Bell Boeing Tiltrotor Team's

Osprey Facts

Volume 12 Issue 4 | Philadelphia | April 2001

V-22 Blue Ribbon Panel delivers message: Proceed with caution

On April 18, the Panel to Review the V-22 Program conducted a public hearing in Arlington, Va., to present the findings of the sub-panels to the full panel for deliberations and approval and to decide on final conclusions and recommendations for the report to Secretary of Defense Donald Rumsfeld. The four-member panel will report to Rumsfeld that the V-22 program be put into a "minimum sustainable production rate" until a list of corrections are made, but will not call for the program's cancellation.

The panel consists of retired Marine Corps Gen. John Dailey, a former assistant commandant; retired Air Force Gen. James Davis, a former U.S. Pacific Air Forces commander; retired Massachusetts Institute of Technology Professor and aerodynamics expert Eugene Covert; and Lockheed Martin executive Norman Augustine.

The panel reviewed the validity of the aircraft's mission and concluded it to be legitimate, and stressed that substituting a legacy or derivative helicopter would result in significant operational degradation. Although they praised the Osprey's ability to meet the mission requirements, they stressed that the V-22 is not quite ready to be used operationally. The panel is confident that a restructured program will produce a more safe and reliable aircraft. They concluded by saying the V-22 is the best solution, starting anew is not the answer and modifying existing technology will not work.

Statement by General James L. Jones, Commandant of the Marine Corps

"The Independent V-22 Review Panel conducted an extremely comprehensive review of the Osprey Program, and I appreciate the panel members' dedication in taking on this important task.

I share the panel's concern about the V-22's maintainability, reliability and funding. The panel gave each of these issues careful consideration, and we will be looking very closely at recommendations made in the panel's final report.

It is clear from the panel's review that the Marines assigned to the training squadron (Marine Medium Tiltrotor Training Squadron 204) faced some very difficult circumstances as they worked to introduce the Osprey into the Marine Corps.

Although there are many issues to be resolved, I am encouraged by the panel's recommendation to pursue further development and fielding of the V-22. This is a capability our nation needs to meet the operational requirements of the 21st century.

I look forward to discussing the program with the Secretary of Defense after he has had an opportunity to review the panel's report."

Defense analyst: Combat Search and Rescue has become a special operation

By Steve Daskal
Washington, D.C. based Defense Analyst

For Combat Search and Rescue (CSAR), speed and unrefueled range, combined with the ability to operate in the worst visibility conditions, are critical performance factors. The longer a downed aircrew remains on the ground in hostile-controlled territory, the greater the risk of their being killed or captured—with the risk increasing almost exponentially.

Especially given the increasing depth of air operations, it is essential to get a CSAR platform that has more speed and range than any existing or likely rotorcraft. Compound rotorcraft have been repeatedly investigated and found wanting—too costly and complex, poor hover performance, and still not able to match the speed and range of a fixed wing aircraft. The tiltrotor is the strongest contender on performance to meet the CSAR requirement, and to do so with the least demand for support aircraft (e.g., C-130 variants) for refueling or shuttling of recovered personnel.

While the CV-22 is far costlier than a direct HH-60 SLEP or new construction special operations-capable helicopter, it carries more people further than any helicopter candidate, reducing the number of aircraft needed for a given rescue and also reducing the number of rescue personnel put at risk for a given rescue. The CV-22 option also permits the elimination of most if not all of the turboprop tanker/lift-support force, and eliminates the need for inter-theater deployment by heavy airlifter to avoid multi-day self-deployment times. While Lockheed Martin and Sikorsky have a powerful vested interest in seeing all variants of the V-22 killed to boost their own older technology products (and are lobbying accordingly), the Air Force needs to find the optimum way of accomplishing this time sensitive, dangerous, high profile mission.

CV-22 Continued on Page 3

Osprey critics operate without facts

By Frank Jensen
Reprinted from Defense News, April 9, 2001
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Benjamin Disraeli, the famous 19th century British prime minister, once said, "It is much easier to be critical than to be correct."

That's the case with many critics of the V-22 Osprey, the tiltrotor aircraft sought by the U.S. Navy, Marine Corps and U.S. Special Operations Command. After two tragic crashes, many have ignored key facts and rushed to judgment. Now some want the bird axed, and that would be the greatest tragedy.

The most fundamental thing missed in these criticisms is the soundness of the technology. One critic wrote in the Feb. 14, 2001 issue of *USA Today*, "The technology behind the Osprey remains unproven."

Yet, tiltrotor technology, which allows it to take off and land like a helicopter, but fly like a plane, originated in the 1950s. The Marine V-22 has logged almost 5,200 flight hours and the special operations version has several hundred. In fact, tiltrotor technology has not caused any mishap in its transition to military aircraft.

Others have not considered the risk in military aircraft transitions. One critic called the V-22 dangerous after two recent crashes and two others these last 10 years. They were caused by incorrect wiring, disabled shafts, human factors and hydraulic failures.

