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## Defense's 30-Year Aircraft Plan Reveals New Details

Each year, the Department of Defense issues a 30-year aviation plan, intended to chart the direction of the aviation enterprise. This plan is typically relatively short on specifics, in part because 30 years is rather far to foresee in detail, particularly as that goes 25 years beyond official defense budget projections.

By contrast, the most recent 30-year aviation plan released in April 2018 is full of details on specific programs, including cancellations, life extensions, and new starts. Some are explicit; others, between the lines. Some of the highlights follow.

### Air Force

The Air Force previously announced plans to retire the air-superiority F-15C Eagle. But this plan declares an intention to refresh and extends the life of the F-15E Strike Eagles, the attack variant.

The Air Force has also decided to extend the life of its F-16 Fighting Falcon fleet. What do the F-15E and the F-16 have in common? They are both slated to be replaced by the F-35 Lightning II. This new plan may show the Air Force hedging in case F-35s do not arrive as fast as hoped and thus has to extend existing airframes to fill the gap. The target quantity of F-35s has not changed; the Air Force still expects to buy 1,763. But in case they do not arrive as quickly as anticipated, the Air Force seeks to update its older aircraft.

The Air Force's intention to recapitalize its tanker fleet is on the record, with a program underway to buy 179 KC-46 Pegasus. In this plan, the Air Force reveals a conclusion that the existing program is not enough, announcing an intention both to buy more KC-46s than anticipated and to continue to upgrade the existing KC-135s. The previous intent was to retire KC-135s, but now the Air Force seeks to make them last longer instead.

The 30-year plan also reveals that the KC-46 is now to replace the larger KC-10 Extender tanker, a notable change. When the Air Force began modernizing tankers, it announced three programs. The first, called KC-X, was a competition between Airbus and Boeing to provide 179 tankers to replace KC-135s. A follow-on program, called KC-Y, was mainly intended to buy another 179 of whatever tanker won KC-X. A third program, called KC-Z, would have built a new, bigger tanker from scratch to replace the 59 KC-10s. This new plan implies that the KC-Z program has gone away. KC-46 is an active and growing program, but it now appears the program's future is more promising than originally anticipated.

The A-10 Thunderbolt II attack jet, which was proposed for retirement by the Air Force four years ago, is not only

going to be retained, but life-extended until the 2030s. These are 1980s-vintage aircraft, so that means they are likely to be in service until the age of 50. Once again, this may be another sign that the Air Force expects to get F-35s more slowly than originally planned.

Another unexpected initiative is the Air Force's intent to replace its handful of C-32 VIP transports, based on the Boeing 757. As the 757 has been out of production for 14 years, a new aircraft may be expected to meet this requirement.

Back to the theme of extension: The Air Force was going to retire seven of its E-3 Sentry airborne command and control aircraft. Instead, those seven planes are to be kept and refreshed.

Even the C-130 Hercules, in production since 1956, makes news in this plan. The Air Force intends to keep its existing C-130s, but intends not to acquire any more combat delivery C-130J Super Hercules. While that does not mean the end of the C-130 line, it is a departure for the Air Force to no longer be acquiring that aircraft.

### Navy

In line with the theme of extending older aircraft, this document reveals Navy plans to put additional money into extending the lives of its F-18 Super Hornets. These are yet more aircraft currently expected to be replaced by F-35. Concomitantly, the Navy is to retire its oldest F-18s, all of the A-D model Hornets.

The Navy does plan to buy some C-130s, at a comparatively low rate.

The Navy's acquisition goal for the P-8 Poseidon sub hunter has not changed. It still expects to buy 117. But language in the 30-year plan says, "Given the recent geopolitical changes, additional aircraft may be required." This is a tentative way to say that the goal is likely to increase, perhaps in the FY2020 budget submission.

Another new start program that was not in previous service budgets, but announced in the 30-year plan: to replace the T-44 fleet the Navy uses for training, based on the civilian Beechcraft King Air. The Army intends to do something similar.

It may be no surprise that the Navy intends to extend the life of its fleet of T-45 Goshawk jet trainers. But the 30-year plan for the first time announces a program to replace it, beginning in the 2020s. This may help clear up an aviation mystery. For the Air Force's recent T-X jet trainer competition, two contenders entered existing aircraft, but Boeing decided to design its entry from scratch. That is

usually more expensive than bidding an existing design. Further, the Boeing design included things like a shoulder-mounted wing, long landing gear, and leading edge slats typically found in Navy aircraft, and an engine already in Navy inventory. With the announcement of a T-45 follow-on program, Boeing's decision to go into T-X with a fresh design may have a clearer rationale.

