



ASSOCIATION OF OLD CROWS ADVOCACY NEWSLETTER

June 2019

House Set to Consider Defense Appropriations While HASC Moves NDAA

The FY 2020 Defense Budget is in full swing this month as the House of Representatives is set to consider a minibus appropriations bill, HR 2740, that includes the annual defense appropriations bill. The total minibus provides nearly \$1 trillion in funding for Department of Defense (DOD), Labor/Health and Human Services (HHS), State-Foreign Operations, and Energy & Water. The House recently removed the Legislative Branch appropriations bill from the package due to a controversial pay raise for Members of Congress. The minibus continues a practice that combines appropriations bills to allow certain less controversial bills, such as defense spending, to carry more controversial spending legislation instead of considering each bill separately.

Important Dates (updated)

Date/Week of	Activity
March 22	President submits FY 2020 Budget Request
May 21	House Appropriations Committee (HAC) approved H.R. 2968, the FY 2020 Defense Appropriations Act, by a vote of 30-22
May 22	The Senate Armed Services Committee (SASC) approved S. 1215, the FY 2020 National Defense Authorization Act (Senate Version)
June 3	HR 2740 - FY 2020 Minibus Appropriations Act introduced, including HR 2968.
June 4	House Armed Services Committee (HASC) Subcommittee Mark-up of HR 2500, the FY 2020 National Defense Authorization Act (House version)
June 12	House begins consideration of HR 2740, the FY 2020 Minibus Appropriations Act
June 12	HASC Full Committee Mark-up of HR 2500
June 17	Senate to consider S. 1215
Sept 30	End of Fiscal Year (Sequestration absent budget deal)

For the Defense Appropriations, according to Bloomberg Government, HR 2740 provides \$690.2 billion in funding, which is \$15.8 billion more than FY 2019, but a reasonable \$8 billion less than the President's request, especially considering the bill provides only \$68.1 billion for Overseas Contingency Operation (OCO), which is \$95.5 billion less than the request. The important thing to keep in mind is that it is difficult to compare the House defense spending bill to the President's request because that House bill assumes a new budget deal will be in place by September 30 to raise the Budget Control Act cap for FY 2020. The President's request did not assume a budget deal, thus baseline funding

request adhered to the original BCA cap and the request added significant base funding (\$98 billion) to the OCO request to provide a top line defense budget. OCO funding is not subject to

House Set to Consider Defense (cont)

BCA caps. Additionally, the defense funding under HR 2740 does not include appropriations for military construction, which is funded through a different appropriations bill. Easy. Got it? Here's a look at the numbers compiled from the AOC:

House Defense Appropriations Summary (in billions)

Bill	Total	Base	OCO
HR 2740	\$690.2	\$622.1	\$68.1
President's Request	\$718.3	\$553.3	\$165.0
FY 2019 Funding	\$674.4	\$606.5	\$67.9
BCA (FY 2020)	\$576.0	\$576.0	N/A

The important takeaway is that absent a new budget deal to lift the BCA caps before the start of the new Fiscal Year (October 1), base funding for defense cannot exceed \$576 billion, which means that the House bill currently \$46 billion over the BCA cap.

Finally, on Jun 12, the House Armed Services Committee marked-up its version of the FY 2020 National Defense Authorization Act (NDAA). HR 2500, the House NDAA, provides \$733 billion in spending authority, approximately \$17 billion less than the President's Request. Last month, the Senate marked-up its version of the NDAA, S. 1215, which provides a total of \$750 billion - matching the President's Request. It provides \$642.5 billion in base funding and \$75.9 billion in OCO. The bill also provides \$31.6 billion for other defense-related activities, including programs within the Department of Energy. The AOC will provide mark-up coverage of the House NDAA and a detailed summary of key provisions in both bills later this month. In the meantime, the following is a breakdown of major spending categories:

House NDAA Summary (in billions)

Category	FY 2020 Request	House NDAA
Procurement	\$132.3	\$130.6
RDT&E	\$103.4	\$100.7
O&M	\$207.7	\$203.8
Personnel	\$151.3	\$150.1

Rethinking VED Technology

In May, AOC's Vacuum Electronic Devices (VED) industry group hosted a panel discussion at EW Europe in Stockholm, Sweden) on the need to rethink what we know about Traveling Wave Tubes (TWTs) and other VED technology. While the topic may seem arcane, it is an important one that our government leaders should look into more closely. Our understanding and investment in core component technology, such as VEDs, carries ramifications in the development of advanced capabilities, especially for operations in higher frequency bands of the electromagnetic spectrum (EMS), as well as the health of our defense industrial base and the pipeline of future engineers and scientists necessary to understand VED technology.

