December 3, 2020

The Honorable Richard Shelby
Chairman
Subcommittee on Defense
Committee on Appropriations
United States Senate
Washington, DC 20510

The Honorable Pete Visclosky
Chairman
Subcommittee on Defense
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

The Honorable Richard Durbin
Ranking Member
Subcommittee on Defense
Committee on Appropriations
United States Senate
Washington, DC 20510

The Honorable Ken Calvert
Ranking Member
Subcommittee on Defense
Committee on Appropriations
U.S. House of Representatives
Washington, DC 20515

Dear Chairmen Shelby and Visclosky, and Ranking Members Durbin and Calvert,

On behalf of the Coalition for National Security Research (CNSR), a 100-member-plus coalition of industry, academia, scientific and professional associations, and non-profit organizations, I write to thank you for your support for the Defense science and technology (S&T) program in the Senate and House fiscal year (FY) 2021 Defense Appropriations bills. While we remain concerned that funding for Defense S&T and defense basic research programs are well below recommendations from the Defense Science Board (DSB) and National Academies among others, we appreciate the committees rejecting the cuts proposed in the president's budget request. CNSR offers the following recommendations as you begin to craft the final FY 2021 Defense Appropriations bill.

Overall Defense S&T Program Funding

The Defense S&T program provides the foundation for the U.S. military's global dominance and technological superiority by researching and developing new military technologies and capabilities. Inadequate funding for the Defense S&T program could jeopardize that advantage[1]. Military technologies and capabilities such as stealth, unmanned air vehicles, tanks, radar, gas turbines, precision weapons, laser systems and nuclear propulsion are outcomes of investments in the Defense S&T program. If the U.S. is to continue to be a global leader in advances in fields such as artificial intelligence, quantum computing, hypersonics, directed energy, and advanced manufacturing, Congress and the Administration must robustly fund the Defense S&T program.

Unfortunately, funding for the Defense S&T program has not kept up with inflation or recommended funding levels from experts. The appropriations levels proposed in both the Senate and House FY 2021 Defense Appropriations bills would provide funding at levels below FY

[1] http://www.dtic.mil/dtic/tr/fulltext/u2/a433761.pdf

2005 when adjusted for inflation. Additionally, both bills fund the Defense S&T program about $3 billion below recommendations from the Defense Science Board[2], National Academies[3], bipartisan House Armed Services Committee Future of Defense Task Force[4] and Council on Competitiveness[5].

We understand the limitation of the Budget Control Act caps and constrained resources given the many security challenges facing the nation. ***We urge you to support at least the House level of $15.6 billion for the Defense S&T program in the final FY 2021 Defense Appropriations bill.***

Defense Basic Research Funding

DoD sponsors basic research that enables discoveries that ultimately create transformational military capabilities necessary to maintain global technological superiority. The *National Defense Strategy (NDS)* calls for sustaining Joint Force military advantages, deterring adversaries from aggression, and establishing an unmatched twenty-first century national security innovation base (NSIB)[6]. The defense basic research programs are already helping meet the objectives of the *NDS* by supporting scientific research that has enabled certain domestic semiconductor manufacturing, advances in quantum computing and communication, improved hypersonics testing, and the creation of sensors to enable navigation in GPS-denied or compromised environments. In order to continue meeting *NDS* objectives and maintain our military advantages in the future, Congress and the Administration should continue to support the defense basic research programs.

We greatly appreciate both the Senate and House rejecting the drastic cuts proposed in the president's budget request for defense basic research. Overall, the Senate bill would result in a 7.5-percent cut or a reduction of more than $214 million compared to FY 2020 enacted levels. This would have a devastating effect on key program elements such as University Research Initiatives, DTRA Basic Research Initiatives, and the National Defense Education Program. ***With the exception of support for the Senate level for the Army Defense Research Sciences program element, CNSR urges you to adopt the funding levels in the House FY 2021 Defense Appropriations bill for the defense basic research programs.***

The coalition would like to specifically highlight our support for the House bill's funding of the Basic Research Initiative (BRI) program element. The House bill rejects the president's request to eliminate the ***Minerva Research Initiative*** by providing funding through BRI. Minerva is DoD's signature social science basic research program that funds university-led teams to address problems of strategic importance to U.S. national security. The National Academies concluded that Minerva-sponsored research has made important contributions to national security policymaking and strengthened the connections between the DoD and social science research community[7]. The improved connections and dialogue enabled by Minerva with DoD officials

[2] http://www.dtic.mil/dtic/tr/fulltext/u2/a403874.pdf
[3] https://www.nap.edu/catalog/11463/rising-above-the-gathering-storm-energizing-and-employing-america-for
[4] https://armedservices.house.gov/_cache/files/2/6/26129500-d208-47ba-a9f7-25a8f82828b0/6D5C75605DE8DDF0013712923B4388D7.future-of-defense-task-force-report.pdf
[5] https://www.compete.org/reports/all/202
[6] https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf
[7] https://sites.nationalacademies.org/DBASSE/BBCSS/Assessing-the-Minerva-Research-Initiative/index.htm

and social science researchers cannot be underestimated in its importance. As noted by DoD officials, many of the challenges we face are social or have social elements to them and Minerva research is an important source of new ideas to better understand social, behavioral, cultural, and political aspects that are inherent to our security and stability[8]. As a result of Minerva's strong track record of success and relevance to enhancing our national security, ***CNSR urges you to support the House bill's funding level for the Basic Research Initiatives program element that funds the Minerva Research Initiative.***