Despite precautions, they reflect the painful truth about military aircraft transitions.

"That's what happens when you are bringing on a new system," stated Gen. Charles Krulak, former Marine commandant. "It's sad, it's tragic, but it's a reality."

Some have not recognized that the V-22 may be one of the safest aviation technology transitions.

It has "a poor safety record," according to the Aug. 8, 2000 issue of *Rotor and Wing*, quoting the *New York Times*. But, consider the past. When jet aircraft were introduced, one Navy squadron registered 15 crashes — in three weeks. CH-46 helicopters had 44 mishaps in five years.

Even fielded technology has had difficulties. The Black Hawk UH-60 helicopter, which some say should be used instead of the V-22, reportedly has had 20 crashes, causing 59 deaths these last nine years. The V-22 pales in comparison. The Marines must replace CH-46 helicopters now. The average aircraft is pushing 40 years old. They undergo safety inspections every 10 hours. However, the Marines, Navy or Special Operations Command can't just buy another aircraft. Acquisition could take 10 years, at least.

Many do not realize that no viable alternatives exist. Seventeen studies found that the V-22 is the cheapest and best choice for what the Marines and Special Operations Command seek to do. No helicopter or other aircraft mix would work. The Blackhawk UH-60 is an example. The naval version likely would cost $24 million, compared with the V-22's $57 million total cost.

But, it would take two to three times more Black Hawks to carry the same troops and equipment as the V-22. This would mean more aircrews and maintenance personnel. However, there is not enough room on ships for more aircraft and people. Additionally, the Black Hawk cannot self-deploy, which is what the Special Operations Command wants.

There was another important finding. The V-22 likely will save lives. Studies conducted by Lawrence Livermore Laboratory in 1991 and the BDM Corp. in 1994 showed that Marine units supported by V-22s could defeat enemy counterattacks faster and with fewer casualties than with conventional helicopters.

The biggest concern is that many critics ignore the future. The V-22 is a revolutionary leap in capabilities. Compared with the CH-46 helicopter it is intended to replace, the V-22 goes twice as fast, carries three times the load and has five times the range.

"These three improved characteristics of range, speed and payload can be interchanged and utilized in countless ways," stated a November 2000 secretary of defense's report, "Beyond Low Rate Initial Production."

The report states: "Together, they provide a major step ahead in tactical flexibility."

Future operations are based on these improvements. They are key to the Marines' future philosophy, called "Operational Maneuver From the Sea." For the Special Operations Command, the V-22 is the only aircraft capable of long-range infiltration and exfiltration.

Gen. Michael Ryan, Air Force chief of staff, said the V-22 "gives a whole new dimension to how we operate in special operations forces because of the depth it can go."

Take away the V-22 and these organizations must significantly change how they operate against future threats. There may be another consequence, as Loren Thompson, Georgetown University professor and Lexington Institute chief operating officer, points out: "Without the V-22, the Marines stand to lose a lot more in their next amphibious assault than all four Osprey accidents."

Most major technological innovations have had critics; the V-22 is no exception. That's okay. Informed criticism is helpful. Uninformed criticism is not. The V-22 has experienced too much of the latter. Evaluating the V-22 requires all facts be considered. America can't afford a shortsighted decision in this case. It needs the V-22.

Retired U.S. Army Col. Frank Jensen is president emeritus of the Helicopter Association International, Alexandria, Va.

CBS' "JAG" scores a direct hit with V-22

By Norb Josten
Editor-in-Chief, Osprey Facts

On April 24, 20 million loyal fans and a number of first-time watchers of the hit CBS TV military justice series "JAG" tuned in to a dramatized portrayal of the controversy surrounding the V-22 Osprey aircraft and program.

Entitled, "To Walk on Wings," the episode's plot involved a fictitious MV-22 demonstration flight with two Congressmen on board that did not go as planned. Because of the scrutiny of the V-22 program, the aircraft was called on the carpet in a congressional hearing. In the end, the V-22 and its technology were cleared of all charges and awarded continued funding and support.

JAG's Producer, Donald Bellasario—a former Marine and an ardent advocate of a strong national defense—conceived the idea of an episode addressing the Marines' tempestuous but determined development of the Osprey early this year after a barrage of negative press followed the tragic Dec. 11 MV-22 mishap at Marine Corps Air Station, New River, N.C. After discussing the idea with HQMC, the Marines extended their cooperation to the JAG production team in order to ensure the accuracy of the episode.

In the couple of months the production team had to prepare a story line, collect V-22 program and technical data, interview Marine pilots and maintainers, obtain flight footage, write the screen play and shoot scenes at the CV-22 hanger at Edwards Air Force Base, Calif., they managed to effectively and accurately portray the major issues and drama that surrounds this leading-edge program.

The importance of the V-22's capability to the Marine Corps and to the nation's future defense were evoked with force and clarity, as were the tensions that appear when those capabilities are not understood by those outside the military. The political and press dynamics that have played a major part in the Osprey story the past four months were captured along with V-22 program announcements that had taken place as recent as a week prior to JAG's air time.

