface with the installations and environment community to tie together installation and operational energy policy and goals?**

If confirmed, I intend to build a close partnership with the installations and environment community. There are fairly clear delineations in law and regulation on the responsibilities of these communities within DoD, but there is a high degree of collaboration in practice. First, given the way the term “operational energy” was defined in law, there is operational energy used by both deployed forces and at installations in the United States and around the world. Second, the DOEPP will need to leverage the expertise and experience the Department has amassed on the full range of defense energy challenges within the installations and environment community, both in the Pentagon and across the country. Indeed, the Department’s energy strategy must make common cause in improving the capabilities of our forces and assuring their access to essential resources while reducing our energy costs and demonstrating leadership on climate change. If confirmed, I look forward to collaborating with Dr. Dorothy Robyn, the DUSD(I&E), and the many other OSD, Service and Defense Agency officials dedicated to these goals.

**How should the DOEPP interface with the services' existing and new energy offices?**

If confirmed, I will work closely with the Services’ energy offices to integrate their respective efforts, including by developing strategy, overseeing energy-related budgets, and promoting the improved energy performance of our forces as directed in the law.

**Relationships**

**In carrying out your duties, what would be your relationship with:**

**The Secretary of Defense**

If confirmed, I would serve as the Secretary’s principal advisor on operational energy matters. In keeping with statute, I would communicate directly with the Secretary to convey timely advice grounded in sound energy strategy.

**The Deputy Secretary of Defense**

If confirmed, I would serve as the Deputy Secretary’s principal advisor on operational energy matters. In keeping with statute, I would communicate directly with the Deputy Secretary to convey timely advice grounded in sound energy strategy.

**The Service Secretaries**

If confirmed, I would engage with the Service Secretaries and their senior operational energy officials to ensure that operational energy concerns are addressed in their policy priorities and inputs into joint planning.

### **The Service Chiefs**

If confirmed, I would engage with the Service Chiefs, their staffs, and their operational commanders to help incorporate operational energy concerns into their statutory responsibilities to recruit, organize, train, equip, and maintain military forces.

### **The Under Secretary of Defense for Acquisition, Technology, and Logistics**

If confirmed, I would directly support the USD(AT&L) in incorporating operational energy considerations throughout the acquisition process, research and development priorities, and logistics planning.

### **The Assistant Secretary of Defense for Logistics and Material Readiness**

If confirmed, I would seek to collaborate with the ASD(L&MR) to reduce the logistics burden that high energy consumption can place on our forces.

### **The Deputy Under Secretary of Defense for Installations and Environment**

If confirmed, I would seek to collaborate with the DUSD(I&E) in a wide variety of ways, but primarily in setting a comprehensive DoD energy strategy that helps advance the capabilities, cost-effectiveness, and environmental stewardship of the Department of Defense to the greatest degree possible.

### **The Deputy Under Secretary of Defense for Science and Technology**

N/A (this position was absorbed into the Research Director under DDR&E)

### **The Director of Defense Research and Engineering**

If confirmed, I would work closely with the Director on DoD's energy-related research and development portfolio, and to promote investment in energy technologies and design innovations that may lead to a more capable, more cost-effective and sustainable force. Further, I would seek a partnership in the oversight of the energy-related budget in DoD, consistent with the requirements of the DOEPP under law.

### **The Director of Systems Engineering**

If confirmed, I would support the Director's, the Department's, and the Congress' efforts to strengthen systems engineering practice and oversight in DoD's acquisition process.

### **The Director of Force Transformation**

N/A (this office was disbanded in the last administration and its functions were split between NII and OSD Policy.)

### **The Joint Requirements Oversight Council**

If confirmed, I would support the USD(AT&L)'s participation on the Joint Requirements Oversight Council (JROC), focusing on the incorporation of operational energy concerns into the requirements process. I would work with the key Joint Staff members who manage and contribute to the JROC's work to also ensure that concepts of operation and other doctrinal documents they review and approve are giving adequate consideration of fuel demand in the force and the value of efficiency and alternatives.

### **The Combatant Commanders**

If confirmed, I would seek lessons learned from both the regional and functional combatant commands in on-going and past operations related to operational energy challenges and solutions. I would also seek to work together to promote experimentation with new energy capabilities.

### **The Service Acquisition Executives of the Military Departments**

If confirmed, I would work closely with the Service Acquisition Executives to promote the use of energy management tools, such as the Energy Efficiency Key Performance Parameter and the Fully Burdened Cost of Fuel, in the acquisition programs they oversee.

### **The Director of the Defense Logistics Agency**

If confirmed, I would work with the Director, DLA to ensure compliance with DoD policies, executive orders, and current laws that seek to reduce energy burdens on the force. Further, I would work with the Director of the Defense Energy Support Center, a subordinate entity within DLA, to ensure the implementation of the DoD operational energy strategy.