CNSR is also concerned by the Senate bill's rescission of $14.110 million in FY 2020 appropriations from the Basic Research Initiatives program element. This puts at risk funding for the Defense Experimental Program to Stimulate Competitive Research (DEPSCoR) program, which expands research and talent capacity across the country, and cybersecurity research included in the enacted FY 2020 Defense appropriation. Given that research-enabled technological superiority and talent development will be key for the U.S. to succeed in great power competition, now is not the time to rescind funds for those activities when the funds are in the normal pipeline to be spent. ***CNSR supports the House bill's funding level for Basic Research Initiatives, which does not rescind funding from FY 2020 appropriations.***

Applied Research Funding

CNSR largely supports funding levels in the House bill for the defense applied research program elements. We commend the House bill's funding level for the ***Defense-Wide Manufacturing Science and Technology Program*** and urge it be included in the final FY 2021 Defense Appropriations bill. This program element funds DoD's contribution to the Manufacturing USA Network, which is moving discoveries from the nation's universities and research laboratories to the defense industrial base while enhancing the NSIB workforce. In FY 2018, the Manufacturing USA institutes conducted nearly 500 major applied R&D projects of high priority to broad industry sectors and more than 200,000 workers, students, and educators participated workforce development efforts[9]. In addition, for every $1 in base federal funding, the institutes have been able to leverage a $1.70 match from industry, academia, and regional organizations, providing a tremendous return on federal investment[10]. With the *NDS* calling for an unmatched NSIB and the need to develop expertise in the civilian workforce, it is vital that Congress and the Administration continue to invest in the Defense-Wide Manufacturing Science and Technology Program.

Defense Advanced Research Projects Agency (DARPA) Funding

DARPA's ability to create truly revolutionary new military capabilities is well documented. With no intramural research laboratories, DARPA relies on partners, such as CNSR members, to conduct transformational scientific research to advance military technologies. In fact, more than 90 percent of DARPA's RDT&E budget is awarded extramurally[11]. DARPA-sponsored research

[8] https://www.defense.gov/Newsroom/Releases/Release/Article/1787646/dod-announces-fy2018-minerva-research-initiative-awards/
[9] https://nvlpubs.nist.gov/nistpubs/ams/NIST.AMS.600-5.pdf
[10] Ibid
[11] [11] https://ncsesdata.nsf.gov/fedfunds/2018/html/ffs18-dt-tab009.html

with industry and the academic community has led to stealth capabilities, unmanned aerial systems, metamaterials, advances in microelectronics and the computer chips fueling artificial intelligence technologies. ***CNSR supports the House funding level of $3.6 billion for DARPA*** to continue spearheading scientific research in hypersonics, biological technologies, semiconductors, and artificial intelligence capabilities.

Defense Medical Research Funding

In order to maintain a strong military, the U.S. must have healthy families and soldiers. It is imperative for DoD to contribute to curing diseases that affect the women and men in the military, their families, veterans, and the broader public. The defense medical research programs help ensure the U.S. has the medical technologies necessary to enable military readiness and serve those who have been wounded on the battlefield. Developments in battlefield medicine also contribute to advances which benefit civilian medical practice such as regenerative medicines, vaccine developments, and emergency field treatments.

CNSR wishes to highlight the importance of the Congressionally Directed Medical Research Programs (CDMRPs). Through CDMRPs, DoD is the second largest funder of medical research in the United States[12]. According to its mission statement, CDMRPs fill research gaps by funding high impact, high risk and high gain medical research projects that other agencies may not venture to fund[13]. The National Academies concluded that CDMRPs coordinate research priorities with other funding agencies and have an effective review and selection process for awarding funds not dissimilar to the process used by the National Institutes of Health (NIH)[14].

CDMRPs have supported research that has improved outcomes and health conditions resulting from military deployment in areas such as treatments for burns, improved prosthetics, and long-term care for multiple-system trauma[15]. ***CNSR supports the Senate funding level of $1.1 billion for CDMRPs*** to continue innovations in medical scientific research.

Thank you for your commitment to a robust Defense S&T program. Please do not hesitate to contact me if CNSR can be of any service to you.

Sincerely,

John Latini
Chairman
Coalition for National Security Research (CNSR)

[12] https://www.nap.edu/catalog/23652/evaluation-of-the-congressionally-directed-medical-research-programs-review-process
[13] https://cdmrp.army.mil/aboutus
[14] https://www.nap.edu/catalog/23652/evaluation-of-the-congressionally-directed-medical-research-programs-review-process
[15] Ibid