

Written Statement for the Record
Congressman Michael M. Honda
Priorities for National Defense Authorization Act for FY 2014
May 7, 2013

Chairman McKeon and Ranking Member Smith, thank you for the opportunity to provide testimony on several items that I believe are national defense priorities that should be reflected in the Fiscal Year 2014 National Defense Authorization Act.

Grid Resiliency, Reliability and Security

The DoD invests in research on micro-grid applications that potentially provide improved fault tolerant operation and efficiency; next-generation devices to provide high temperature, voltage, and current conversion for micro-grid applications; and devices such as smart switches, to provide more efficient, robust, and reliable power delivery for vehicle power applications. Technologies such as superconductors increase grid resistance abruptly in response to overcurrents from faults in the system, limiting the overcurrents and protecting the grid from damage. If the Committee recommends that the DoD strongly further support this Program, it would enable the development and deployment of technologies that provide a rapid, automated reaction that would allow DoD installations and bases to reset after the overload is cleared, providing a self-healing feature that enhances grid reliability and military energy security. (Defense-wide RDT&E, Line #52 Strategic Environmental Research and Development Program)

Special Forces Electronic Warfare System Program

Currently and in the future, our opponents are using radio-controlled IED's and standard radio tactics to coordinate attacks on our troops & personnel. In many cases, small unit Special Forces operators and Military Intelligence units in forward operating areas do not have small, compact, lightweight EW systems capable of responding to these threats. What is needed is a next generation, compact, tactical EW system that provides more adequate soldier protection from wireless threats, target finding, and combat situational awareness all in one. This Army R&D Program is developing just such a next generation EW technology that will give our troops Counter-IED, Threat Avoidance, and Intelligence Gathering capabilities, in small soldier-worn packages. Threats will be detected, located, monitored and jammed during dismounted tactical combat operations. The Program is thus vital to Special Forces and national security as it will save lives. This program applies to all branches of the DoD such as Joint Special Forces, Army/Navy EWO's, and Army Intelligence since the technology is also applicable to ground mobile, fixed site, rotary wing, and UAV operations. If the Committee recommends that the DoD strongly further support this R&D Program, deployment can be accelerated. This Program is applicable to multiple DoD Services, and there is great potential for commercial sector technology spin-off to the Nation's mobile computing and aircraft/device EMC compliance markets. (Army RDT&E, Line #44 Electronic Warfare Technology)

Advanced Cyber Operations Sensor Program

Every day, cyber threats are attacking our government networks. They are evolving, distributed, and forever escalating. The nation spends more and more money, time, and effort yet the damage still accelerates. One of the problems with our nation's efforts to combat cyber attacks is that we too often look at cyber as an IT process, with software-only solutions & approaches.

What is needed are new innovative hardware and hybrid technology approaches. The Army's Cyber Offensive Operations Division is presently working on such advanced cyber hardware/hybrid techniques. This R&D Program focuses on converging the traditional Electronic Warfare (EW) with Computer Network Operations (CNO) fields, which is very unique and no other DoD group is addressing. This Division has special knowledge, history, and experience with both fields (EW and CNO), and is converging the two. The Program substantially advances the U.S. Government's ability to provide critical cyber hardware sensor technologies and techniques. If the Committee recommends that the DoD more strongly support this Program, it will be able to accelerate cyber R&D efforts using new specialized EW/Cyber hardware approaches that no other DoD group is currently investigating. It will broadly benefit the DoD and the national defense contractor industrial base. (Army, RDT&E, Line #53, Advanced Tactical Computer Science and Sensor Technology)

Secure/Covert Wireless Network Program

The DoD has requirements across all Services for new secure, short range, wireless combat networking technologies. Such a technology would have wide-ranging, multi-Service application to the DoD. For example, Special Forces operators utilize a collection of equipment connected by many wires. Other needs include reducing the wires onboard aircraft and vehicles and replacing them with this new secure wireless technology. This would save many millions of dollars of operation & maintenance costs for the Government, every year. Still other applications are covert communications, intra-team networking, and intra-site networking. The Air Force's Secure/Covert Wireless Network Program is an on-going effort. This R&D Program is will eliminate the cables from Special Forces operators, and replace them with new secure/covert wireless transceivers that are small form factor. Future goals of the Program are to network the sensors onboard aircraft to reduce the operational costs. Many other applications are envisioned. The impact of this new technology is broad based across the entire DoD and the federal government. There is great potential for commercial spin-offs as well to the nation's commercial wireless networking markets. If the Committee recommends that the DoD more strongly support this Program, it can accelerate development of a short range, covert wireless networking technology that will greatly enhance the operations of all Services of the DoD. (Air Force, RDT&E, Line #10 Conventional Munitions)

Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance Test and Repair

Tobyhanna Army Depot is the only DoD depot dedicated to C4ISR test and repair for the joint warfighter, White House Communications Agency, and NSA. Much of the equipment currently being used for this work is outdated, costing taxpayers millions of dollars to maintain obsolete equipment and limiting the effectiveness and efficiency of DoD's test and repair work. If the Committee recommends that the DoD more strongly support this program, it will enable DoD to recapitalize and refresh this Test & Measurement Equipment, which would save taxpayer money and increase the C4ISR readiness level, and create a future capability to refresh at the modular level. (Army, Working Capital Fund, Industrial Operations)

