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IN REVIEW

AUSA's 2019 Global Force Symposium





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ARMY DROPS RFP FOR NEXT-GEN COMBAT VEHICLE PROTOTYPES

BY JEN JUDSON

jjudson@defensenews.com

WASHINGTON — The U.S. Army on March 29 issued a request for proposals to competitively build next-generation combat vehicle prototypes.

The RFP opens up competition for industry to provide optionally manned fighting vehicle, or OMFV, prototype designs. From that pool, the Army will choose — in the second quarter of fiscal 2020 — up to two teams to build 14 prototypes.

The OMFV is intended to replace the Bradley Fighting Vehicle starting in 2026 and is designed to better operate in future environments that would

allow soldiers to maneuver to a position of advantage and “to engage in close combat and deliver decisive lethality during the execution of combined arms maneuver,” an Army statement reads.

Some of the threshold requirements for OMFV are a 30mm cannon and a second-generation forward-looking infrared system, or FLIR. Objective requirements are a 50mm cannon and a third-generation FLIR.

“The OMFV must exceed current capabilities while overmatching similar threat class systems,” Brig. Gen. Ross Coffman, the director

THOMAS ALVAREZ/IDAHO NATIONAL GUARD

for the Next-Generation Combat Vehicle Cross-Functional Team, said in the statement. “It must be optimized for dense urban areas while also defeating pacing threats on rural terrain.”

The NGCV CFT is part of a new four-star command, Army Futures Command, that is designed to modernize the force. NGCV is the second-highest modernization priority for the Army just behind long-range precision fires.

After working with industry through a multitude of engagements and testing several draft RFPs with ambitious requirements, Coffman believes the Army has both the threshold requirements for the vehicle as well as the right objective requirements as the service heads toward the release of the final RFP.

“We put out a very aggressive draft RFP,” Coffman told reporters March 27 at the Association of the U.S. Army’s Global Force Symposium, because the CFT knew it was not obtainable in its entirety.

The draft RFP was meant to stretch goals and objectives and to inspire feedback to ultimately write requirements that are attainable, Coffman explained.

The Army’s current approach to enter into a rapid prototyping effort truncates what could be a two- or three-year technology-maturation and risk-reduction phase, Maj. Gen. Brian Cummings, the program executive officer for Ground Combat

Systems, noted in the statement.

“It is about being able to prototype and field required capabilities on an accelerated schedule to get capability into soldiers’ hands quickly,” he said.

The Army’s acquisition chief, Bruce Jette, approved a rapid prototyping approach for the OMFV in September 2018, which requires a prototype demonstration in an operational environment within five years, according to the statement.

The prototypes will go through “rigorous” operational testing and soldier assessments.

The Army plans to downselect to one vehicle for low-rate initial production following the assessments and testing.

Several companies have come forward either with clear plans of what they would like to offer or declaring they will participate in the competition.

German company Rheinmetall announced last fall that it would team up with Raytheon to provide its new Lynx combat vehicle. It’s also possible its Puma vehicle, which is co-manufactured with German defense firm Krauss-Maffei Wegmann, could be submitted. BAE Systems showed what it could do with a CV90 vehicle at the Association of the U.S. Army’s annual show in the fall, and General Dynamics European Land Systems turned heads at AUSA with a Griffin III technology demonstrator equipped with a 50mm cannon. **DN**



ARMY TEASES TIMELINE FOR EXPANDED MODERNIZATION STRATEGY

BY JEN JUDSON

jjudson@defensenews.com

WASHINGTON — A complex take on how the Army will operate using next-generation equipment against threats is expected in April, the under secretary of the Army told Defense News in an interview just ahead of the Association of the U.S. Army's Global Force Symposium in Huntsville, Alabama.

Last spring, the service published a modernization strategy focused on the materiel solutions needed to fight in a complex world, and it stood up a four-star command — Army Futures Command — to spearhead efforts to field modern and highly capable weapon systems, from new vehicles and helicopters to long-range fire technology and missile defense systems.

"We wanted to be as transparent to Congress about the capabilities that we are pursuing, how much we think they would cost and what would [be] the financing plan accordingly," Ryan

McCarthy said in a March 22 interview in his Pentagon office.

But now the Army is preparing to come out with its "2.0" version, he said.

The strategy "is bringing that operating model of how it will change how we fight, together with the materiel; and what you will see is how this will take us down the path and ultimately change the structure of our formations over time," McCarthy said. "It's a very complex document."

Leading the crafting of the modernization strategy are the Futures and Concepts Center director, Lt. Gen. Eric Wesley; Maj. Gen. Charles Flynn, the Army's G/3/5/7 chief in charge of operations, plans and training; Lt. Gen. James Richardson, the deputy commander of Army Futures Command; Lt. Gen. Paul Ostrowski, the military deputy to the acquisition chief; and Lt. Gen. Michael Lundy, head of the Combined Arms Center,

explained McCarthy.

“These five officers are really at the center of all this, bringing all these pieces together,” McCarthy said, “and over time you will see us change that operating model, field those capabilities and then ultimately change the structure.”

Wesley said earlier in March that the Army is preparing to make what it deems as necessary and major organizational changes to its force structure within the next five years. A new organizational structure is necessary, according to Wesley, to better align with the service’s new war fighting doctrine, Multidomain Operations, currently under development.

The Army rolled out the first iteration of its new

doctrine more than a year ago, and it debuted a revised version — MDO 1.5 — shortly after AUSA’s annual convention in Washington last fall.