### **The program executive officers and program managers of major defense acquisition programs**

If confirmed, I would offer support on the use of energy planning and management tools, such as the Energy Efficiency Key Performance Parameter and the Fully Burdened Cost of Fuel. This would include soliciting their ideas for how to ensure program executive officers and program managers have greater incentives to drive towards more energy efficient technology, alternative fuels, and other design options to improve energy use.

### **Major Challenges and Problems**

**In your view, what are the major challenges that will confront the DOEPP?**

The primary challenge confronting the DOEPP will be to change a longstanding, underlying assumption across the defense enterprise that energy will always be relatively cheap and available where it is needed, when it is needed. Moreover, in addressing this challenge, the DOEPP will have to confront the reality that there is no one-size-fits-all solution. A successful operational energy strategy for the Department will have to place high priority on improving the energy posture of deployed forces, both in forward operating positions and in support bases, for example, at the same time that it incorporates energy considerations into DoD's normal business processes, from wargaming to requirements to budgeting. If confirmed, I expect to find these challenges eased by the growing, pervasive awareness of the importance of the Department's energy posture, given experiences in Operations Enduring Freedom and Iraqi Freedom. If DoD incorporates energy as both an enabler and as a liability in how it designs and builds the force, we can make major improvements in our capability, flexibility, effectiveness, affordability, and sustainability. In this way, energy can be a strategic and tactical advantage for U.S. forces, rather than a significant source of risk.

**Assuming you are confirmed, what plans, management actions, and timelines do you have for addressing these challenges?**

If confirmed, I would work with the Department's senior leadership to improve the operational energy posture of current deployments as well as incorporating operational energy considerations into the Department's planning and strategy development, requirements, acquisition, and budgeting processes on an ongoing and long-term basis.

**What do you consider to be the most serious problems in the coordination of operational energy efforts across the services?**

At this time I do not have first-hand knowledge of what may be the most serious problems in the coordination of operational energy efforts across the Services, though I am certainly aware that each Service has its own roles, missions, materiel, training, and cultures. If confirmed, I would plan to work closely with Service energy executives and other key stakeholders to ensure that the Department's energy strategy allows for implementation that can promote coordination and also accommodate differentiation.

### **Organization and Staffing**

**Managing operational energy is vitally important but will be challenging because of the cross-cutting nature of the problem which permeates DOD and the services. The authorizing language for this position prescribes certain tools such as budgetary certification to ensure that the Director has the access and ability to conduct oversight needed to be successful.**

**Are there any additional tools you feel you might need to be successful?**

Not at this time but I will examine this question if I am confirmed.

**What is your understanding of the extent to which the Department has made the changes necessary to establish the office of the DOEPP, in accordance with the statutory requirements?**

Although I have limited knowledge of the arrangements already made, I believe that the Department has taken steps to establish the office of the DOEPP and other energy policy infrastructure as required in the law.

**Do you see the need for any changes in the structure, organization, or reporting relationships of the office of the DOEPP?**

No, not at this time.

**What steps do you plan to take, if confirmed, to assess the staffing needs of your office and ensure that you have sufficient staff of appropriately qualified and trained personnel to carry out your duties and responsibilities?**

If confirmed, I will carefully consider the best way to fully establish this new office in order to meet the statutory requirements. That will include determining the optimal office organization, creating or fine-tuning position descriptions, adopting success metrics, and recruiting qualified individuals.

**What is your view of the current staffing of operational energy plans and programs of the military departments and defense agencies?**

If confirmed, I will review the resources allocated to operational energy plans and programs across the defense enterprise.

**If confirmed, what role if any do you expect to play in ensuring that the operational energy planning and program functions of the military departments and defense agencies have sufficient staff of appropriately qualified and trained personnel to carry out their duties and responsibilities?**

If confirmed, I plan to work with leadership to assess the capability and capacity of the Department to execute the Department's energy strategy. This assessment would include an appraisal of staff qualifications.

**Do you think that the Department is currently doing an adequate job of coordinating operational energy planning and programming across the services?**

No, not at this time. Military and civilian leadership in the Department have done an admirable job of identifying concerns about operational energy and beginning to put in place the policies and staffing to deal with these concerns, but these efforts are still in their early stages, particularly when it comes to implementation. Coordination across the

services, Combatant Commands, the Office of the Secretary of Defense and Joint Staff will be a high priority for me, if confirmed.

## **Training**

**Section 332 of the Duncan Hunter National Defense Authorization Act for Fiscal Year 2009 requires consideration of fuel logistics support requirements in planning, requirements development, and acquisition processes.**

**What is your view of the steps that should be taken to ensure wargames, planning processes, other training, and acquisitions appropriately consider the operational impacts of systems that create energy and fuel demand?**

The key mission of the DOEPP office will be to make sure planning processes, wargaming, and acquisitions consider the operational impacts of energy consumption. If confirmed, I and my staff will best accomplish this by deepening relationships and partnerships with key stakeholders across the building, contributing to these processes and activities, and providing useful expertise and information, to include best practices and lessons learned. Also, key leadership statements and strategy documents can be useful tools, especially the 2008 Defense Science Board Task Force report on DOD Energy Strategy and the 2010 Quadrennial Defense Review, which set important baselines.

