By John A. Tirpak, Executive Editor

**USAF: C-5As Could Be Upgraded**

Investigators could find no reason that the giant C-5A airlifters can’t be modified to last through 2029 or later, according to the Air Force’s new Fleet Viability Board. The finding is the first of many hurdles the C-5A must pass if USAF is to go ahead with a major upgrade of the fleet.

When USAF established the board in August 2003 to examine aging aircraft issues in critical mission areas, its first task was to evaluate the life expectancy of the C-5A, an aircraft that the Air Force hopes to retain to haul outsize/oversize cargo. The C-5As, which were built from 1968-73, have a long history of reliability woes.

Following an 11-month review, the board found that the C-5A “has at least 25 years of service life remaining” if the aircraft receive a planned $3 billion upgrade to avionics, structure, and engines. The panel found that the early Galaxys have about half their potential service lives ahead of them, based on structural and statistical analysis. The C-5As average 32.2 years old and have racked up an average of about 18,000 flight hours. The board said the C-5As could probably go to 30,000 flight hours.

The board cautioned that, even with the C-5A Avionics Modernization Program and Reliability Enhancement and Re-engining Program, the Air Force won’t get quite the reliability it would like. Panel members believe the upgraded C-5A will fall short of the 75 percent desired reliability rate by about five percent. And, they said, the C-5As would need another avionics upgrade around 2020 “to deal with technology obsolescence and future operational requirements.”

The board does not have decision-making authority, however, and its finding does not mean a C-5A upgrade will go forward.

In a July 14 letter sent with a report to defense committee lawmakers, Air Force Secretary James G. Roche said that the board’s analysis is a “significant data point,” but any decision about how long the C-5A is to be retained will depend on at least three additional factors. One is a Pentagon Mobility Capability Study. A second is the results of current testing of a C-5A that has been given prototype upgrades. Finally, USAF wants the results of the more extensive C-5A “teardown” analysis now under way at Warner Robins Air Logistics Center.

Currently, the Air Force plans to take 10 of the most problem-prone C-5As out of service by the end of Fiscal 2005. That will leave 60 C-5As and 50 of the younger C-5Bs in USAF’s total C-5 fleet.

**SBR: Something for Everyone**

The Air Force is seeking ways to make the Space Based Radar program serve all elements of the Intelligence Community, an approach that is technically challenging and likely to be costly, according to Peter B. Teets, Air Force undersecretary and DOD’s space acquisition executive.

In a late June meeting with reporters, Teets said that the Air Force is working with contractors to develop an SBR concept of operations (CONOPs) comprising the synthetic aperture radar (SAR) imagery requirements of both the Intelligence Community and DOD as well as its principal mission of surface moving target indications.

Teets said the Intelligence Community, “at least at the moment,” is more interested in SAR imagery, while the armed services lean more toward the moving target indicator function. He believes it will be possible to satisfy both groups of users, provided the Air Force develops a CONOPs in which the SBR system could be “dynamically retasked” using machine-to-machine interfaces.

There is “huge interest” in shared and distributed access to SBR data, said Teets.

USAF is contemplating a nine-satellite SBR constellation, he said, but that notional arrangement could be...
changed as program analysis and concept development proceeds. The final arrangement could be larger or smaller and could be at medium or low Earth orbit, "or some mix thereof," said Teets.

"We haven't picked a specific architecture," he said, referring to the nine-satellite constellation as a "baseline" from which USAF can establish the true cost of the system.

However, in the 2005 defense spending bill, House and Senate appropriators slashed the Administration's $328 million request down to $75 million and ordered the Pentagon to restructure the program. Lawmakers fear that SBR will be too expensive, costing, as presently envisioned, $34 billion over 12 years—more than all other USAF satellite programs combined. They also believe that maintaining constant worldwide surveillance will require far more than nine satellites and could boost the cost to $60 billion.

The Administration has appealed the cut to the SBR program, which Pentagon officials have touted as a key transformation effort. The Pentagon says that appropriators were relying on outdated information. The authorization committees in both the House and Senate signed off on the full Administration request for SBR.