The new doctrine addresses how the service plans to operate against adversaries that have learned to engage in provocative behavior in a gray zone that doesn’t quite classify as conflict, and who have studied U.S. capabilities, developed equipment and produced operating concepts that threaten America’s long-standing capability overmatch.

“The big five weapon systems that are in our formations today,” McCarthy said, “was really the big 64. ... The structure of the formation changed because you had to enable them to fight, and that is what is going to happen again, albeit, 45 years later.” **DN**

U.S. soldiers fire a High Mobility Artillery Rocket System during a joint live-fire exercise with Kuwaiti forces on Jan. 8, 2019,

ARMY AIMS ITS LONG-RANGE MISSILE CAPABILITY AT MARITIME TARGETS

BY JEN JUDSON

jjudson@defensenews.com

HUNTSVILLE, Ala. — The U.S. Army's future long-range missile will first focus on defeating maritime targets from land once a baseline version is established, according to Col. John Rafferty, who is in charge of the service's long-range precision fires modernization efforts.

The Army then plans to spiral in capability to increase lethality, followed by range.

The service is pursuing the technology as part of its Precision Strike Missile program.

"We are in a hurry to get to the base missile so that we can follow up quickly with what we think is the first spiral of capability, which would be the cross-domain capability that gives it the ability to attack maritime targets, or anything that emits, so that could be a radar, a ship emitting as well," Rafferty told Defense News in an interview just ahead of the Association of the U.S. Army's Global Force Symposium in Huntsville, Alabama.

"That cross-domain capability is really critical, especially in the Pacific. There is such a demand for being able to attack maritime targets from

land," he added.

The Army has been competitively developing a missile to replace its Army Tactical Missile System for years, but historically at a slower pace. Lockheed Martin and Raytheon are each developing a version of the precision strike missile, or PrSM, with plans for prototype flight tests beginning in the fourth quarter of 2019.

Both teams are designing their missiles with room to grow, as the service is looking to spiral in more capability as time goes on and technology is refined.

The service is also funding a land-based anti-ship missile within its science and technology programs that would feed directly into that first spiral of capability in the PrSM program.

The science and technology program is developing seekers that will give PrSM the ability to go after ships and other emitting targets. Right now, according to Rafferty, the service is taking components and flying them in different missiles to see how they work, and these components would be

integrated into a PrSM when it's ready to go.

According to Rafferty, the second spiral of capability will add enhanced lethality to the PrSM weapon. "That could be a sensor fuse munition, so it could be ejected from the missile in a top-down attack," he said.

The Army developed similar technology in cannon munitions to sense, seek and destroy enemy armor, but the service didn't pursue a program to field the capability, Rafferty said. Yet, the service did fire some of those rounds during the invasion in Iraq, he noted, "and it worked."

The idea of "base ejecting cannon projectiles and then dispensing missiles," Rafferty said, "really isn't much of a stretch. The challenge with PrSM, though, is it's going to be going really fast, so how do you dispense in a way that it's somewhat controlled?"

The final spiral on which the service is focusing involves accelerating the pace of technology to extend the range of the PrSM weapon. The current requirement is a range up to 499 kilometers, but that range is set by the Intermediate-Range Nuclear Forces Treaty, which has collapsed.

"What we've done in the program is provide enough space for the senior leaders to make decisions, and so what we have recommended is to get a few test flights under our belt later this year, and then we will have some more confidence in the missile," Rafferty said.

The models for the two competitors in the PrSM program show they are capable of going farther than 499 kilometers, he said.

Rafferty added that because the Army has been

"That cross-domain capability is really critical, especially in the Pacific. There is such a demand for being able to attack maritime targets from land."

Col. John Rafferty, U.S. Army lead on LRP modernization

limited in terms of range by the INF Treaty, the service hasn't invested a great deal in going beyond 499 kilometers.

While there are rocket motors that could take a missile out to 700 kilometers, the technology readiness level is "pretty low," he said, "so it's going to take a couple of years to get there."

The service is committed to the PrSM form factor, Rafferty added, particularly being able to put two missiles in a launch pod; in this case, the Army is using the High Mobility Artillery Rocket System launcher and the Multiple Launch Rocket System.

"It really changes the results in experimentation and war gaming — it's twice the firepower. It really does change the outcome in a lot of scenarios, so we are really committed to maintaining that two in a pod, and so the range will come over time," Rafferty said.

According to the Army's fiscal 2020 budget request, which details what the service hopes to accomplish over a five-year period, the PrSM weapon should reach a full-rate production decision in the third quarter of 2024. A critical design review is due in the first quarter of FY22.

The Army is expected to choose either Lockheed or Raytheon to proceed in the third quarter of FY21 at the start of the engineering and manufacturing development phase.

Rafferty said the first spiral of technology maturation to get after maritime targets would come in early to mid-2025. **DN**



ARMY'S \$2.3 BILLION WISH LIST ARRIVES ON CAPITOL HILL

BY JEN JUDSON

jjudson@defensenews.com

HUNTSVILLE, Ala. — The U.S. Army's \$2.3 billion unfunded requirements list — or wish list — sent to Capitol Hill includes money to speed up the service's plan to buy a future long-range assault helicopter and efforts to boost lethality, such as outfitting more Stryker combat vehicles with a 30mm gun.

The unfunded requirements list is something the military services send to Congress each year shortly following the release of the defense budget request to inform lawmakers on where money would be spent if there was more of it. The lists are usually provided at the request of congressional defense committees.

The service has pivoted toward six modernization priorities it deems necessary to modernize the force, and through a rigorous review of every program within the Army by leadership, billions of dollars were found within its \$182 billion fis-

cal 2020 budget to devote to the ambitious efforts within that modernization portfolio.