## **Research & Development**

**What do you see as the role or need for research and development to meet DOD's operational energy needs?**

Research and development related to operational energy and force capability is of great importance in meeting the Department's operational energy needs. If confirmed, I look forward to working with the Director, Defense Research and Engineering, the Services, the Department of Energy and the National Labs, and the commercial sector to drive and/or capture the benefits of innovation in energy research.

**What is your current understanding of the way that the Office of the Secretary of Defense and the military departments coordinate budgets for operational energy research and development?**

My understanding is that the Under Secretary of Defense for Acquisition, Technology, and Logistics, supported by the Director, Defense Research and Engineering, oversees the RDT&E investment accounts and programs of the Services and Defense Agencies and coordinates their budget requests with their sponsors.

**Do you believe that any of the military department's research and development programs in this area are redundant or overlapping?**

I do not have sufficient information about the programs to make an informed judgment at this time.

**If confirmed, what steps would you take to coordinate the research and development efforts of the military departments for operational energy?**

If confirmed, I will work closely with the Services, Department leadership, and other stakeholders to ensure that energy research needs are being performed where the best capability exists, and to coordinate efforts to make the most progress as quickly as possible.

**Do you believe that specific areas of responsibilities should be assigned to each military department? If so, how would you go about defining those areas of responsibility?**

I believe the military departments should have a lead role in determining the capabilities they need to meet military missions and support military forces. If confirmed, I would support OSD and Joint Staff efforts to facilitate collaboration and/or reduce overlap in military R&D responsibilities.

**What role do you believe DARPA should play in research and development to meet operational energy needs?**

DARPA has a major role to play in pursuing leap-ahead, often high risk, technological advancements to improve U.S. forces' capabilities. This is true for energy-related technologies just as it is for other areas.

**In your view, should DOD accelerate research and technology development efforts related to renewable energy and efficiency, procurement of equipment, and conservation efforts? If so, what steps would you take, if confirmed, to accelerate such efforts?**

I believe that DARPA, and DoD writ large, should accelerate research and technology efforts in any area with strong promise for improving our forces' capability, capacity, and efficiency, particularly where DoD has a unique mission-critical need that cannot be served by the commercial sector. Concerning energy, I am mindful of the fact that DoD has been most successful in driving innovation when DoD is focused on meeting military needs. If confirmed, I would work with the Director, Defense Research and Engineering, the Deputy Under Secretary of Defense for Installations and Environment, and the relevant military department leadership to ensure we are investing in energy innovations to advance our warfighter's capabilities.

**In your view, should DOD accelerate demonstration programs with respect to renewable energy platforms to better aid deployed forces in combat zones where energy and resources are derived solely from power generators and convoy/airlift support? If so, what steps would you take, if confirmed, to accelerate such programs?**

If confirmed, one of my top priorities will be to improve the capabilities, force protection, effectiveness, and efficiency of deployed forces in Iraq, Afghanistan, and global operations against terrorist organizations. I believe that energy innovations can further that goal.

**What specific metrics would you use, if confirmed, to assess funding targets and priorities for DOD's long term research efforts and determine whether DOD is making adequate investments in its basic research programs?**

I do not have sufficient knowledge or perspective yet to make such a judgment. However, if confirmed, I would plan to work with key stakeholders to develop a prioritization scheme for energy-related reforms and their implementation, complementing and informed by the Quadrennial Defense Review and other relevant strategy and guidance. This would provide the strongest context for making informed resource allocation and funding target assessments.

## **Department of Energy**

**If confirmed, how would you work with the Department of Energy (DOE), including the Advanced Research Projects Agency – Energy, on the development of new or advanced approaches for operational energy requirements?**

If confirmed, I would look forward to working closely with the Department of Energy, including the Advance Research Projects Agency – Energy, to develop new or advanced approaches for meeting operational energy requirements where opportunities for collaboration exist.

**Are there any specific areas where you think the DOD or services are best suited to partner with the DOE?**

At this time, I do not have specific thoughts on technologies or other areas that are best suited to a partnership.

**The Secretary of Energy recently outlined plans to invest up to \$366 million to establish and operate three new Energy Innovation Hubs focused on accelerating research and development in three key energy areas. Each Hub, to be funded at up to \$122 million over five years, will bring together a multidisciplinary team of researchers in an effort to speed research and shorten the path from scientific discovery to technological development and commercial deployment of highly promising energy-related technologies.**

**In your view, would similar plans and efforts within the DOEPP similarly benefit DOD?**

If confirmed, this is a concept I would discuss with the Director, Defense Research and Engineering and the appropriate Service points of contact.