Highly Integrated Photonics

The Navy has been investing in Highly Integrated Photonics (HIP) technology, which will provide for next-generation network architectures and processing capabilities in E6B Airborne

Strategic Command and Control Aircraft and similar advanced platforms while dramatically cutting purchase and lifecycle costs. HIP can be readily be adapted across Naval and Department of Defense platforms and data centers at marginal cost. The key integrated chip components for avionics networks create a common optical backplane of nearly unlimited growth capacity to supersede existing point-to-point data links, which use expensive copper and multimode fiber architectures. If the Committee recommends that the DoD more strongly support this Program, it can achieve advancements in optical links in semiconductors leading to tremendous increases in information transfer onboard military platforms and reduction of land based data centers, saving substantial energy resources. (Navy, RDT&E, Line #30 Aircraft Systems)

Hazing in the Military

In recent years, there have been a number of reports of hazing in the military, about which the public and Members of Congress are gravely concerned. Hazing is inconsistent with the values of the military, and such behavior should not be tolerated within the military. I thank you for including a provision in the National Defense Authorization Act for Fiscal Year 2013 requiring the Secretary of Defense to report on efforts that the Services are undertaking to better report incidents of hazing and to discipline service members involved in such incidents, and I ask that you review this report closely when you receive it and that the NDAA for Fiscal Year 2014 reflect its findings. (Office of the Secretary of Defense)

Economic Adjustment

The mission of the Office of Economic Adjustment (OEA) is to assist communities impacted by DoD program changes by helping those communities to develop comprehensive strategies to adjust to events like the closures of bases and the transfer of those facilities to local control, and we greatly appreciate the assistance OEA has provided for this purpose to communities nationwide. Before many of these facilities can be put to beneficial use, however, they require extensive infrastructure improvements and remediation, including the removal of abandoned structures and the cleanup of toxic materials. While much has been accomplished on these cleanup and reuse efforts, in a number of instances the work has moved at such a slow pace that the communities in which these facilities are located remain without the full benefit of the use and economic redevelopment of these facilities. If the Committee recommends that the DoD allow the OEA to award grants to the local governments and the private, nonprofit and educational organizations that are now responsible for these properties, it would accelerate the remediation and reuse activities and allow these properties to be put to full beneficial use. (Defense-wide, Operations and Maintenance)

Individual Soldier Power Systems

Individual Soldier Power Systems (SPSs) enable dismounted Soldiers and squads to execute their missions with significantly less battery weight and enable longer missions without a daily unit re-supply of batteries. These power solutions include, but are not limited to, individual Soldier worn systems, integrated power vests, wireless power technology, and small unit charger/power supplies intended for use in the most austere operating environments. A portable power system will equip the Squad with power to the forward edge. Soldier portable power platforms reduce the weight and logistical risk and burden associated with moving fuel and primary (disposable) batteries. By using renewable energy and power scavenging technology, Infantry Squads will be

able to operate independently for longer durations without being tethered to a large generator, vehicle, or supply train. If the Committee recommends that the DoD more strongly support this Program, it can accelerate the work to develop, test, and deploy soldier portable renewable energy solutions such as portable chargers and power scavenging technology capable of supporting the variety of batteries used in the tactical formations. (Army, RDT&E, Line #113 Soldier Systems - Warrior Dem/Val)

Trusted Foundry Program

The DoD Trusted Foundry Program was initiated in 2004 to ensure that mission-critical national defense systems have access to leading-edge integrated circuits from secure, domestic sources. While the program has more than 50 accredited suppliers, in practice work is concentrated among a limited number of suppliers, which could jeopardize the dependable, continuous long-term access to trusted mission critical semiconductors. The Committee can help ensure the health of the program by recommending that DoD take steps to promote competition within the Trusted Foundry Program. (Defense-wide, RDT&E, Line #53 Advanced Technology Development, Microelectronics Development and Support, Trusted Foundry)

Hybrid Airship Development

The recently-completed Project Pelican demonstrated that it is possible to overcome previous challenges to hybrid airship development. Most importantly, the technology in Pelican allows an airship to take off and land, as well as moderate altitude in flight, without taking on and unloading ballast, or releasing helium (which cannot then be recaptured) in flight. Pelican demonstrated a technology known as control of static heaviness (COSH) that allows for an airship to moderate its buoyancy through increasing and decreasing the pressure of the helium needed for lift, without jettisoning ballast or helium. An Advanced Demonstrator was constructed and was tested in January 2013. It met most of the objectives set at the onset of the program and was given a technical readiness level of 6-7 by NASA Ames. If the Committee recommends that DoD more strongly support this program, we can build on the successes of the Project Pelican by developing a prototype vehicle that can carry approximately 60-70 tons, a step towards a vehicle that can lift several hundreds of tons. (Air Force, RDT&E, Line #5 Air Vehicle Technologies)

Thank you for your thoughtful consideration of these important priorities.