But the Army would spend another \$243 million to advance certain modernization efforts if it could, according to the wish list.

For instance, if the Army had additional funds, it would want to spend \$40 million to buy the XM-913 weapon system — a 50mm gun, ammunition-handling system and fire control — to outfit two next-generation combat vehicle prototypes. The NGCV is the second-highest modernization priority.

The service would also want to spend \$75.6 million to speed up decision-making on the future long-range assault aircraft, or FLARA — one of the two future vertical lift lines of effort to replace the current fleet.

Gen. John "Mike" Murray, Army Futures Command commander who is in charge of the service's

TONY KARUMBA/AFP VIA GETTY IMAGES

modernization, told Defense News in a March 26 interview at the Association of the U.S. Army's Global Force Symposium that the service would like additional funding to close the gap between what it is seeing now with the two technology demonstrators, which are both flying, and a decision on the way ahead to procure FLARA.

Bell's V-280 Valor tilt-rotor aircraft has been flying for nearly two years, and the Sikorsky-Boeing team's SB-1 Defiant flew in March. The demonstrator aircraft were originally funded to help shape the service's requirements for a future vertical lift family of aircraft.

The Army also wants additional funding to extend the range of the Q-53 counter-fire target acquisition radar and funding to preserve a new program for a low-Earth orbit, space-based capability to extract data and tactical imagery in denied or contested environments, something that is critical to the Long-Range Precision Fires program, the Army's top modernization priority.

Lastly, additional funding would also support rapid prototyping for the next-generation squad weapon—automatic rifle.

The service would want an additional \$1 billion to address readiness to include \$161 million in more aviation training, \$118 million in bridging assets and \$128 million for mobilization needs.

Also included in the readiness funding: money to further enhance interoperable communications with allies and partners, and funds to help restore airfields, railheads and runways in Europe that would enhance better movement.

U.S. Army Europe commanders in recent years

have stressed the need to build better infrastructure to move troops and supplies more freely in the region and have cited interoperability issues with allies as one of the toughest aspects to overcome in joint operations.

Funding would also be used to enhance the Army's pre-positioned stock in Europe with petroleum and medical equipment.

In the Pacific area of operations, the funding would also cover needed multidomain operations capabilities and force protection for radar sites and mobile ballistic bunkers.

Focusing on lethality requirements, the Army wants an additional \$249 million to upgrade more Strykers with 30mm cannons. The service is already up-gunning Strykers for brigades in Europe and recently wrapped up an assessment of the enhanced Strykers to inform a decision on whether to outfit more Strykers with a larger gun. The Army is expected to make a decision within days on whether it will up-gun more Stryker units and how many it plans to upgrade.

Additionally, the Army wants \$130 million to prototype hypersonic missile capabilities and another \$24 million to integrate the Joint Air-to-Ground Munition's seeker and guidance kit into an Army Tactical Missile System. JAGM is the service's Hellfire replacement, and ATACMS will be replaced with the service's long-range precision fire missile — the precision strike missile — currently under development.

The Army is also asking for \$565 billion for infrastructure improvements both in the United States and in the Indo-Pacific area of operation. **DN**

Congress reporter Joe Gould contributed to this report.

EXTENDED-RANGE CANNON TO GET AUTOLOADER WITHIN FIVE YEARS

BY JEN JUDSON

jjudson@defensenews.com

HUNTSVILLE, Ala. — The U.S. Army is developing an extended-range cannon artillery system and will start building prototypes by the end of the year, according to the head of the services Long-Range Precision Fires modernization program. But beyond the first iteration, the service plans to add an autoloader starting in 2024, Col. John Rafferty explained.

The Army plans to build 8 prototypes of the ERCA artillery system by 2023 with a culminating technology demonstration, Rafferty said. The service is focused on improvements to the platform, the projectile, the ammunition and propellant.

After years of planning, the Paladin Integrated Management program aims to upgrade the Paladin howitzer with an M109A7 chassis. From there, the ERCA program will upgrade PIM's turret with a 58-caliber, 30-foot long gun tube capable of shooting farther than 70 kilometers.

"That is a major improvement," Rafferty said, but "we still have a ways to go with integrating the precision guidance kit with a GPS fuze for that."

The challenge is the muzzle blasts are so much higher, he said, so it changes the way the fuze operates.

Rafferty said the Army has shot an Excalibur round from the gun tube and hit a target at 62 kilometers.

The first battalion will be fielded in fiscal 2023.



Extended-range cannon artillery is expected to be an improvement to the latest version of the Paladin self-propelled howitzer.

The next increment beginning in 2024 will involve equipping the cannon with the autoloader.

"The autoloader is key to generating the volume of fire that really gives us that lethality at range," Rafferty said, but it's "a pretty complicated technology to develop."

Currently, the Army relies on two cannoneers to equip a dumb projectile with smart fuzes. This is being done in Iraq, Syria and Afghanistan, Rafferty noted.

And "there is a complex fuze-setting process and battery life on the fuzes, which means you can't fuze them hours beforehand," he explained. "You need to screw the fuzes on, then set them, and the charge lasts for a certain length of time."

But this process is challenging for autoloaders, he noted, which means the Army will have to take a unique approach.

While there is an internal effort to build an autoloader prototype, the service is also looking to the Army Applications Lab at Army Futures Command in Austin, Texas, for ideas that might approach the challenge differently, Rafferty said.

