

Concept of Operations 2020 is an operator's view of aerospace power over the next 20 years.

The CONOPS With a Difference

By Amy Butler

IN the US Air Force, Concepts of Operations are nothing new. USAF has produced many CONOPS to guide specific actions—strikes on enemy radars, for example, or on computer networks.

Such CONOPS have generally been tactical in nature. Conspicuously lacking has been an overarching servicewide “picture” of integrated aerospace power at a strategic level.

Yet, in recent months, USAF has unveiled and begun refining “Concept of Operations 2020,” a broad-gauged conceptual framework for employing air, space, and cyberspace. A white paper billed CONOPS 2020 as “an operator’s view of how aerospace power will be orchestrated” over the next 20 years.

The paper concentrated on six mission areas. They are operations to deter a conventional or nuclear attack; provide vigilance; deploy, deliver, and sustain; gain freedom to operate; achieve attack superiority; and control the information environment.

For the Air Force, CONOPS 2020 will help to guide future procurement decisions, and it will have a major impact on how USAF allocates its future budgets, in the view of Gen. Robert H. “Doc” Foglesong, the vice chief of staff.

“It provides the construct that guides our corporate investment and organizational decisions to address challenges as we race into the next two decades,” said Foglesong.

“Shot at Every Day”

Foglesong added that operators needed an overarching Concept of Operations because “we’re getting shot at every day, ... we’re providing



Gen. Robert Foglesong, USAF vice chief of staff, says the Concept of Operations is a bridging mechanism to guide the Air Force's corporate investment and organizational decisions in the next two decades.

space services [and] utilities every day, ... we're delivering cargo and people every day, ... we're deterring conflict every day, ... we're training [and] engaging around the world every day."

Foglesong, until recently USAF's deputy chief of staff for air and space operations, is mastermind and primary advocate of the new CONOPS. He and officers in the Air and Space Operations Directorate began writing it late last year, as the Bush Administration prepared to enter office and DOD geared up for a Quadrennial Defense Review.

As the Administration continues with its review of defense strategy and force structure requirements, USAF looks to the new plan as a "bridging mechanism" to help the service traverse the next two decades.

The plan is underpinned by several assumptions. These include the belief that the US will emphasize deterrence; that the armed forces will become heavily expeditionary; that the service will fully integrate its air, space, and information operations; that the nation will conduct numerous humanitarian operations; and that US forces must have freedom to operate in and over geographic areas of critical national interest.

Basic operational assumptions are that the Air Force will have less access to foreign bases, will need extreme precision in everything it does, and that war will demand capabilities along the full spectrum of conflict.

The Biggest Change

Air Force officials said the most notable difference between today's threat environment and that of years to come will be the difficulty of gaining early access to theater airspace and foreign bases.

As a result, Foglesong said, the Air Force must place greater emphasis on long-range strike capability in all of its forms.

"We will require theater access, but the scope may be diminished," according to Foglesong's briefing on the CONOPS. "We are going to have to execute globally, maybe with limited access."

The Air Force white paper noted, "Presence is a powerful component of conventional deterrence" and is to be used when at all possible. "How-

The most notable difference between scenarios of today and in the future will be limited early access. CONOPS 2020 calls for stealthy long-range strike aircraft to be able to "execute globally."



Photo by Ted Carlsson

ever," it continued, "due to nationalism and other external pressures, it will be more difficult in the future to maintain a large permanent presence overseas."

The Air Force depended heavily upon its European bases to stage Operation Allied Force in 1999. Because it enjoyed access to those bases, the service was able to use pre-positioned assets and establish a heavy flow of troops and cargo into the theater with its strategic airlifter force.

"Our overseas presence is likely to be diminished," Foglesong remarked. "We ... have to have an option so that, when the President calls up and says, 'Can you reach out globally and touch someone,' we can do that."

The service also learned during the air war over Kosovo that potential enemies will likely have robust air defenses capable of targeting some of the service's more sophisticated aircraft, such as the stealthy F-117 fighter, one of which was shot down in the early days of the air campaign.