In rotorcraft, the Navy says it has enough MH-60R Seahawk Romeos—a navalized Sikorsky Black Hawk with a lot of sensors—but ship procurement plans have changed, which means right now the Navy does not have enough ships to host even the helicopters already in inventory. Although it does not need more helicopters today, by 2030, with more ships coming into the fleet, the Navy expects to need many more. Normally (the document explains) the Navy would buy more now, from a warm production line, to have them later. Instead, the Navy says it wants to start with a clean sheet of paper. The concept is to acquire a new helicopter in the mid-2030s based on the next generation of vertical-lift technology, perhaps informed by the ongoing joint program with the Army to develop new vertical-lift platforms. As the Navy is looking for a brand-new helicopter, if it has to be in the fleet in the mid-2030s, the program is likely to start within three or four years.

Next-Generation Air Dominance is the early effort to define the sixth-generation fighter jet for the Navy and Air Force. This plan unveils a timeline; the Navy expects to complete its studies to define the aircraft's parameters in mid-2019. When the plan was published, the Air Force expected to finish its similar studies in the middle of 2018. Subsequently, that date has been revised to be similar to the Navy's. Although this system is likely decades away in terms of full-rate production, it is a program on which people have been doing a lot of conceptual thinking, and the Navy is saying that within the next year, that thinking is done. Actual proposals may be the next step.

## Army

The 30-year plan included news from the Army as well. It is no surprise that the service intends to retire its early model UH-60 Black Hawk medium-lift helicopters and extend the lives of more current ones. The new announcement coming out of the 30-year aviation plan is that the Army is going to give some of its old airframes back to industry to be remanufactured. The plan does not say whether that means they're to be remanufactured for U.S. service or, as part of the deal for new helos, Sikorsky is to get the old airframes back and can fix them up and sell them to someone else. But it does seem the U.S. government is preparing to put a bunch of used airframes on the market. Until there is more clarity on the specifics, impact on the market is hard to gauge. But it seems worth noting that a 30-year horizon offers time for plans to change.

The Army MQ-1 Gray Eagle UAV requirement is going up from 167 to 204. This aircraft is in production, and a new competition for the additional buy appears unlikely.

As mentioned, the Navy was retiring its C-12s and T-44s, its King Air-based aircraft; the Army plans to do the same

thing, starting a program to replace that whole fleet. Unlike the C-32/757, the King Air is still in production, but it may not be the only contender for the replacement.

The Army is finishing up its run of MH-47 Chinook heavy-lift helicopters. This document reveals a new twist on Army plans that had not been seen before. Because the Army's new future vertical-lift aircraft does not yet have a heavy variant (and is part of an early technology program that may not yield usable airframes for 20 years), the Army intends to do remanufacturing on the Chinook fleet to extend its life another 15 to 20 years. The plan showed the Air Force doing lots of service life extension programs (SLEPs), and the Navy announcing SLEPs on three different aircraft types; here, the Army is doing the same thing.

The Army is on track with the UH-72 Lakota utility helicopter, with a program objective in place. But, like the Navy with the P-8, the Army says in this document that "replacement may be procured beyond FY27 should operational or sustainability requirements dictate." This may indicate a belief that the current goal is insufficient, and a new program may begin to replace or augment this fleet.

## Marine Corps

On the V-22 Osprey tilt-rotor, the 30-year aviation plan says, "The addition of the last two squadrons created risk due to the lack of reserves. Further study required." This could be interpreted as a formal way of saying the Marine Corps would like to get more aircraft, and the exact number may be forthcoming.

The Corps recently started taking delivery of the CH-53K King Stallion heavy-lift helicopter, with a goal of 200 aircraft. The 30-year plan says that the service needs 220. Typically, this kind of increase turns up in the unfunded requirements lists. This time, it turned up in the 30-year aviation plan.

Similar language addresses a Marine interest in 7 more AH-1Z Viper attack helicopters above the 189 planned.

## Implications

All of this adds up to two things. One is an ambitious set of procurement plans between the lines of what is usually a general projection. This year, it is a document full of import.

These proposals also arrive in the context of a two-year congressional agreement to raise the defense budget caps. The military services may be seeking to extend that spending level, and to send a message to Congress of where maintaining higher spending may lead—in essence, publishing an unfunded requirements list in a different guise.

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