The lab is located in an innovator's hub called the Capital Factory and is geared toward uniting Army requirements writers and developers with individuals and companies with nontraditional technology that could be applied to efforts underway within the service. **DN**

EDWARD LOPEZ/U.S. ARMY

Mike Griffin, the Pentagon's undersecretary of research and engineering, admits the U.S. is "behind on hypersonic defense."



PROLIFERATING FIRE POWER

Army sets out to develop new missiles in FY20

BY JEN JUDSON

jjudson@defensenews.com

WASHINGTON — The U.S. Army is embarking on several new missile development programs while ramping up and accelerating other ongoing programs to deliver more fire power to the force at greater ranges, according to the service's justification books for its fiscal 2020 budget request.

The service's No. 1 modernization priority is Long-Range Precision Fires, or LRPF, because the Army believes it is central to future operations in environments where access to terrain may be difficult or entirely denied, or where soldiers lack the territorial advantage to counter threats.

And the LRPF capability plays an important role the service's emerging doctrine — Multidomain Operations — where the Army and its sister services will work more in concert across sea, land, air, space and cyber domains to overtake the enemy.

The Army plans to begin the development of

three major missiles beginning in FY20: a land-based hypersonic missile, a mobile medium-range missile, and a future interceptor for medium-range air and missile defense.

The service also intends to spend several billion dollars over five years to get the programs well off the ground.

Land-based hypersonic missile

The service plans to spend \$1.2 billion across the next five years beginning in FY20 to develop a land-based hypersonic missile through Army Space and Missile Defense Command and Army Forces Strategic Command.

The project's goal is to build a "prototype strategic attack weapon system to defeat Anti Access/Area Denial (A2/AD) capabilities, suppress adversary Long Range Fires and engage other high payoff/time sensitive targets," the Army's budget

KRIS OSBORN/U.S. AIR FORCE

“We are behind on hypersonic defense. We need to catch up, and we will.”

Acting U.S. Defense Secretary Patrick Shanahan

documents read.

Hypersonic projects within the Army have been kept relatively close, and little about the effort is public.

The plan, according to the Army, is to integrate common hypersonic glide bodies with two-stage boosters into canisters to create an all-up round prototype.

The Army would like to spend \$228 million in FY20 to conduct a systems requirement review and start a preliminary design review.

A total of \$181 million is requested in FY21 to move through the preliminary design review, which will end in the first quarter of FY22.

In FY22, the Army will conduct a critical design review and then begin testing all-up rounds at the end of the fiscal year into FY23. The service has budgeted \$137 million in FY22 to accomplish those tasks.

The service will then move into full-system flight tests in FY23 using a \$359 million budget.

While the hypersonic weapons effort is not resident in the Army's LRPF Cross-Functional Team, the CFT is closely watching the development, according to its director, Col. John Rafferty.

The service established CFTs as part of Army Futures Command, a new four-star command stood up last year to tackle the service's top modernization priorities. Each CFT focuses on a different priority.

The Army's new hypersonic program office will own the program, but the LRPF CFT will be “joined at the hip” with the office as well as Space and Missile Defense Command as the missile is developed. So many are involved because the technology will be useful in future development within the LRPF portfolio and is part of a “layered standoff” capa-

bility needed against future threats that the CFT is developing as a concept, Rafferty told Defense News in a March 19 interview.

Mobile medium-range missile

Over the next five budget cycles, the Army will spend nearly \$1 billion on another new missile program it's calling the mobile medium-range missile.

The missile has been called a variety of names in conversation, including the intermediate-range missile, the INDOPACOM missile and the land-based cruise missile; but its development is in response to a need in the Indo-Pacific area of operations to address a medium-range (1,000-kilometer) gap in capability there.

It's unclear under what program office the MMRM would live, but it's possible the LRPF CFT could host its development down the road.

According to the budget documents, the Army is developing the missile to provide the joint force commander a lower-cost strategic capability “that can attack specific threat vulnerabilities in order to penetrate, dis-integrate, and exploit in the strategic and deep maneuver areas,” and it mitigates an “extremely high risk” capability gap.

The Army is requesting \$20 million to get started in FY20. The service plans to develop acquisition and contract strategies, identify system requirements, and assess technology and component maturity.

In FY21, the service plans to move into the technology-maturation and risk-reduction phase, which will continue into the outyears beyond the Army's five-year plan.

The service also plans to reach a milestone A decision point in FY21 to enter into the technology-

and component-maturation phases.

An initial design review is scheduled for the end of FY22, and a preliminary design review at the end of FY24.

Future interceptor

The Army is looking for its next missile for a medium-range air and missile defense system currently under development.

Though the service hasn't chosen a new radar for the system, Northrop Grumman is continuing to build the brains of the system — the Integrated Air and Missile Defense Battle Command System — which is expected to reach initial operational capability in FY22.

The Army's legacy system — the Patriot air and missile defense system — fires a family of Patriot Advanced Capability missiles as well as the Guided Enhanced Missile used to defeat tactical ballistic missiles.

Not much is budgeted across the five-year funding

plan — \$232.9 million — but the program will kick off in FY20, using \$8 million to start a competitive selection of a future interceptor for its Integrated Air and Missile Defense system.

The service will conduct an analysis of alternatives in FY20 and plans to use other transaction authorities — a special contracting mechanism — to work on competitive concept developments.

The Army will make a materiel development decision in the second quarter of FY20, and will then take a year to conduct the analysis of alternatives.

The service will work on concepts over a two-and-a-half-year period, ending in the beginning of FY23. The service will simultaneously produce a future interceptor capabilities development document.

