

NAVY ENERGY FORUM REMARKS

Tuesday, 12 October, 2010



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Admiral Cullom – it’s always great to follow you -- to the podium, but also along the path you’ve been blazing for the Navy and for the Department of Defense through Task Force Energy. Thank you so much, for both the lead in and the leadership. He has guidance from another great trailblazer – Secretary of the Navy Ray Mabus. Secretary Mabus has become an important voice not just in the Department of Defense but for the whole nation when it comes to energy security. Secretary Mabus was fortunate to come into office with a like-minded partner, Admiral Gary Roughead, who has been very shrewd in looking ahead to the Navy and the nation’s future.

Of course, the Navy has a long tradition of leadership – that has been true for 235 years tomorrow. And I am delighted to have this opportunity to say Happy Birthday to the United States Navy – you certainly don’t show your age.

That’s a great picture – I can appreciate it even more now that I’ve actually been on the deck of an aircraft carrier.

It was just a few months ago – one of the first things I did in my new job. Thanks to Admiral Cullom and another great energy visionary, Vice Admiral Bill Burke, I had the opportunity to visit with the sailors aboard the U.S.S. Enterprise. It was quite a privilege – there’s nothing like seeing thousands of men and women, from the Admiral up in the tower to the recruit below decks, all working together in an intricate and common mission – you can see right away that every person on that ship knows the part he or she plays is of great significance to the mission.

Indeed, the Enterprise is fitting a reminder of what's at stake when we talk about energy security at the Department of Defense. The very first nuclear carrier... it was the first time we harnessed that new form of energy for mobility, to power a critical national security mission. And indeed, that ship played a very important part in keeping our country safe throughout the Cold War.

And it's still playing an important part, 50 years later. It's extraordinary, isn't it? 50 years ago, when another Admiral Burke launched the Enterprise – a lot of Burkes around, no? We're not related, I assure you – I don't think that Admiral Burke would have imagined a future in which the Enterprise has to be ready for anything from pirates to terrorists to nations armed with nuclear weapons.

That is the reality of our times. And while it is just as hard to predict the future as it was 50 years ago. It is safe to say that energy security is part of the changing nature of war and will be one of the great challenges in this century. It will shape our national security – it already does -- both in terms of the global strategic landscape and in terms of the ability of our men and women in uniform to defend the country. Today, it is essential that the US Navy and the other armed forces once again harness the energy we use to execute critical national security missions.

That is what I want to talk to you about today – harnessing energy for national security. Today, about 70 percent of the energy the Department of Defense consumes goes to military operations – simply put, when we exercise our core mission to defend the country, we use a great deal of energy. Our supplies are by no means secure: in our current operations, the amount of fuel we use presents vulnerabilities, as we saw last week in Pakistan. At home, our military bases rely

on the civilian electric grid, which can be challenged by anything from computer viruses to tree branches, as happened in the great blackout of 2005. In the longer term, the overall energy supply and demand picture gets more complicated.

And that's the reason Congress and the President created the Office of Operational Energy Plans and Programs in the Office of the Secretary of Defense. We are brand new – less than three months old, but the mission is clear: we need to make sure the Department of Defense has the energy it needs to operate. That means delivering more capability to the warfighters of today and tomorrow at less risk and lower cost.

So today, I want to talk to you about how we intend to go about doing that. Let me start with some general thoughts about the nature of the challenge, and then preview for you the main elements we're considering for the Department's forthcoming operational energy strategy.

For the Department of Defense, the nature of this challenge is very broad – it covers geostrategic and strategic concerns, but also operational and tactical concerns.

First, energy – and particularly oil – is a geostrategic concern. From the growth in the global demand for oil and natural gas, to the increasing concentration of supplies, and the transfer of billions of dollars to countries such as Iran – the geopolitics of energy are shaping our national security.

At the same time, oil is also a strategic concern. Earlier this summer, the White House released the National Security Strategy, which noted that: “As long as we

are dependent on fossil fuels, we need to ensure the security and free flow of global energy resources.” The document goes on to say “without significant and timely adjustments, our energy dependence will continue to undermine our security and prosperity. This will leave us vulnerable to energy supply disruptions and manipulation and to changes in the environment on an unprecedented scale.” The clear message is that energy shapes and will shape U.S. military missions in a variety of ways.

I think most Americans understand the geostrategic and strategic risks of our oil dependence, but the operational and tactical risks – the particular focus for my – are perhaps less familiar.

Energy or supply lines more generally have always been a target in times of war – that’s not really new. But in the asymmetric wars we are fighting today and the anti-access threats we see in the future, much of our logistics force is in the battlespace. And our total force is far more energy intense than has historically been the case.