The industry panel featuring representatives from TWT manufactures, including TMD and Photonis Defense, discussed emerging opportunities for TWTs especially as technology demands are pushing further out in the frequency to the Extremely High Frequency (EHF) band (30-300 GHz), or Millimeter Wave (mmW), especially above 75 GHz. The mmW band is receiving considerable attention due to the potential for next generation military technology and the 5G communications network. Yet, TWTs are too often considered obsolete. This is erroneous. New generation modeling and design techniques allow VED components to meet size constraints and achieve these ultra-precise alignment standards necessary to operate in higher frequency bands. The bottom line is that VEDs are more reliable and efficient than originally thought, especially in key performance criteria necessary against emerging threats.

Additionally, policy makers in governments must provide more focus and visibility on VED supply chain challenges, particularly those that can adversely affect critical military systems. There is not only a dwindling global manufacturing base for TWT devices, but also certain materials and rare earth elements (REEs) are in limited supply. Development of improved materials can solve some of this challenge, but we must understand that the industrial base supporting TWTs is not nearly as strong as it was. Realizing the opportunities on the horizon requires immediately addressing supply chain vulnerabilities.

Finally, we need to stimulate the intellectual capital in the VED sector through initiating new collaborative efforts between academia, industry and government to encourage graduates and researchers to enter the field of vacuum electronics. Vacuum electronics is not drawing enough interest from the next generation of engineering students. Both government agencies and component manufacturing companies must strengthen recruitment and retention programs to attract the best engineers and physicists from the US and abroad. For a copy of the AOC's recent issue brief on VEDs, please click [here](#).

Sen. Duckworth Asks Likely Army Chief of Staff About EW

On May 2, 2019, the Senate Armed Services Committee held a hearing on the nomination of General James McConville to be the new Chief of Staff of the Army. Senator Tammy Duckworth (IL), an Army veteran, asked General McConville about EW capabilities. A full transcript of the exchange is below:

DUCKWORTH: *The Army's E.W., electronic warfare capabilities, particularly offensive capabilities, have not been a primary priority since the end of the Cold War. I understand this is changing lately, particularly in light of our intense focus on cyber and how these areas play into each other, and we've had that discussion already. Could you elaborate a little bit more on how you would directly change and what you would change to make sure electronic warfare does not remain a capability gap, both in terms of offensive and defensive capabilities?*

MCCONVILLE: *Yes, senator. A couple of things, one is on the people. We need talented people to go into the electronic warfare field. And what we've done is we've combined that into cyber. So there's a career path for electronic warfare officers to progress up the line so we'll get -- they can look up and they have the potential to go to the general officer type chain under the -- with the -- with the cyber force.*

The second this we're, you know, we've gotten -- we were not contested for the last 17 years in this environment. So quite frankly, we did not invest in electronic warfare. We are doing that now. We're doing that in Europe. We're doing some rapid prototyping to get after those type systems. And we know we have work to do there and we are investing in those capabilities through our Rapid Capabilities Office to make that happen.

DUCKWORTH: *So in that career path, would you then have something like cyber be one of these specialties, for example, during ILE education that, OK, if you go, there's this -- this is not going to stop you from a path towards pinning on a star. If you go, this is one of those high-value paths that you can take?*

MCCONVILLE: *Yes, senator. That's how -- that's how we're looking at it. We -- we do want to have a path. Right now, cyber is -- is -- is a very hot career field. And you know, you -- if you go into cyber, you can be a four-star general like Paul Nakasone. We've got to have the same of path for the -- for those professionals that go into that area.*

And it's very tied to what we call the information dominance area, where cyber falls under that information operations and electronic warfare. They're all in this group where that's who

Sen. Duckworth Asks (cont)

they'll compete against, that's who they'll be promoted against. They're not going to be competing against infantry officers for potentials.

AOC Advocacy applauds Sen. Duckworth's willingness to ask top Army officials important questions about EW. We look forward to further engaging with her office on this issue as the NDAA process gets underway.

ICYMI: May 14, Congressional Research Service (CRS) published "U.S. Airborne Electronic Attack Programs: Background and Issues for Congress." It chronicles current AEA systems and developments, along with Congressional efforts to improve capabilities.

On June 6, CRS published "U.S. Military Electronic Warfare Program Funding: Background and Issues for Congress." It is a comprehensive look at EW funding levels, both historical and future.