A competitive request for proposals will drop in midway through FY22 with a competitive downselect in the second quarter of FY23, when the Army will also reach a technology maturation decision point. **DN**



A ceremony on Jan. 11, 2019, marks the launch of the first-ever Intelligence, Information, Cyber, Electronic Warfare and Space Detachment in the U.S. Army.

CAN A NEW ARMY UNIT HELP THE US WIN THE NEXT COLD WAR?

BY MEGHANN MYERS

mmyers@armytimes.com

HUNTSVILLE, Ala. — In January, the Army took a step forward in its march toward the Multidomain Operations concept, standing up the first unit designed specifically to integrate land, sea, air, space and cyber capabilities across the services.

Dubbed the Intelligence, Information, Cyber, Electronic Warfare and Space battalion — nicknamed I2CEWS — the Joint Base Lewis-McChord, Washington-based unit is playing a key role in U.S. Army Pacific's Multi-Domain Task Force, and a second iteration has been approved for U.S. Army Europe as well.

"The reality is all formations will have to become multidomain, or they'll be irrelevant in the future," Gen. Robert Brown, the head of USARPAC, said

March 27 at the Association of the U.S. Army's Global Force Symposium.

A unit like I2CEWS is the first step to linking conventional units with those capabilities, but it's likely the Army will transition to a mix of conventional and multidomain brigade combat teams, for instance, before making the full conversion to universal multidomain units.

"We don't exactly know what kind of capabilities that will involve, but we know you're going to have to have certain capabilities," he said. "Counter-[unmanned aerial systems], that's a given."

The Army's task force is halfway through its four-year plan, Brown said, but the ultimate goal is an operating concept that allows the Army, Navy, Air

PVT. CALEB MINOR/U.S. ARMY



Force and Marine Corps to coordinate against a threat where necessary.

For example, an adversary's ship trying to evade attack by a Navy submarine might skirt into the shallow waters around one of the Pacific Ocean's 25,000 islands, where the surface vessel could be taken out by a land-based Army missile.

"Who would want to go against that?" Brown said, when they know that the U.S. military is working in total sync from all directions.

Hopefully no one, he added, because multi-domain operations could be as much a deterrent as a dominant force for decisive action.

The trick will be smoothing out a procedure for that kind of operation, and figuring out who is in charge of making the final decisions and taking accountability for the effort.

And the four services will have to work together to align their processes and networks, either by modifying what they currently have or starting over with new technology.

"We've got to fight through the tendency to have a single-service solution, which is kind of the way

Chinese President Xi Jinping, left, and Russian President Vladimir Putin toast at the Eastern Economic Forum in Vladivostok, Russia, in September 2018. The U.S. is in an era of hyper-competition with Russia and China's rising military ambitions, according to U.S. Army Pacific commander Gen. Robert Brown.

we've all grown up," Brown said.

Mission command is favored over command and control, Brown said, rather than a tight chain leading to one master decision-maker at the top — a unified understanding of the goals and considerations of a mission drives the individual decisions of every commander down to the ground.

"Command and control may have worked in the past, but it's too slow," Brown said. Rather, multidomain operations requires "trusted teams of professionals that can thrive in ambiguity and chaos."

Clicking on all cylinders, multidomain dominance could hold rising tensions with China or Russia to Cold War levels, rather than World War III.

"The goal would be we'd never have to fight," Brown said. **DN**

SERGEI BOBYLEV/TASS NEWS AGENCY VIA AP



Gen. James McConville will be the next Army chief of staff if confirmed by the Senate Armed Services Committee.

THE ARMY HAS CHOSEN ITS NEXT CHIEF OF STAFF

BY JEN JUDSON

jjudson@defensenews.com

HUNTSVILLE, Ala. — U.S. Army Vice Chief of Staff Gen. James McConville has been nominated to become the 40th Army chief.

His nomination was delivered to the Senate Armed Services Committee on March 25.

McConville is a U.S. Military Academy graduate from Quincy, Massachusetts, and has been serving as the Army vice chief since June 2017. He has had a long career as an Army aviator, having flown AH-64 Apaches, OH-58 Kiowa Warriors and AH-1 Cobras.

The vice chief has played a major role in the Army's massive transformation for the past several years. Along with Under Secretary Ryan McCarthy,

he led the charge in establishing the Army's new four-star command — Army Futures Command — that will tackle major modernization priorities as the force moves into the future and faces more challenging threats.

McConville also worked alongside McCarthy, Army Chief Gen. Mark Milley and Army Secretary Mark Esper to find billions of dollars to fund the Army's modernization efforts. The four leaders took deep dives, program by program, over the past year during what the service calls "night court" to make decisions on legacy programs to free up money to develop new capabilities. **DN**

SFC. MARKUS BOWLING/U.S. ARMY

WO1 Jason Smitherman, a flight student, waits for a thumbs up from his instructor pilot to approach the AH-64D Apache helicopter on which he will train.



FROM FUTURE VERTICAL LIFT TO DRONE SWARMS

Fort Rucker commander on training future Army aviators

BY JILL AITORO

jaitoro@defensenews.com

Fort Rucker is home to the U.S. Army Aviation Center of Excellence and, naturally, a lot of helicopters. But as the Army rapidly moves forward on modernization plans, how does that impact training requirements?



Maj. Gen. William Gayler answered Defense News' questions during an interview at the Alabama base in January.

When you consider future vertical lift and other modernization plans, what kind of training do you expect to filter to aviators, or

are you not there yet?

There is thought to it. But as we look at future vertical lift, there is a desire, since they're a clean-sheet design, to build in cockpit commonality. So why would I have to separately train individual aviators on three different types of aircraft when the interface to the crew should be identical, whether they're flying an advanced attack reconnaissance aircraft or a long-range assault aircraft or a medium-lift aircraft? There are so many efficiencies gained if they fly exactly like one another. All you have to do is train and hone a mission, not the cockpit interface.