Teets acknowledged that the Space Based Radar will be "an expensive system." However, he said it would not be one-stop shopping for radar surveillance, rather part of a network of sensors. It need not be globally persistent at all times, he said.

"It is true that you can't do continuous target tracking with a nine-ball low Earth orbit" system, Teets explained. "There will be times when there won't be continuous coverage of a certain area."

The space czar said that the Air Force does not plan to develop SBR "in a vacuum." The system will be designed to provide "tips and cues" for E-8 Joint STARS ground surveillance aircraft, as well as other airborne assets. Joint STARS provides combatant commanders with a picture of moving wheeled and track vehicles. The picture is refreshed every few minutes, but Teets noted, even Joint STARS "loses track" of ground targets when the aircraft turns around. The system picks up the track again in short order, he said.

Moreover, Teets asserted, the systems the Air Force is contemplating should have revisit rates that are measured "in minutes, not hours." Consequently, satellite overlap is not necessarily required. "That's a big plus," said Teets.

**Toward an 80-Year-Old BUFF**

The Air Force and Boeing are working on upgrades that will permit the 40-year-old B-52H fleet to remain a viable combat platform for nearly another 40 years, company officials said in July.

"The limiting factor is the upper wing skin," according to Scot Oathout, Boeing's bomber programs manager. Boeing believes that if the B-52s fly an average of 380 hours a year, the upper wing skins will last until the aircraft reach 30,700 hours, which would be in 2040. After that, the wing skin would need to be replaced and it would no longer be "economical to operate the airplane," Oathout told defense reporters in Washington, D.C.

Right now, USAF's 94 B-52Hs have an average of about 16,000 hours each.

"There's a lot of life left in this airplane," Oathout said. Boeing's prediction that the bomber can reach 2040 assumes that USAF will fly the B-52 in a benign, high-altitude flight profile, with no violent low-altitude maneuvering.

The B-52 continues to prove its worth in combat, he said. The venerable bombers dropped 29 percent of all the bomb tonnage delivered in Operation Iraqi Freedom but only flew about three percent of the sorties. Oathout also noted that the platform is "evolving ... and adapting to new missions," having performed close air support for the first time in Iraq.

The Air Force plans to adapt the rotary launchers used in the B-2 to the bomb bays of the B-52. The change would allow the B-52 to carry two-thirds to 100 percent more precision weapons, which now can only be carried on the aircraft's wing pylons.

In another change, USAF will replace some of the bomber's large external fuel tanks with airborne electronic attack pods. These "EB-52s" will perform standoff jamming, replacing some of the capability the service lost when it retired its EF-111 some six years ago. This new capability would be complemented by jamming decoys and the Joint Unmanned Combat Air System.

The Air Force expects to have its first four EB-52s in 2009. Sixteen aircraft could be available for the mission by 2013. However, they would not be dedicated jamming platforms.

"The Air Force has made it clear, the jammers still have to be able to carry bombs," Oathout said. The pods would be new aerodynamic units, not simply converted fuel tanks. They would be interchangeable with any B-52 equipped with the wiring to operate them.

The aircraft also would receive new wiring, structural improvements, and new cockpit displays, among other enhancements or service life extensions.

The Air Force has been testing changes made under the avionics midlife improvement program for more than a year, Oathout reported. The upgrade would be installed throughout the fleet during this decade.

Expected to be released this fall is a study USAF began in 2002 to determine the feasibility of re-engining the B-52s. Although Oathout said the existing TF-33 engines are "performing really well" and could last until 2040, the Air Force is considering new engines that would provide increased range, loiter time, fuel efficiency, and power generation capability.
An Air Force official said the service has looked at replacing the eight TF-33s with either four or eight engines. The big issue is how to pay for it, he said. The cost to re-engine would be around $50 million per aircraft—about $4 billion above and beyond the cost of the currently planned upgrades.