## **Biofuels**

**What do you see as the advantages and disadvantages of the use of biofuels by DOD?**

Although I do not know the specifics of DoD's current or planned biofuels use, I believe the advantages and disadvantages of the Department of Defense biofuels programs likely mirror those of the civilian economy. The chief advantages are: the ability to improve U.S. energy security and cut operating and economic vulnerabilities by decreasing reliance on foreign energy sources; the benefit to the U.S. economy and provision of jobs that come with a domestic industry; improvements in climate security through lower greenhouse gas emissions; and the promotion of a long-term transition away from fossil fuels. The disadvantages include: competition with other uses (such as food) depending on the feedstock used; challenges with meeting technical specifications and performance standards; high capital and/or lifecycle costs; insufficient gains in cutting greenhouse gas emissions; and opportunity costs for investment in other energy innovations.

**What are the costs and benefits (including environmental costs and benefits) associated with the use of biofuels?**

The costs and benefits of biofuels are complex and depend on the feedstock, water demands of the feedstock and fuel production, byproducts, and total lifecycle greenhouse gas emissions. A thorough and objective cost-benefit analysis of all these considerations will be vital to capturing the benefits and minimizing the costs of biofuels.

**If confirmed, how will you help ensure that the use of biofuels by the services do not result in prolonged increased energy costs, detract from operational readiness, or unduly burden existing logistics systems?**

If confirmed, I will ensure that the Department's energy strategy considers all of these factors and will work with the Defense Energy Support Center to ensure any alternative fuels contracts the DoD enters into conform with EISA Section 526 and protect the taxpayer against excessive costs. I will also ensure any alternative fuel purchased for deployable systems are fully fungible with conventional fuels and do not compromise performance or sustainment of our forces.

**In your view, does the Department need any additional statutory or contract authorities to increase the production of biofuels?**

I do not yet have access to sufficient information to make an informed judgment.

### **Expeditionary Energy**

**In a deployed environment, forward operating bases rely on ground-based and air logistical support and generators to function, produce electricity, and accomplish their combat mission, often at the risk of casualties and high costs. One alternative is the use of solar and wind renewable energy resources in theater to provide energy to units.**

**In your view, which of the concepts and technologies that are currently available or under development provide the most promising sources of energy for deployed units?**

If confirmed, I will seek more information on the technical and demonstration data particular to combat missions in order to make informed judgments on this issue. This would be a priority issue I expect to discuss with the Director, Defense Research and Engineering and the appropriate Service points of contact.

**Another alternative currently in use to conserve energy and operational costs is the foaming of tents and structures. The Marine Corps tends to favor insulating fabric layers rather than foam to provide a more lightweight and maneuverable capability to shelters.**

**What is your understanding of the advantages and disadvantages to using foam as insulation?**

My understanding is that the foaming of tents and some more permanent structures overseas is a great success story in terms of reduced fuel demand. There have also proven to be some challenges related to mobility, disposal, ventilation, and flammability. If confirmed, I will review this program and work with the services and COCOMs to develop clear and consistent guidance.

**What is your understanding of the extent to which tents and structures currently use foaming technology?**

I am not aware of the total number or proportion of operational structures that have been foamed, or that are planned to be insulated in some way.

**What is your understanding of DOD's goals for use of foaming in the future?**

I am not aware of any goals or current contracts to further foam any structures. If confirmed, I will collect this data from the Services and COCOMs and discuss options with them to set clear guidance for the future.

**In 2007, the Joints Chiefs of Staff rejected an urgent request for renewable power stations in Iraq on the grounds that solar and wind-powered technologies were “not mature enough” to deploy. As a result such potentially beneficial technologies have generally been limited to demonstration programs and deployed units are left without renewable and independent energy sources that could ease the threat and burden of logistical support convoys and airlifts.**

**If confirmed, what steps would you take to overcome such problems?**

If confirmed, I would work with senior civilian and military leaders to ensure we are better supporting our warfighters in the field. This means testing and fielding operational energy solutions as quickly and as prudently as possible in order to enhance the ability of deployed forces to achieve their missions. In assessing any urgent operational needs, the Department must balance the quick and the prudent; for urgent operational needs with energy as a factor, I would expect the Director for Operational Energy to have a role in such assessments.

**Do you consider energy conservation and the use of renewable energy to be a combat multiplier or key performance parameter?**

Both. Improved energy efficiency and use of renewables can be important combat multipliers, if they are implemented in ways that improve the capability of systems and military units, or if they reduce the total logistics footprint in the theater of operations. At the same time, I believe the energy efficiency key performance parameter will be a vital factor in requirements and acquisition decisions going forward.