SGT. 1ST CLASS ANDREW KOSTERMAN/U.S. ARMY

There's a lot of talk about the potential of teaming manned aircraft with UAVs. How do you incorporate that into the training here?

So it's more analog now, but again, as we progress into future vertical lift capabilities, that burden on the pilot to manage and fly multiple UASs should be reduced. We're planning to build [systems] that leverage artificial intelligence, swarming capabilities, some semiautonomous, horizontal, vertical, separation-monitoring sensors that allow them to do it without us as the aviator assigning certain altitudes and air speeds — they just avoid by technology.

It's a cultural shift.

It's a total cultural shift. But we as leaders are required to do two things. We're required to be competent — and lead competently — and we're required to improve. Which means change. Not a lot of people lead and change easily. But we have to drive change. So we lead and change, [and]

part of that change is looking at the world differently and how we will use technology, looking at what is within the realm of possible. And I would tell you, as with any new fielded piece of equipment, the best people that will figure out how to use it will be the first people we put it in their hands. A soldier is going to figure that out faster than a brilliant person designing it.

It will take them time just trying it out.

I'll just let them play with it.

As you bring in aviators, are you seeking different skill sets than you were maybe seeking five years ago knowing that there's an unmanned capability that's going to be incorporated in the long term?

Yes, you are. But at the end of the day, we're seeking folks from a pool that the majority of them have these skills already, whereas 10 years ago, you had to find the ones who had that skill. Now, most all of them do. **DN**

Procurement of the UH-60M Black Hawk is accelerating. The Army plans to buy 73 in FY20.

HOW THE US ARMY CUT PROGRAMS TO BOOST LETHALITY

BY JEN JUDSON
jjudson@defensenews.com

WASHINGTON — Last year, the U.S. Army's leaders hunkered down and examined all of its programs to make decisions about when to pare back legacy weapons to make way for new and modern big-ticket items that fit more squarely with the service's focus on lethality.

These big-ticket items include new helicopters, combat vehicles, missile defense systems, a network and communications framework, and soldier systems.

The service said many times over that it had reached an inflection point and needed to start sunseting legacy systems to pay for the new capabilities expected to come online at a surprisingly rapid pace for a military service.

Prior to the Army's fiscal 2020 budget request rollout, leadership touted that they found roughly \$30 billion over the next five years in both cost avoidance — which amounted to roughly \$8 billion — and truncated and outright terminated programs that didn't fit within the service's modern-

ization goals and its new Multidomain Operations doctrine .

Under Secretary Ryan McCarthy said earlier in March that the Army plans to cut \$22 billion in current programs across the five-year defense plan.

The FY20 budget request shows some decisions to move away from current systems, like cuts to the Joint Light Tactical Vehicle program, but nothing dramatic. Even the Army's budget justification documents that show plans for each program across a five-year period don't illustrate all the future moves to divest legacy systems and adopt modernized equipment.

Partly, it makes sense not to see these cuts yet, as one defense official told Defense News, because the service needs to hit mini-inflection points along the road as it relates to each legacy and future program.

Cuts to legacy programs must align with readiness and the affordability of new technology as they each come along, the thinking goes.



Funding for modifications to the Bradley Infantry Fighting Vehicle was hit hard in the outyears.

According to McCarthy, most of the \$22 billion the service freed up as the result of cutting programs or slowing procurement came from very small programs, little pots of money here and there, that did not pass the lethality litmus test.

The losers

Ultimately, the Army cut 93 programs and slowed the procurement or schedules for 93 more across the five-year budget plan.

According to a review of major legacy systems' procurement accounts in the FY20 justification documents, there are few programs that suffered obvious decrements, but the vehicles portfolio appears to have suffered the most when it comes to more high-profile systems.

Funding for modifications — engineering change proposals — to the Bradley Infantry Fighting Vehicle was hit hard in the outyears. While funding in FY20 through FY21 doesn't show major cuts, the program will get \$163 million less in FY22 than was planned, according to a comparison of past justification books.

Then in FY23, the program loses almost \$1 billion in funding. The FY19 book shows Bradley was to

receive \$840 million in funding for modifications, but the request now shows the Army will only ask for \$60.9 million in FY23. In FY24, the service is asking for \$55.9 million.

The cuts complement the Army's stated plan to procure five more sets of Bradley A4 vehicles, with one going to pre-positioned stock in Europe and the other four replacing the oldest sets of Bradleys. Then the program will stop to make way for the Army's next-generation combat vehicle.

The Joint Light Tactical Vehicle is also taking a hefty cut over the next five years. The service plans to cut roughly 1,000 vehicles over the period from FY20 through FY23. The FY19 budget materials show the Army planned to buy 11,408 vehicles during that time and has dropped that number to 10,556 in this year's documents.

And while the objective requirement remains the same in both the FY19 and FY20 books — 49,099 trucks — McCarthy told reporters during a roundtable that the top-line requirement was under evaluation and could change very soon.

The Ground Mobility Vehicle, or GMV, also appears to have been cut significantly.

The Army, in 2017, established an objective requirement of 2,065 vehicles for the Army and 317 vehicles for special operations. According to a comparison of the budget documents from this year and last, the Army planned to buy 295 vehicles for five airborne infantry brigade combat teams as well as 1,770 Infantry Squad Vehicles. The service also wanted to buy 317 vehicles for special operators.