Kadish: Stick With the ABL

The Airborne Laser is over budget and behind schedule, but Congress and the Pentagon should stick with the program and give it time to work, according to USAF Lt. Gen. Ronald T. Kadish, former director of the Missile Defense Agency, which oversees the ABL program.

Kadish, in several press interviews in July given before he retired, acknowledged that the ABL is having problems, but he insisted the problems are the result of trying to invent wholly new technology on a strict schedule. The focus of the program has always been on performance, he said, with cost and schedule as secondary considerations.

Emphasizing that the program is making slow but consistent progress, Kadish said that, if it succeeds, the ABL will provide a powerful and unprecedented capability.

He said MDA did not plan to have the ABL included in the Administration’s 2004 menu of missile defense capabilities slated for the fall. However, he did not rule out some sensor role for the ABL in the Block 2004 suite.

Kadish said that MDA prefers to focus on two intermediate goals. One is to successfully integrate and demonstrate the laser’s optics, achieving so-called “first light” with the laser later this year. The other is integrating the laser on the 747 aircraft that will carry it.

Kadish told the House Armed Services Committee’s Strategic Forces Subcommittee in March that he planned to focus the program on the two smaller goals and defer, if necessary, the first test against an actual tactical ballistic missile that had been planned for next year. That shot is now expected to slip into 2006 or later.

The MDA also has postponed indefinitely the acquisition of a second ABL airframe, citing program delays that make the second aircraft premature until technology issues are resolved.

The Government Accountability Office, in a report released in May, said ABL program cost has doubled from initial estimates, now reaching $2 billion. However, the GAO praised the MDA for its decision to switch to “a sound and ... more cost-effective development strategy.” The GAO said the new strategy follows “a knowledge-based rather than a schedule-driven approach” to development of the ABL. The program will advance by achievements—and not by the calendar.

GAO attributed the cost growth primarily to planning that did not “fully anticipate the complexities in developing the system.” Further problems stemmed from trying to meet schedule, skipping the process of fully testing subcomponents, and using rapidly prototyped parts. MDA itself has complained that some parts suffered from poor workmanship, setting the program back several months and delaying testing.

Kadish told Defense News that MDA was “not in any way, shape, or form ready to give up on the ABL” and that “it will have a tremendous multiplying effect, if it works.”

McCain Gets Tanker Documents

The Pentagon in late July began turning over to the Senate Armed Services Committee a number of documents regarding the controversial lease-buy of 100 Boeing 767 aerial refueling aircraft. Officials hoped the turnover would persuade Sen. John McCain (R-Ariz.) to lift a year-long hold on nominees to a number of Pentagon posts.

On July 14, DOD spokesman Lawrence Di Rita said DOD had passed “several thousand pages” on the tanker issue to the Senate committee. He added, “I expect there will be more.”

The turnover came after several high-level meetings, the last conducted at the White House, between Senate leaders and senior defense officials.

McCain, who had been pushing for the documents, has been the chief opponent of the tanker deal, which was approved by Congress last year and called for leasing 20 Boeing 767s and buying 80 more. McCain wanted to see whether there had been any improprieties reflected in communications between defense and company officials.

(See “Washington Watch” columns in June and July for more background on the tanker controversy.)

The Pentagon—and the White House—initially had declined to turn over the documents, citing executive privilege. However, an agreement was reached regarding who could see the documents, who could have copies, and how they would be handled, Di Rita said.

“There are documents that offer secondhand references to other individuals, and it’s our general belief that since it’s secondhand information ... you want to try and limit the distribution of those kinds of documents as much as possible,” he said.

McCain did not immediately make any announcement as to whether he would lift the hold as a result of the turnover, and his office did not return calls.

The confirmations of 10 Defense Department nominees had been held up during the impasse. They included those of Michael W. Wynne, nominated last September to be the Pentagon’s acquisition, technology, and logistics chief; Tina W. Jonas, nominated in March to be DOD comptroller; and Di Rita himself, the Pentagon’s chief spokesman.

The hold also affected Air Force Secretary James G. Roche, who had been nominated last year to be the new Army Secretary. In March, Roche asked to have his name withdrawn.