**In your view, is there a need for a cultural change in the mindset of our Armed Forces with respect to renewable energy, efficiency, and conservation?**

Yes. My impression is that a cultural change is underway but is in the early stages of taking hold. A number of factors are spurring this change. First, U.S. and partner forces have faced great challenges in securing and maintaining supply lines in Iraq and Afghanistan, along with high costs. This has underscored the need to cut the consumption of fuel and develop energy alternatives. The Quadrennial Defense Review explicitly and firmly identified energy security as an important national security goal, which will provide a baseline for new thinking. It is my understanding that some wargames and other defense planning activities have also begun to incorporate challenges to energy supplies.

### **Fully Burdened Cost of Fuel**

**The fully burdened cost of fuel accounts for not only the fuel price but all other costs associated with delivery, often to forward operating locations. It can vary depending on the region and operating platform, but moving fuel by convoy and airlift is often very expensive depending on the analysis.**

**Do you believe that the fully burdened cost of fuel provides a useful metric for the Department's operational energy programs?**

I believe it can be a useful metric. Right now, the costs of fuel consumption are not fully accounted for; developing a credible metric for the fully burdened cost of fuel will help assign the appropriate value to energy efficiency, conservation, and other alternatives. It can be a vital tool for making smarter decisions on both the performance and sustainment of our future force, but also on the total ownership costs of the forces DoD is developing. If confirmed, I look forward to working within OUSD(AT&L), with the Director of Cost Analysis and Program Evaluation, and with the military departments to find the best way to implement the fully burdened cost of fuel in the DoD acquisition process.

**If confirmed, what steps if any would you take to ensure that the fully burdened cost of fuel is accurate, incorporated into funding requests, and becomes efficient as possible?**

I understand that the development and implementation of the fully burdened cost of fuel methodology is a core responsibility of the Director's office. If confirmed, I would work closely with my colleagues in OUSD(AT&L), the Office of the Director, Cost Analysis and Program Evaluation (CAPE) and their equivalents in the military departments to ensure their estimates are developed consistent with acquisition policy, and that they are applied properly within the established acquisition decision processes.

**If confirmed, what technologies, programs, and efforts would you advocate to help reduce the fully burdened cost of fuel?**

If confirmed, I would work with the Director, Defense Research and Engineering, in particular, but also with the Service acquisition and research and development commands, to pursue leads with the most promise for improving U.S. forces' endurance, sustainment in the field, and mission capability. I believe that by keeping the improvement of our forces' mission capability as our central focus, we will advance DoD's energy innovation to the greatest degree possible.

**Contingency Plans**

**Most military installations rely on energy provided by the local civilian energy grid, which is owned and operated outside of military jurisdiction. The risk of power outages in the civilian energy grid may pose significant threats to their readiness and ability of some installations to perform their mission.**

**Do you believe that the security and reliability of energy provided to military installations is a significant source of concern?**

Yes. I believe the overall security of the U.S. electric grid is a significant source of concern – for the civilian economy as well as for the Department of Defense. Although I have read reports that there may be unappreciated risks to DoD critical missions from electric grid vulnerabilities, I do not have sufficient exposure to classified and technical data to make an informed judgment on the matter. If confirmed, I expect to work with the Assistant Secretary of Defense for Homeland Defense, the Deputy Under Secretary of Defense for Installations and Environment, and the other DoD organizations with equities concerning this issue to better understand current policies and practices.

**What role if any do you see for the DOEPP in initiatives to improve the security and reliability of energy provided to military installations both in the United States and abroad?**

My understanding is that the responsibilities for ensuring reliable energy supply to military installations cross-cuts numerous policy, oversight, and operational organizations. Given that the definition of “operational energy” includes energy consumed at military bases in the United States in execution of mission critical tasks supporting forward deployed forces and other operational functions, it would be appropriate for the DOEPP to be involved in policy formulation and coordination in this area.

**In Afghanistan, fuel convoys must pass through unstable regions and single points of entry through mountain passes.**

**What role if any do you see for the DOEPP in the development of contingency plans to ensure energy support to the warfighter in the case of the disruption of lines of supply?**

I am not aware of any authority or requirement in statute, regulations, or policy for the DOEPP to review and approve contingency plans, which are the responsibility of the Under Secretary of Defense for Policy and the relevant Combatant Commands. The same is true for planning on current operations, although the USD(AT&L) has a role in logistics oversight in current operations. If confirmed, I plan to collaborate with the Office of the Under Secretary of Defense for Policy, the Joint Staff J8, the Director, Cost Analysis and Program Evaluation (CAPE), and the related offices in the military departments to ensure energy support to warfighters.

**Renewable Energy**

**What is your understanding of the extent to which military operational energy is currently derived from renewable energy sources?**

I have not seen an assessment of current operational use of renewable energy. If confirmed, this is a question I will seek hard data on.