That energy intensity can be a constraint on the range, endurance, and maneuverability of our forces. It hampers operational effectiveness and increases risk. Fuel convoys are more at risk today, at great cost to our logistics forces and contractors, but those convoys also draw combat forces away from other missions for escort duty. It was in the papers yesterday that NATO forces have increased their presence on the supply lines coming across the border with Pakistan.

In addition to reducing operational effectiveness and increasing risk, our energy-intensive force structure also has a financial impact. The money spent to purchase

the fuel and the assets needed to move and protect it siphons resources away from other military priorities. Those funds are not available to buy new weapon systems or other equipment for our troops. It is not available to support military missions. This was really brought home in 2008, when the dramatic spike in fuel prices required the Department to shift funds from other priorities to pay our energy bills. The more energy our forces demand, the more the Department's budget and programs will be subject to these sorts of volatile energy prices. It is time to reassess the way we value energy.

Now, Congress has charged my office to produce an operational energy strategy for the Department to do just that – to help the Department value energy differently. That strategy isn't due until December 22, but I wanted to preview for you today what I expect the main themes of that strategy to be.

And I want to emphasize that as we develop this strategy, we have great partners not just in the Navy and the Marine Corps, but also in the Army and the Air Force. All of the Services are already doing so much in this area, and I am confident we will be able to build on that momentum and get to a strategy that establishes common goals that are flexible enough to fit each Service's unique roles and missions.

The overall goal of the strategy is to put better energy solutions in the hands of today's and tomorrow's warfighters. We will do that by improving the productivity of energy – or reducing demand – and by increasing our range and surety of supply, including by promoting innovation. In the near-term, we believe that will mean focusing on current operations; in the mid-term, it will mean mid-life upgrades to legacy platforms; and in the long-term, it means changing the way

we get and use energy for the nation's defense, across air, land, and sea domains and a range of operations.

In the near term, the strategy will focus how to reduce in-theater fuel demand. In order to do that, however, we need to better understand the Department's operational energy baseline. Today we know that operational fuel represents 70 percent of DoD's Energy costs, but further down the supply chain we have less visibility to see where those demand signals are originating. As we all know, it is difficult to manage what we don't fully understand ; we need to know where to apply our efforts if we are to make a difference. Implementing credible energy measurement tools in theater will shed valuable light on how we can limit vulnerabilities and capitalize on opportunities.

Next, we need to decrease unneeded energy demand across our platforms, expeditionary bases, and individual soldiers in order to improve mission capability. We can look to initiatives like the Marine Corps Expeditionary FOB and the NetZero Joint Capability Technology Demonstration at the Army's National Training Center to see how a range of activities —from insulated tents to LED lights to more efficient generators – can reduce the energy needs of a FOB. When demand management is coupled with renewable power generation, such as solar and wind, expeditionary bases will further reduce their need for fuel resupply. Longer range and endurance, less frequent supply convoys, the ability to withstand disruption, and lighter rucksacks all translate into more operational agility and flexibility. Such improvements will allow us to shift resources from tail to tooth over time, while also increasing resilience to disruption. This is an immediate improvement in the operational agility for our deployed forces, and is a priority for me and my team over the coming year. Over the long term, further research and

development of energy technologies will continue to yield improved capabilities on the battlefield.

While not immediately reflected in current operations on the ground, we also need to broaden and accelerate the great progress made across our ships and aircraft. We've already seen how optimized cargo loads, revised cruising speeds, and the removal of excess weight can make seemingly small changes that add up to substantial reductions in the fuel needed to deploy and sustain our expeditionary forces through the air. We need to extend these changes in tactics, techniques, and procedures across all training and operational activities, and move beyond our cargo and refueling jets to maximize the energy performance of these essential tools of power projection. At sea, we need to extend many of the initiatives you're hearing about in the course of this conference -- stern flaps, hull coatings, and hybrid electric drives. These can add up to meaningful improvements in energy performance and eventually scale up to large reductions in the energy needed to operate an expeditionary military.

In the mid-term, DoD is identifying opportunities to further improve the energy performance of our legacy fleet and the resilience of our critical missions at installations to power outages.

For the legacy fleet, we should take advantage of the opportunities afforded by depot maintenance and ongoing reset and reconstitution efforts. In some cases, our current force will be with us for decades, and we need to leverage improvements in design, propulsion, and mission planning tools to increase those capabilities through improved use of energy.

In order to acquire these energy efficient systems and platforms, the Department will need to change a broad range of planning, programming, and budgeting practices to appropriately value energy as an operational capability. Secretary Mabus has shown great leadership on this issue, as he described the need to “make energy reform a way of doing business.” This trend needs to spread across the Services, defense agencies, and OSD to expedite the deployment of proven energy solutions in current operations – whether incorporating energy performance in rapid fielding or near-term contracting for logistics and base operating support services.

