

The Honorable Mac Thornberry  
Chairman  
Committee on Armed Services  
U.S. House of Representatives  
Washington, DC 20515

The Honorable John McCain  
Chairman  
Committee on Armed Services  
U.S. Senate  
Washington, DC 20510

The Honorable Adam Smith  
Ranking Member  
Committee on Armed Services  
U.S. House of Representatives  
Washington, DC 20515

The Honorable Jack Reed  
Ranking Member  
Committee on Armed Services  
U.S. Senate  
Washington, DC 20510

Dear Chairmen Thornberry and McCain, and Ranking Members Smith and Reed,

On behalf of the Coalition for National Security Research (CNSR), a broad-based coalition of research universities and institutes, scientific and professional associations, and industry, I write to commend you for your leadership in moving the FY 2017 National Defense Authorization Act (NDAA) (H.R. 4909 and S. 2943) through your respective chambers. CNSR appreciates the support provided for the defense scientific research enterprise in both pieces of legislation. As negotiations begin to reconcile differences between the two bills, please find below CNSR's recommendations for further strengthening the defense scientific research enterprise in the FY 2017 NDAA Conference Agreement.

### **Defense Science & Technology (S&T) Funding**

Primarily through the Defense S&T program, CNSR members receive approximately \$4 billion in Research, Development, Test, and Evaluation (RDT&E) funding on an annual basis. The Defense S&T program serves as the seed corn that gives rise to new weapon systems, defensive capabilities, and technologies used to protect and heal the warfighter. Stealth technology, GPS, satellite communications, laser/directed energy technologies, sonar, unmanned aerial vehicles (UAVs), and many other commonly used technologies taken for granted today stem from the Defense S&T program, and CNSR members have played integral roles in their development.

While CNSR appreciates support for the 6.2 and 6.3 accounts in both H.R. 4909 and S. 2943, we are disappointed that the two bills do not reverse the substantial cuts to the 6.1 basic research accounts proposed by the Administration. H.R. 4909 and S. 2943 authorize basic research funding at levels below FY 2016 NDAA enacted levels. Authorized funding levels at proposed levels will disproportionately impact the Army Research Laboratory (ARL)/Army Research Office (ARO), Office of Naval Research (ONR), and Air Force Office of Scientific Research (AFOSR). More specifically, fewer competitions will occur to help enhance universities' capabilities to conduct world-class scientific research through the Multidisciplinary University Research Initiative (MURI). The Air Force will have fewer resources to address energy, power and propulsion issues; the Army will cut back on its scientific research related to advancing robotic autonomous systems; and the Navy will reduce efforts in numerous scientific research areas, including materials, medical, and biological.

With countries such as China more than tripling their spending on research and development over the past 17 years, we need, now more than ever, to support the scientific research at ARL/ARO, ONR, and AFOSR. The scientific research conducted at these vital defense S&T components are helping to solve the technological challenges our armed forces face today and support the discoveries and innovations that will provide the necessary military capabilities of tomorrow. CNSR supports sustained, steady annual increases in the Defense S&T levels and urges conferees to consider the long-term impacts of underfunding the fundamental research that enables our nation's technological superiority.

### **Legislative Provisions**

In no particular order, please find below legislative provisions contained in H.R. 4909 and S. 2943 that are of interest to CNSR. The U.S. defense research enterprise is the most effective and innovative in the world; enhancing the enterprises' legislative authorities will help secure our national security against the numerous emerging threats. We respectfully request the conferees consider the coalition's comments below.

#### **Manufacturing Universities Program**

According to the Office of Science and Technology Policy, over the next decade, the U.S. will need to fill nearly 3.5 million manufacturing jobs. Unfortunately, currently 80 percent of manufacturers report a moderate or serious shortage of qualified applicants for skilled and highly-skilled production positions. The challenges facing the manufacturing workforce have serious implications for the health of the defense industrial base and the security of the nation.

Section 214 of S. 2943 authorizes the Manufacturing Universities Grant Program. The program provides the U.S. Department of Defense (DOD) authority to award grants to institutions of higher education for the purposes of enhancing education in manufacturing engineering. CNSR believes this program can help address the manufacturing workforce challenges the nation faces now and in the future, particularly for DOD, given the importance of engineering manufacturing. CNSR supports inclusion of the Manufacturing Universities Grant Program in the FY 2017 NDAA Conference Agreement.