**If confirmed, what steps if any will you take to increase the percentage of operational energy from renewable sources?**

I believe it is in the Department's interest to assess which renewable sources may reliably meet operational energy needs before setting percentages or targets. An accurate assessment may well demonstrate that there are circumstances in which renewable sources will improve performance and/or reliability and/or lower costs, especially once management tools such as the fully burdened cost of fuel are implemented. I am not aware of whether an assessment has been done to date, but if confirmed, I will examine how decisions are being made about fielding renewable energy sources and technologies to support operational activities.

**In your view, are renewable energy technology and other alternatives to fossil fuels too expensive to compete with refined petroleum sources of energy?**

In my view, it would not be prudent to make any blanket statements about the cost competitiveness of alternatives to fossil fuels, especially since the full cost of these fuels is not reflected in the price. Moreover, in the context of military operations, performance is the most important metric, with reliability and cost being important but not necessarily decisive considerations. I do think it is important for the Department to factor into its decisions, especially its procurement decisions, considerations such as "total ownership cost" and the fully burdened cost of fuel, which can help accurately incorporate full energy costs.

**If confirmed, what approach will you take to ensure that any efforts to reduce energy demand or shift to renewable energy alternatives will not degrade mission effectiveness?**

If confirmed, one of my driving concerns will be to improve mission effectiveness, especially for deployed forces. I will advocate for energy policies that do so. I will not advocate for any energy option that has a negative effect on mission effectiveness of U.S. forces. And if confirmed, I will work diligently to ensure that the way DoD measures the capability, cost, and other implications of energy alternatives is done consistently and rigorously, in line with the other capability considerations.

**One common criticism of renewable energy platforms and technologies relates to a lack of power storage or concerns with battery capabilities.**

**If confirmed, what steps if any would you expect to take to address such potential issues and concerns?**

If confirmed, I will collaborate with the Director, Defense Research and Engineering, as well as the military department research and development and energy lead officials, to ensure our energy storage and related technology investment and testing is keeping up with our forces' operational needs.

**DOD has significant experience in partnering with industry to develop renewable power resources – such as solar or geothermal power – for military installations.**

**Do you see a role for similar partnerships with industry for the development of renewable fuel approaches to operational energy requirements?**

Yes. Partnerships with industry are likely to be crucial to meeting operational energy requirements.

### **Energy Goals**

**How would you define operational energy security for DOD?**

Section 331 of the 2009 National Defense Authorization Act defines operational energy as “the energy required for training, moving, and sustaining military forces and weapons platforms for military operations. The term includes energy used by tactical power systems and generators and weapons platforms.”

**If confirmed, what goals would you establish for DOEPP in achieving operational energy security for DOD?**

If confirmed, I will have a top goal to identify and implement energy policies that can improve the mission effectiveness of deployed forces in Afghanistan, Iraq, and in the global fight against terrorist organizations. Another top goal will be to better integrate energy policy into the Department’s business approaches in the research and development, requirements, and procurement processes, to include implementing tools required by law and regulation, such as the Energy Efficiency Key Performance Parameter and the Fully Burdened Cost of Fuel. If confirmed, I will also make assessing, assisting with, and reporting on energy-related budgets across DoD a priority. Finally, an important goal will be to integrate a full understanding of energy security into the Department’s strategic planning, force planning, and logistics, raising awareness of energy challenges and opportunities across the defense enterprise and identifying ways and means to improve DoD’s energy security in the near, mid, and long term.

**What is your understanding of the responsibilities of DOEPP for setting and implementing energy goals, including energy conservation goals and goals for alternative and renewable types of energy, within DOD?**

My understanding is that, if confirmed, I would have a leading role in drafting the Departmental operational energy strategy and policy, in support of the Secretary. I would plan to work with all DoD entities with operational energy in their own portfolios to devise goals and specific changes that advance the capability, affordability, and sustainability of U.S. forces, now and into the future. I would also coordinate with the

DUSD(I&E) on ensuring that the operational energy strategy is compatible with the sustainability management plan and other departmental energy management goals.

**In your view, are existing DOD energy goals, including energy conservation goals and goals for alternative and renewable types of energy, realistic and achievable?**

From my experience in the private sector, I understand the Department's current goals to be focused on installations and compliance with current laws and the new Executive Order 13514 regarding greenhouse gas emissions from energy use. To my knowledge, those issues will be overseen by the USD(AT&L) with the DUSD(Installations & Environment) as his primary staff lead. I am not aware of any systematic assessment that has been done on whether these goals are sufficient for DoD's purposes but have read anecdotal success stories.

Concerning operational energy, I believe there will be differences in how the Department will measure operational energy benefits in current operations from how it measures energy benefits in the design of future capabilities. I am aware of no specific DoD energy goals in either domain at this time, but if confirmed, I would anticipate having a role in developing those within a DoD energy strategy.

**What changes, if any, would you recommend to these goals?**

I am not in a position to recommend proposed changes at this time.