Over the long-term, we need to incorporate energy into our core force planning processes. Joint Concepts of Operation should reflect the rise of anti-access weapons and the threats posed to not just our combat forces but the extensive constellation of bases and logistics nodes needed to sustain this force. I commend the Air Force and Navy for their work on AirSea Battle, and the Marine Corps for their revised Operating Concepts. Both of these efforts reflect the growing need to revise our operational level concepts of warfare to reflect the opportunities and risks that result from our energy footprint. The Services have also made substantial headway in the integration of operational energy considerations in war games and campaign models. Far from the dogmatic inclusion of energy as a standalone variable, war games like Navy Global and Air Force Futures are actually reflecting more realistic assumptions about how future warfare will actually unfold, and we are learning lessons here that will shape the composition of future capabilities and the ways they are integrated across future scenarios and threats.

In the coming years, analytic tools like the Fully Burdened Cost of Fuel and energy as a Key Performance Parameter will ensure energy is included in major

acquisition and requirements decisions. These tools will allow us to better support Secretary Gates' efficiency initiatives by promoting improved energy productivity in our systems and platforms—meaning greater performance at a lower operating cost.

All of that will be important to making sure the military can conduct its missions -- using less energy -- increasing our energy productivity -- is going to be critical for the Department's energy security. But ultimately, it won't be enough.

President Obama has called on the country to “transform the way that we use energy—diversifying supplies, investing in innovation, and deploying clean energy technologies.” The Department similarly has to emphasize innovation, including partnerships with the private sector, and this will be an important focus for my office -- not just for rapid fielding, but for our mid and long-term challenges. The Navy is really leading the way in this effort, as you just heard in the discussion about the Great Green Fleet. This investment in fuel flexibility is an important insurance policy for the Department -- it's an important part of our portfolio of investments against an uncertain future, and against the certainty that our energy supply picture will change.

I know it's a bit daunting -- to consider how to improve current operations when we're busy fighting wars and also argue that we need to change the way we're preparing for the future. In fact, a Marine officer who came to see me -- a great guy, 31 years of service, with combat time in at least three of the nation's wars -- well, he expressed some skepticism about my office and its mission. “It's just a fad,” he said. “It'll pass.” He also suggested we might be a group of latte-sipping

ideologues – I want to assure you that I have put together a terrific team of very experienced national security experts. We might have the occasional latte, though.

But it's not a fad, and I'll tell you why. It's a new office, but it's not really a new challenge at all.

At the end of the Second World War, a young American naval officer traveled to Tokyo to collect information on the course of the war from the Japanese perspective. That officer, Thomas Moorer, would go on to become Chief of Naval Operations and Chairman of the Joint Chiefs of Staff, but he never forgot what he learned on that fact-finding mission.

He interviewed a number of key Japanese leaders, including the former commander of the Imperial fleet. "The war was just over," Admiral Moorer said years later. "Less than a year before [he] had been in command of the largest fleet that was ever put together, and there he was out there [in his garden] chopping potatoes."

In fact, the story that Japanese Vice Admiral told him told him was partly **about** potatoes – and rice, and pine needles – all the things the Japanese had tried to turn into fuel for their ships, but nothing was sufficient. As a friend of mine once said, nothing beats dead dinosaurs. The great Japanese Navy was largely defunct by 1945 –and the lack of fuel was one reason.

"The lesson I learned was never lose a war," Admiral Moorer noted. And, he added: "The way to lose a war is to run out of oil."

Indeed, from biofuels to today's battlefields in Afghanistan, the lessons we've learned about the Department's energy challenges are already shaping the way we protect the nation. Energy affects program costs of the weapons we buy. The logistics of energy supply affects our force security. Our energy use affects the effectiveness and capability of our total force. Our energy use keeps us reliant on unstable suppliers. It is costly for our taxpayers and war fighters. And as we remember the USS Cole, we know that it can be costly in ways that are not acceptable.

We think about this problem as not just about military capabilities, but also about the strategic environment - how DOD trains and equips its forces to defend the nation against the range of threats we face now and in the future.

As President Obama told the cadets at the Naval Academy last year: "history teaches us that the nations that grow comfortable with the old ways and complacent in the face of new threats, those nations do not long endure." In the 21st century, the Department of Defense is not complacent: we are preparing for a full spectrum of challenges -- asymmetric and unconventional, anti-access and traditional; the nation-state and the terrorist network; the spread of deadly technologies and the spread of hateful ideologies; 18th century-style piracy and 21st-century cyber threats. And energy security will play an important part in how we meet all of these challenges.

Thank you very much.