#### **Defense Medical Scientific Research**

DOD's peer-reviewed medical scientific research seeks to find cures to a variety of diseases that affect military personnel and civilians, such as cancer, traumatic brain injury, and post-traumatic stress disorder. The peer-reviewed process for reviewing defense medical scientific research proposals is based on a recommended model from the National Academy of Medicine. The defense scientific research funded avoids duplications with other federal agencies by focusing on filling unfunded/unmet gaps.

Sections 756 and 898 sought to prohibit funding for medical scientific research conducted by DOD unless certain specific conditions were met. While we understand Congressional concerns regarding the use of taxpayer dollars, these sections will likely place another administrative burden on the DOD scientific research enterprise and slow the pace of medical innovation. By a vote of 66-32, the Senate agreed that these sections should have no force or effect. CNSR strongly urges the conferees either remove these sections or include language preventing them having force or effect in the final FY 2017 NDAA Conference Agreement.

### Defense Department Reorganization

CNSR recognizes the provisions of section 901 in S. 2943 that would reorganize the Office of the Under Secretary for Acquisition, Technology & Logistics (AT&L). While the coalition does not have a position on the reorganization proposal, we would like to express some concerns related to the uncertainty surrounding the proposed changes to AT&L.

- Nothing in the bill language appears to prohibit changes from being made to the Service level research institutions such as ARL/ARO, ONR, AFOSR, University Affiliated Research Centers (UARCs), and DOD laboratories. CNSR urges the conferees to make it clear that nothing in the proposed AT&L reorganization would change the missions or activities of the Service level research institutions.
- Section 901 requires that the head of any office or agency with the primary mission of defense technology innovation report directly to the new Undersecretary for Research and Engineering, subject to the Secretary's discretion. CNSR is concerned that this language is too broad. Which DOD agencies would be defined as having a primary mission of defense technology innovation? If this section is considered in the FY 17 NDAA Conference Agreement, CNSR urges the conferees provide further clarification about which offices and agencies would have new reporting structures.

Ultimately, it is our hope that the conferees consider the impacts of any reorganization on the existing defense research enterprise and strive to promote a more agile innovation ecosystem between academia, industry, the DOD laboratories, UARCs, and the National Nuclear Security Administration laboratories.

### Micro-Purchasing Threshold

New procurement standards under the Uniform Guidance (2 CFR part 200) would create a micro-purchase threshold of \$3,000 for procurement activities under grants and cooperative agreements awarded to universities and nonprofit research institutions. This new federal regulation will require the documentation of competitive bids for purchases of research supplies—an administrative function that frequently falls to scientific personnel and diverts time and effort away from research while adding little benefit to the procurement process. Data suggests that higher thresholds can reduce burden and compliance costs while ensuring proper stewardship of federal funds. A recent survey conducted by the Council on Governmental Relations (COGR) shows that raising the micro-purchase threshold to \$10,000 will be a fair and safe harbor and would cover 75 percent of all procurement dollars, while simultaneously dramatically reducing the administrative burden associated with documenting competitive bids.

Section 215 of S. 2943 includes a provision that would raise the micro-purchase threshold for DOD basic research programs and activities to \$10,000. CNSR not only supports the inclusion of this provision in the final FY 17 NDAA Conference Agreement, but also urges the conferees to expand the \$10,000 micro-purchase threshold to all other funding agencies.

### Directed Energy Weapon Systems

Few technologies have more game changing ability for the U.S. military than directed energy weapon systems. CNSR members have been involved in various aspects of further developing directed energy technologies. The coalition appreciates recognition of the importance of directed

energy weapon systems in H.R. 4909 and S. 2943 and urges conferees to authorize robust funding for program elements that support directed energy basic and applied scientific research.

In addition, CNSR supports section 216 of S. 2943 being included in the FY 2017 NDAA Conference Agreement. Section 216 authorizes DOD to utilize rapid acquisition authority for directed energy weapon systems and requires DOD to consult with research universities, non-profit research institutions, and private industries on strategic planning for furthering directed energy weapon systems capabilities.

#### Preference for Fixed-Price Contracts

Section 827 of S. 2943 establishes a preference for fixed-price contracts. While we understand there are major cost issues associated with large DOD procurements, CNSR is concerned that fixed-price contracts will be used for research contracts. The very nature of scientific research is to explore the unknown in an effort to increase our knowledge. This process is often met with unknown challenges, risks and uncertainties of time and effort that cannot be anticipated and budgeted before results can be realized. CNSR is concerned that fixed-price contracts are not the appropriate acquisition vehicles for this type of work and urge the conferences to clarify this in the final FY 17 NDAA Conference Agreement.