### **Execution of Executive Order**

**On October 8, 2009, the President signed Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance, to establish the policy that federal agencies shall increase energy efficiency and measure, report, and reduce their greenhouse gas emissions. The Secretary of Defense has designated the Under Secretary of Defense for Acquisition, Technology, and Logistics to serve as the Senior Sustainability Officer responsible for ensuring compliance with the directives in this executive order.**

**Are you familiar with the Department of Defense's integrated Strategic Sustainability Performance Plan required by the executive order?**

Yes, I am familiar with the requirement in the Executive Order.

**What role do you expect to play, if confirmed, in working with the Under Secretary of Defense to carry out the requirements of the executive order?**

I believe that, if confirmed, I would partner with the DUSD(I&E) in supporting the USD(AT&L) to meet these requirements.

**What issues, if any, do you anticipate for the Department of Defense in satisfying the goals in the executive order?**

Beyond noting the recent announcement of greenhouse gas emissions targets, I do not have sufficient insight into how the Department is planning to implement the Executive Order to anticipate such issues.

### **Compliance with Section 526 of the U.S. Energy Independence and Security Act**

**Section 526, which was signed into law in December 2007, prohibits federal agencies from entering into procurement contracts of alternative or synthetic fuel for any mobility-related use, other than for research or testing, unless the contract specifies that the lifecycle greenhouse gas emissions are less than or equal to emissions from the equivalent conventional fuel produced from conventional petroleum sources.**

**What is your understanding of the Department of Defense's concerns associated with the implementation of Section 526?**

I am not aware of any Department of Defense concerns about this matter.

**If confirmed, how would you address these concerns?**

If confirmed, I believe that my responsibilities would include addressing concerns or legislative initiatives related to Section 526.

### **Army Energy Policy**

**In your view, what renewable technologies and fuel types have the most potential for certification and use by tactical vehicles?**

I do not have sufficient technical information at this time to make an informed judgment on which technologies have the most potential for tactical vehicle use. However, if confirmed, I will seek information from the relevant acquisition and technology development authorities in DoD, the R&D labs, and industry to gain a better perspective. I strongly believe, though, that there is great promise in developing, proving, and adopting more energy efficient designs and technologies and renewables, if we can show that they improve the capability of platforms, lower the total ownership cost of forces, and/or reduce the scale of the logistic support required to sustain missions.

**What is your view of the feasibility and advisability of using alternative and renewable technologies for tactical vehicles?**

I believe there is a bright future for incorporating technologies and designs that improve efficiency and utilize alternative power sources in tactical vehicles. My intent, if confirmed, is to ensure DoD's planning processes incorporate technologies and designs

that maximize capability while minimizing the limitations our systems have due to their demand for energy.

**In your view, what applications for hybrid-electric drives, if any, could be applied to tactical vehicles?**

I consider it very important to find ways to lighten the logistics burden on deployed forces, including the fuel burden of tactical vehicles. I believe there may be some applications for hybrid-electric drives, but also that current technologies may not be suitable for all tactical vehicles. Though I do not have detailed information on this subject, I am aware that the U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC) is currently evaluating Hybrid-Electric (HE) technologies and look forward to learning more about their findings.

**What is your understanding of the Department's current plan for certification of tactical vehicles for alternative fuel use?**

The Air Force began a significant effort in 2007 to start certifying its entire fleet of aircraft on blends of synthetic and conventional fuels. From what I have read, most of their aircraft have since been certified. Secretary of the Navy Mabus has issued a policy regarding the Navy's certification of surface ships and aircraft for use of synthetic fuels, but I not sure of the status of this effort. I understand the Army is currently evaluating synthetic and renewable fuel blends for some systems. I am unaware of any Marine Corps plans to certify their tactical vehicles for alternative fuel use. I am not aware of a DoD-wide policy on alternative fuel certification.

**If confirmed, would you support such efforts and what similar policies and initiatives would you support?**

If confirmed, I would work with the Deputy Under Secretary of Defense for Installations and Environment and the military departments' installation and energy officials to promote the use and testing of initiatives that reduce costs, improve the resilience of installations to perform critical missions, and to improve DoD's greenhouse gas emissions.

**Air Force Energy Policy**

**In your view, what renewable technologies and fuel types have the most potential for certification and use by aircraft?**

I strongly support policies in place that address reducing carbon emissions, reducing dependence on foreign oil, promoting alternative energy sources, and increasing energy efficiency. I believe renewable technologies and fuels can play a role in helping the Department succeed in these areas. Therefore, if confirmed, I will perform a comprehensive review of current Air Force and other Service efforts regarding specific technologies and fuel types and recommend to the

Secretary of Defense those alternative fuel sources that I believe are in the best interest of the Department.