In its formulation of ways to deal with the anti-access problem, the

CONOPS 2020 solution comes very close to matching that produced by Air Combat Command. ACC's Global Strike Task Force was unveiled this year by Gen. John P. Jumper when he was still ACC commander. Jumper is now USAF's Chief of Staff.

Under the GSTF concept, Air Force operators would employ stealthy B-2 bombers and stealthy F-22 fighters early in a future conflict to neutralize enemy air defenses. Once an adversary's air defenses had been struck and disabled, other assets could enter to maintain air superiority in a region.

Long-Range Strikers

Foglesong noted, "We would see a Concept of Operations where long-range strike aircraft take off and get updated en route somehow, and then are on the way in. ... If you have [fighter] assets that are forward deployed, those assets can go in and suppress air defense systems, but even if we're not [forward deployed], the long-range strikers should be able to get in and get out."

As envisioned by Air Force planners, each operation would have a

trigger point, well-established ahead of time.

“When the trigger point is reached,” stated the white paper, “employment of the full range of aerospace firepower is required. Simultaneity will be the key to attack superiority—the aggressor is stunned by the simultaneous application of kinetic and nonkinetic means at strategic, operational, and tactical targets.”

The white paper went on to say, “Information superiority, fused intelligence, and highly refined battle management will generate focused target sets to create specific effects to halt the enemy, shape the battlespace, and ensure freedom of operations.”

This system would rely heavily upon a flawless system of tankers, Intelligence, Surveillance, and Reconnaissance systems, and communications capabilities.

The CONOPS calls for “redefined” ISR. ACC is now exploring ways to consolidate and modernize the service’s ISR fleets into an integrated constellation of assets containing satellites, unmanned aerial vehicles, and manned platforms.

A more robust communications infrastructure is key to the success of GSTF, officials said.

During Allied Force, the military contracted with commercial communication firms to fulfill surge requirements of the air war. Commanders in Europe were particularly interested in attaining large imagery

files and conducting video teleconferences with leaders in the United States.

Those capabilities and others, such as transmitting targeting data and mapping files, require “big pipes” that are expensive to procure and maintain.

“Today, the Air Force has an adequate communications infrastructure,” reported USAF’s white paper. “We are adding to that capability and its reliability daily. However, the demands on bandwidth and connectivity are growing exponentially.”

The service’s command-and-control capabilities were “embryonic” during the 1999 Balkan air war, stated the white paper. Now, officials at ACC’s Aerospace Command and Control and ISR Center at Langley AFB, Va., are working to meet this challenge.

The focus of the center’s effort is the experimental Combined Air Operations Center, or CAOC-X. The facility allows operators to test and integrate a variety of software packages into the service’s air operations centers, using a streamlined acquisition process.

Operators get the tools for improved command and control into the field much more quickly than would be the case if they used traditional acquisition processes, officials say.

The goal in using regional air operations centers is to deploy far fewer support forces into a hostile area

while maintaining positive control over airspace. However, this approach also requires a significant communications infrastructure.

Sharing the Wealth

USAF forces must become lighter, leaner, and faster, stated the white paper. Because it will want to be able to quickly deploy forces from the continental United States to some overseas battle area, the Air Force will continue to refine its Expeditionary Aerospace Force.

The EAF divides the service’s warfighting assets and personnel into 10 separate Aerospace Expeditionary Forces that are given plenty of time to train and equip for an overseas contingency operation.

However, these forces at present are not equally equipped, and Air Force leaders hope to procure the equipment in the future to more evenly equip all AEF organizations. The service plans to continue “maturing” its lighter-and-leaner concept of warfare, according to Foglesong’s briefing.

The Air Force will continue to use its strategic nuclear assets to deter aggression, but its ability to employ long-range conventional strikes against an adversary will likely be more important in the future, according to the white paper.