#### Report Language

In no particular order, please find below report language that was contained in H.R. 4909 and S. 2943 of interest to CNSR. With the exception of the first item listed below, the report language the coalition supports simply recognizes the importance of certain issues. From our perspective, Congress expressing its support through report language helps set national security priorities, and sends a strong message of support to DOD and the entire defense scientific research community. We respectfully request the conferees consider the coalition's comments below.

#### Counter-Unmanned Aerial Systems (UAS) Roadmap

UAS technologies and capabilities represent significant opportunities to create asymmetrical advantages and enhance our national security. While UAS matures, it is vital that we develop counter-UAS capabilities to address threats from adversaries. However, it is unclear what opportunities exist for CNSR members to work with DOD in building these capabilities. H.R. 4909 includes report language that requires DOD to develop a technology roadmap for counter-UAS capabilities. CNSR believes a technology roadmap will help understand where opportunities for its members might exist to work with DOD in developing these important capabilities. CNSR supports the inclusion of Counter-UAS report language in H.R. 4909 in the FY 2017 NDAA Conference Agreement.

#### Third Offset Strategy

CNSR supports DOD's efforts to further our military capabilities in an effort to offset our adversaries' rapidly developing technologies and strategies. However, CNSR would like to note the report language in S. 2943 and express our concerns as well. The 6.1-6.7 budgets currently tend to favor participation in the Third Offset by industry, without inclusion of the S&T scientific research enterprise. CNSR strongly believes that if we are to maintain our military technical superiority, we must not only increase our investments in rapid prototyping technologies--many of which result from investment in fundamental research--but also basic

scientific research to help the nation discover the military capabilities of tomorrow. Shifting priorities too far to address current concerns will only undermine our long-term national security. We would like to see DOD provide a more clearly defined role for the basic research enterprise in the offset strategy.

#### Additive Manufacturing

H.R. 4909 includes report language recognizing the important developments occurring in additive manufacturing. Given additive manufacturing is a new technology, the language indicates that it expects DOD to stay actively involved in and utilize additive manufacturing for military uses while leveraging organizations such as the National Additive Manufacturing Innovation Institutes, as well as universities, non-profit research institutes, and industry. Many CNSR members are conducting scientific research to further additive manufacturing for military purposes and believe it can be a game-changing technology. CNSR welcomes additional DOD support for additive manufacturing and supports inclusion of this report language in the FY 2017 NDAA Conference Agreement.

#### Innovation Clusters

Report language is included in H.R. 4909 that recognizes the critical role that universities, non-profit research institutes, and industry play in the innovation ecosystem that supports national security. The language encourages DOD to work to include small businesses and non-traditional contractors in that innovation ecosystem by supporting regional innovation clusters or consortia. CNSR recognizes the potential value in expanding innovative collaborations and supports this report language being included in the FY 2017 NDAA Conference Agreement.

#### Minerva Research Initiative

The Minerva Research Initiative supports university-based social science scientific research of strategic importance to U.S. national security policy. The initiative currently supports scientific research in social influence and persuasion of extremist groups, autocratic stability during regime crises, the nexus of trafficking and terrorism, and deterrence of proxies among many other areas to enhance our national security. Many CNSR members participate in the Minerva Research Initiative, and believe recognition and support from Congress will appropriately highlight the importance of social science scientific research to our national security. CNSR supports including this report language in H.R. 4909 in the FY 2017 NDAA Conference Agreement.

#### Ocean Research and Technology

H.R. 4909 highlights the importance of maintaining and enhancing U.S. superiority in undersea and maritime environments in the face of increasing global competition throughout the world's ocean. Maintaining support for basic research is essential to understanding rapid changes in the ocean environment, and advancing technologies that provide battlespace advantage to the US military, including Navy's long-standing support for global class research vessels. CNSR supports the inclusion of H.R. 4909 language in the FY 2017 NDAA Conference Agreement endorsing research efforts that enhance research, technology, and infrastructure that contribute to fulfilling joint warfare capabilities and priorities.

Coalition for  
National Security Research

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Thank you for consideration of our views. Please do not hesitate to contact us if we can be of any assistance as Congress works towards a final FY 2017 NDAA Conference Agreement.

Sincerely,

John Latini  
Chairman, Coalition for National Security Research