**What is your view of the feasibility and advisability of using alternative and renewable energy technologies for aircraft?**

If confirmed, I will consult with the Air Force and other Services regarding the feasibility of specific alternative and renewable energy technologies being considered for aviation use. I will recommend to the Secretary of Defense those technologies which show the most promise to enhance mission capability while meeting or exceeding the Department's energy goals.

**What is your view of the cost effectiveness of alternative and renewable fuels for use as aviation fuels?**

Although there are promising scientific and technological developments, the market for alternative and renewable aviation fuels is not yet mature. It is still early to speculate on the cost effectiveness of these fuels. It will be up to industry to produce alternative and renewable fuels for the Department that can be obtained cost-competitively.

**How much of a premium if any do you believe the Department should be willing to pay for the use of alternative and renewable fuels for aircraft?**

If confirmed, I will consult within the Department and the Defense Logistics Agency to determine the feasibility of considering premiums for the purchase of alternative and renewable fuels.

**Navy Energy Policy**

**In October 2009, Secretary Mabus announced various energy goals for the Navy including the creation of a "Green Strike Group" powered by biofuels by 2012 and deploying by 2016; by 2015, reducing petroleum use in its 50,000 commercial vehicle fleet by 50 percent by phasing in hybrid fuel and electric vehicles; producing at least half the shore-based energy requirements from renewable sources, such as solar, wind and ocean generated by the base; and by 2020, ensuring at least 40 percent of the Navy's total energy consumption comes from alternative sources.**

**What is your understanding of the "Green Strike Group"?**

I am pleased that Secretary Mabus has given operational energy such a prominent place on his list of priorities, and if confirmed, I would look forward to working closely with him on improving the capability, sustainability, and cost-effectiveness of the forces under his purview. My understanding of his "Green Strike Group" concept is that he will meet the targets he has through a combination of nuclear powered vessels, efficiency improvements, and the use of alternative fuels.

**What is your understanding of the anticipated cost and schedule for the implementation of the “Green Strike Group” and associated energy goals?**

I have not seen a cost estimate or specific schedule of its implementation plan, besides those target dates mentioned above.

**What is your understanding of the role and responsibility of the DOEPP for establishing and implementing Navy energy policy within the DOD?**

My understanding of the role and responsibility of the DOEPP in this case is fourfold. While the Navy should establish and implement its own energy policy, the DOEPP will provide leadership, facilitate communication, and conduct oversight of operational energy plans and programs within the Navy, as well as the Army, Air Force, Marine Corps, and defense agencies. Second, the DOEPP will establish an operational energy strategy that will guide the Navy and other Services and defense agencies in establishing their plans. Third, the DOEPP is responsible for coordinating and overseeing planning and program activities of the Navy and across the defense enterprise in the implementation of the operational energy strategy. Finally, the DOEPP has other statutory responsibilities to review and certify the energy portions of budget submitted by the Navy, the other services, and across the Department.

**In your view, what renewable technologies and fuel types have the most potential for certification and use by ships?**

To date, I have not seen a technical assessment that would give me sufficient information on which to base such a judgment.

**Logistics**

**If confirmed, what would be your priorities with respect to logistical and materiel support, supply chain management, and sustainment efforts as they pertain to operational energy?**

Responsibility in OSD for these issues rest with the USD(AT&L), supported by the Assistant Secretary of Defense for Logistics and Materiel Readiness(ASD(L&MR)). If confirmed, I hope to work closely with the ASD(L&MR) on ways to reduce energy demand in the current and future force, and to promote energy solutions that will improve the supportability, flexibility and mobility of U.S. forces.

**What is your view of the role DOEPP will play in addressing logistical support challenges associated with the delivery of energy to deployed units, particularly in harsh environments like Afghanistan?**

My view is that the DOEPP should play a lead role in DoD in advocating for aggressive testing, demonstration, and fielding of energy solutions that can reduce the resupply

burdens on U.S. forces wherever they are operating. According to the 2010 Quadrennial Defense Review, our forces face anti-access challenges from near-peer competitors and others in the future as well, which could put fuel and logistics resupply in the air and at sea at much greater risk.

### **Congressional Oversight**

**In order to exercise its legislative and oversight responsibilities, it is important that this Committee and other appropriate committees of the Congress are able to receive testimony, briefings, and other communications of information.**

**Do you agree, if confirmed for this high position, to appear before this Committee and other appropriate committees of the Congress?**

Yes.

**Do you agree, if confirmed, to appear before this Committee, or designated members of this Committee, and provide information, subject to appropriate and necessary security protection, with respect to your responsibilities as the DOEPP?**

Yes.

**Do you agree to ensure that testimony, briefings and other communications of information are provided to this Committee and its staff and other appropriate Committees?**

Yes.

**Do you agree to provide documents, including copies of electronic forms of communication, in a timely manner when requested by a duly constituted Committee, or to consult with the Committee regarding the basis for any good faith delay or denial in providing such documents?**

Yes.