“While we have been successful for over 50 years in using our strategic nuclear capabilities to ‘keep the genie in the bottle,’ in the future we will more heavily leverage our conventional capabilities for strategic deterrence,” the white paper stated.

“Slicking”

The Air Force of the future will be geared toward desired “effects” rather than weapon systems, said Foglesong. By looking at effects in the battlespace, the service is not tied to traditional notions of warfighting or weapon systems.

USAF can employ precision guided munitions with such effectiveness and such miniscule collateral damage that effects-based operations now is the preferred method for fighting wars.

“Slicking” a runway to keep an adversary from scrambling its fighters, or attacking electric transformers outside of the urban area rather than hitting generating stations in



Foglesong, here in his A-10 cockpit, says the new CONOPS will address the challenge of destroying mobile targets like the air defense missile launchers and ballistic missiles that were a problem in Allied Force.

highly populated areas are examples of effects-based operations.

Information attack and defense will also become a crucial element of effects-based operations, stated the white paper.

It noted that officials at US Space Command are refining the service's CONOPS for computer network defense and computer network attack, and many officials say wise use of information warfare will give the United States positive control over future battlefields.

Foglesong said current forces using current Concepts of Operations are well-prepared to conduct tactical missions to kill fixed targets. The new CONOPS also emphasizes having the power to destroy mobile targets that plagued the Air Force during Operations Allied Force and Desert Storm.

These include mobile air defense missile launchers and mobile ballistic missiles.

To attack this problem, the service is building a capability to accurately model mission outcomes in advance of an operation, the general said. This predictive approach would provide a region's air component commander a variety of options.

"We need to improve [to the point that] the JFACC [Joint Forces Air Component Commander] can sit back at the end of the table and watch the war actually being played out," said Foglesong, "playing the ATO [Air Tasking Order] out, on the screen, so that he can see what the effects are going to be."

Foglesong went on, "Then, he can call back up to the [commander in chief] and say, 'Boss, strategically, ... we can get better effects if we reprioritize,' or, 'Boss, this is great. This is meeting your strategic objective.'"

Not only would the JFACC be able to forecast what is going to happen, according to Foglesong, but he would watch the action as it happens.

"So," he explained, "if a target pops up, and we know it is something we need to get to quickly, then he can quickly call up what assets are available ... and then make a decision based on all those inputs."



On its way to the goal of highly integrated air, space, and information operations, USAF expects to have in place in about 10 years a Transformation Force that would have upgraded airlifters, as well as enhanced combat and ISR aircraft.

CONOPS 2020 was designed to serve as a roadmap to transform the current Air Force into a "Vision Force" of 2020, one with dramatically different capabilities.

Transformation Force First

The 2020 goal is to achieve highly integrated air, space, and information operations, but officials admitted full integration is a tall order. To balance current needs with future goals, Foglesong said, USAF has agreed on a way point called the "Transformation Force," with a general target date of 2010.

This midpoint—the first incremental leap in capability—would see a force that is a more dynamic and precise aerospace force. The Transformation Force, for example, would have enhanced combat, airlift, and ISR fleets, be lighter and more agile, and include a more robust space force.

The Vision Force of 2020 will be considerably different. In a recent

interview with *Air Force Magazine*, Maj. Gen. John L. Barry, director of Air Force strategic planning, sketched out a new kind of Air Force. "Today, we know pretty much what a potential adversary is doing," Barry said. "What the Vision Force will give us is a means to engage and create effects as well as know. It's the difference between just advertising what the bad guy is doing and doing something about it."

Foglesong agreed, and he noted it is too soon to choose specific weapon systems that will fight those future battles.

"Two decades from now, or sometime out in the future, we see ourselves in a different force," said Foglesong. "If you are asking me to [predict], it is not easy. I know the capabilities that we would like to have out there. But the platforms—it is probably a little premature to decide 20 years out what are your platforms."

For all the uncertainty, the white paper argued, this much is clear: "This country's aerospace forces will continue to be a force called upon to go from zero to 'engaged' in minimum time." ■

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