But now the Army's direction is to procure 168 GMV 1.1 vehicles for three airborne IBCTs, and 127 vehicles for special operators. The figures for planned Infantry Squad Vehicles are not broken out across the five-year program. But according to the documents, the Army plans to buy 69 special operations vehicles and 15 ISVs in FY20.

A Federal Business Opportunities notice posted earlier in March informing industry of the Army's acquisition strategy shows the service plans to buy 118 ISVs in FY21; 177 in FY22; 177 in FY23; and 162 in FY24.

On the aviation side, the Chinook helo took the biggest hit. The service also plans to stop buying the newest version of the CH-47 F-model Chinook for the conventional force after FY20, closing out the program at the end of the engineering and manufacturing development phase. It will only build MH-47Gs for special operators in subsequent years.

According to the Army's budget documents, the service will buy 23 less Chinooks from FY20 through FY23 than it planned just a year ago.

The service is also cutting modification plans to the CH-47. The Army plans to spend \$19 million in Chinook modifications from FY20 through FY24. By comparison, it planned to spend \$65.7 million from FY20 through FY23, according to last year's budget books.

The winners

While the Army has whittled away at some of its legacy programs for the near future, it injected funding into other legacy systems.

The UH-60 Mike-model Black Hawk helicopter's procurement is accelerating. The service plans to buy 73 helicopters in FY20. Last year it had planned to buy 48 in FY20.

It's unclear whether the purchase plan was intended to accelerate a multiyear procurement of the helicopters to close out the program early to make way for the Army's future vertical lift aircraft, or if the plus-up is related to other needs, such as those within the National Guard. The question was posed to the Army, but the service did not respond by press time.

The Army is also injecting \$550 million per year across the five-year program for Stryker combat vehicle upgrades, with plans to beef up roughly 3,661 vehicles over the course of the program. By the end of the five years, the Army will have upgraded 744 vehicles if it sticks to its plans, according to this year's budget books.

The M1 Abrams tank is also getting millions of dollars more for modifications needed to increase its lethality. In the FY19 books, the Army planned to spend \$1.2 billion from FY20 through FY23 on upgrades; it now plans to spend \$1.5 billion over the same time frame.

The service will also upgrade a larger number of tanks. The Army had budgeted for 299 tanks to receive upgraded from FY20 through FY23. That number has been bumped up to 419 tanks over the same period, with plans to upgrade 105 more tanks in FY24, according to this year's books. **DN**

IT'S MORE THAN A NAME CHANGE

US Army transforms RCO's core mission

BY JEN JUDSON

jjudson@defensenews.com



WASHINGTON — The Army's Rapid Capabilities and Critical Technologies Office, formerly known as the Rapid Capabilities Office, is undergoing more than just a name change, but rather a transformation at its core, the acting director of the organization told Defense News in a March 11 interview at RCCTO's headquarters in the underbelly of the Pentagon.

When the office first stood up just a few years ago in 2016, it was tasked to chase after some high-priority capability gaps identified by combatant commanders in the field — namely electronic warfare, cyber efforts, and position, navigation and timing.

But now the RCCTO will focus on fielding complex technology as quickly as possible, said Col. John Eggert.

And with a name change and refined purpose, Army Secretary Mark Esper signed a new charter

for the RCCTO on Dec. 20.

"Like the Army has gone through an evolution of its modernization enterprise, through the stand-up of the Army Futures Command, we have gone through a mini-transformation, evolving to better support the needs of the Army modernization enterprise," Eggert said.

When the RCO was established, Army Futures Command wasn't even a public whisper; but in the fall of 2017, the service announced that it would set up a new four-star command aimed at tackling its top modernization priorities to address future threats.

The AFC reached initial operational capability down in its Austin, Texas, digs in the summer of 2018 and is shooting to reach full operational capability this summer under the command of Gen. John "Mike" Murray.

Under the AFC, the Army formed cross-functional

SGT. MICHAEL C. ROACH/U.S. ARMY

teams focused on its top six priorities: long-range precision fires, next-generation combat vehicle, future vertical lift, the network, air and missile defense, and soldier lethality.

The RCCTO will tackle the focus areas on which the CFTs and program executive offices might be unable to focus, and develop technology that wouldn't fall under a CFT or PEO, according to Eggert.

And the office is moving from a focus on what combatant commanders need in the field through urgent operational needs to what the AFC views as important development efforts needed to modernize the Army quickly.

The Army "needed an organization that could find and harvest emerging critical technologies from somewhere else where it was being developed, either another government agency or industry, academia, to be able to harvest that technology into an Army application and do it quickly," Eggert said.

For example, Eggert said, hypersonics might be one of the priorities on which the RCCTO will focus.

While a list of priorities has not been issued to the RCCTO from the board that guides it — consisting of Army leadership — Army Under Secretary Ryan McCarthy said earlier in March that the RCCTO will first and foremost focus on hypersonics, space and directed energy.

The RCO was previously dedicated to rapidly building prototypes, Eggert explained, but now "we have gone into a much larger scalability to do programs from the very beginning of the acquisition cycle, so we can develop, we can deliver and we can deploy much larger-scale systems than we could under the previous charter."

"We have gone into a much larger scalability to do programs from the very beginning of the acquisition cycle, so we can develop, we can deliver and we can deploy much larger-scale systems."

Col. John Eggert, acting director of RCCTO

The changes the organization is undergoing actually didn't just happen in December. Under the short-lived leadership of the previous director, Tanya Skeen, before she left to lead the F-35's Joint Project Office, the RCO had begun a pivot to focus on the Army's top modernization programs instead of a more narrow focus on EW, cyber efforts and PNT.

But the RCO didn't abandon its efforts in those three areas and a few other efforts it picked up in the past year.

The RCO began work on long-range cannon development, modifying an M777 howitzer to extend the range without losing accuracy. Eggert said the RCO finished up modifications with the service's armaments and ammunition project offices and is now focusing on enabling the system to achieve accuracy at an extended range.

The RCCTO is also fielding one of the major projects it developed from its inception — an electronic warfare capability for U.S. Army Europe. The project was developed in response to an operational needs statement out of Europe to create a converged electronic support and electronic attack system.

"In effect, you can sense a signal of interest, for example. You can do something about it and affect that signal of interest through a jamming capability," Eggert said.

The office is finishing up the last pieces of kit in response to the operational needs statement, he added, and it just scooped up the highest acquisi-

tion honor awarded by the Office of the Secretary of Defense for the project, having fielded the system within 12 months.

The last major project — Dark Bridge — is a cyber capability that the RCCTO is testing for the Army. The system counters small unmanned aircraft systems. It recently completed soldier trials at the National Training Center and received “great feedback and had excellent results,” Eggert said.

The office is now building a second version that will have expanded capability through hardware and software for a specialized unit, likely in Europe first, and then to U.S.-based units.

The RCO also conducted a signals classification

challenge last fall where competitors could develop an algorithm that would take a mountain of signal data and pare down the information to signals of interest, Eggert said.

More than 150 teams applied, and the service gave out three cash awards to the top teams.

The RCCTO is now in phase two of the effort, where it is weaponizing and operationalizing the algorithms developed during the challenge and putting them into tactical electronic warfare kit that is currently fielded, according to Eggert.

Once the kit itself is fielded, the RCCTO will set up a trial and take user feedback that will fold into a program of record. [DN](#)

Idaho Army National Guard and Montana Army National Guard soldiers conduct a live-fire exercise with Royal Thai Army soldiers in Thailand's Saraburi province.



‘DEFENDER PACIFIC’ DRILL TO FOCUS ON SOUTH CHINA SEA

BY JEN JUDSON

jjudson@defensenews.com

HUNTSVILLE, Ala. — The U.S. Army’s major exercise in the Indo-Pacific theater in fiscal 2020 will focus on a South China Sea scenario, Gen. Robert Brown, the commander of U.S. Army Pacific, told Defense News in a March 26 interview at the Association of the U.S. Army’s Global Force Symposium.

The service is funding two major exercises in FY20: one in the Pacific and one in Europe.

The exercise is fueled by a rising China, characterized in the National Defense Strategy as a long-term, strategic competitor of the United States. The NDS lays out a world where great power competition rather than counterterrorism will drive the Defense Department’s decision-making and force structure.

While the U.S. Army has 85,000 permanently stationed troops in the Indo-Pacific region and is already conducting exercises such as Pacific Path-

ways with allies and partners, the service is aiming to practice rapid deployment from the continental United States to the Pacific.

The plan is to bring over a division headquarters and several brigades over the course of a 30- to 45-day period along with their enablers, Brown said.

“They will get the challenge of coming to the Pacific with the Pacific-assigned forces already there,” he said, “and we won’t go to Korea, we will actually go to a South China Sea scenario where we will be around the South China Sea; and another scenario we can do that is the East China Sea.”

The exercise will consist of many things the Army has not practiced at such a large scale, Brown said. Forces will be in countries like the Philippines and Thailand, and they will likely work with other countries like Malaysia, Indonesia and Brunei.

The South China Sea has been a hotbed of con-

CAPT. ROBERT TAYLOR/U.S. ARMY NATIONAL GUARD

tention for several years. China has laid claim to the area, building artificial islands in disputed waters with military facilities on them, with the country claiming it has the authority to restrict international navigation.

The “Defender Pacific” exercise is expected to be complex and have a joint and multinational focus, Brown emphasized.

Meanwhile, the service is also expanding its Pacific Pathways exercises conducted throughout the calendar year for roughly five years. The plan is to extend the time Army units are in countries, which translates to going to fewer places.

Brown said the Army realized staying longer would benefit both the host nation in developing the local military and U.S. units so they can learn complex skills in unique training environments.

The Army recently wrapped up Pacific Pathways exercises in Thailand and the Philippines, spending more than three months in Thailand and four months in the Philippines, as opposed to just several weeks, Brown said.

Thailand wanted to work with the U.S. Army because it plans to buy Stryker combat vehicles, so a Stryker unit was deployed there to help the local military get acquainted with the system. The U.S. Army unit in turn learned how to better employ the vehicle in the complex terrain of Thailand. Thai-

land should receive Strykers in the fall, Brown noted.

The Army also traveled to the Philippines to help the government develop brigade combat teams, he said. The Philippines are forming BCTs to respond more quickly to a crisis after experiencing a “long, terrible struggle” following the Islamic State group’s takeover of the city of Marawi. ISIS dug into the city before the Filipino army could respond, which led to a five-month-long conflict in 2017, according to Brown.

“Every country in the Pacific wants a ‘Pathways’ except North Korea, I haven’t heard from them, and China,” Brown joked.

The service is actually talking to India about spending more time in the country with a larger number of troops — expanding from roughly just a few hundred up to 2,500 for a duration of up to six months — which “gives us a presence in the region longer as well without being permanently there,” Brown said.

He noted that just because units are staying in fewer countries for longer doesn’t mean they aren’t gaining experience in other places. In many cases, smaller units break off and deploy to countries to participate in exercises or other training events.

The Army will send companies to Palau and Fiji, for example, Brown said. **DN**



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