David James Elliot and Catherine Bell, co-stars of the hit CBS program, JAG, pose for a photo with the V-22 Osprey, cast extras and a group of military support personnel stationed at Edwards Air Force Base(EAFB), Calif. Marines stationed at EAFB served as extras for the maintenance scenes.

CV-22 an option for SOF, CSAR missions

Continued from Page 1

In order to consolidate forces and increase the flexibility available to regional CinCs and Joint Task Force commanders, I would also strongly recommend the formal transfer of the CSAR mission to USSOCOM and to the service special operations communities. The U.S. government can ill afford to allow hostile regimes or parastate actors to obtain U.S. aviators as hostages. CSAR has become a special operation—it is time sensitive, high risk/high pay-off and has strong political impact on the overall sustainability of the operation.

It is a mission that requires specially trained, specially equipped units able to operate under extremely adverse conditions in the face of potentially significant opposition. It is a mission that needs very good real-time intelligence support. Even the operational profiles are not very different from SOF team insertion and extraction missions. Pooling the CSAR and existing SOF personnel, resources and organizations will increase the flexibility and depth of the overall force, provide greater promotion potential for special ops personnel and give a long-overdue boost to the "orphaned step-child" CSAR mission which has bounced between commands for decades. Ideally, each regional CinC should be able to count upon a CV-22-equipped joint special operations air contingent and the associated SOF teams (SEALS, Army Special Forces, or Marine Force Recon/LRRPs as appropriate) able to deploy on short notice along with the leading elements of a JTF to support it.

Spouse of Marine Corps aviator responds to news article, inaccuracies

By Gail A. Walters
This Letter to the Editor was sent to the Washington Post on Apri 24, 2001

I am extremely concerned by a major error in your front page news item yesterday on the V-22, "Verdict on Osprey is Mixed."

You very clearly connected the findings on the recent JAG (Judge Advocate General) report on the December 2000 V-22 mishap, which took the lives of four Marines, to the issues underlying the April 2000 V-22 mishap, which killed 19 Marines. That is incorrect.

The April 2000 crash was caused by pilot error, which the Marines prefer to euphemistically call "human factors" to make a distinction between intentional "hotdogging" and an "honest mistake," respectively. You correctly describe "vortex ring state," but you missed the fact that lift was lost by the April aircraft not as a result of design flaw or mechanical failure, but because the pilot descended toward the landing site at 2 ½ times the approved descent rate! There's a huge difference there!

As the wife of a 22-year Marine aviator, who is a former squadron commander and Test Pilot, I understand how difficult it is for "laypeople" such as ourselves to make simple sense of such complicated issues and terminology as aerodynamics and military-speak. But I tell you this: the American people rely upon those of you in the press to do exactly that—and to do so in a way that is neither misleading nor misinformed.

No loss of life, whether four or 23, is acceptable. But the distinction becomes relevant when used to assail the design and safety of an entire model of aircraft. In so doing, you and other members of the media carelessly confuse such distinct issues as "Design Flaw," "Mechanical Failure" and "Pilot Error"—and you do serious harm to the public's right to know. Worse, you do serious harm to a worthy and important aircraft, the V-22, which has shown greater merit than any other aircraft to perform the unique requirements of the Marines' noble mission. One need only see how desperately old the CH-46s and Hueys are to know how badly the Marines need the Osprey.

V-22 squadron pilots defend the Osprey

By Maj. Karsten S. Heckl, USMC
This letter to the editor appeared in the Washington Post on April 23, 2001.

As a pilot from the Marine Corps' V-22 squadron, I resent reading that we have lost confidence in the aircraft, the program and our leadership ["Pilots Criticize Osprey's Testing," front page, April 5]. I have talked with many squadron officers who feel this article misrepresented the facts, misconstrued comments made to reporters and exposed a willingness to go to great lengths in support of an agenda.

It is true that the hydraulic system caused concerns before the December crash. We do not believe that any Marine —general or otherwise—ever thought this would compromise the safety of Marines.

The V-22 represents a quantum leap in our capability to win across the spectrum of conflict. We believe so strongly in it that we have dedicated our lives to this pursuit. We are dismayed that the media paint such a bleak picture, overlooking the program's successes.

As a group, we believe there will be a day when we will go "on the record" at 280 mph, from well over the horizon, deep into a hostile nation, where no other aircraft can project a fighting force, to protect the interests of our great nation.

The writer, a major in the U.S. Marine Corps, is an assistant operations officer with the VMMT-204 Osprey squadron based at Marine Corps Air Station, New River, N.C. ***Editor's Note****: The article referred to appeared in the Current News Early Bird, April 5, 2001.*

V-22 Photo of the Month...Members of the Marine Medium Tiltrotor Training Squadron 204 (VMMT) based at Marine Corps Air Station, New River, N.C., visited Boeing Philadelphia earlier this month to participate in high level briefings, a candid question and answer session with program officials and a tour of the manufacturing facilities. (Above) John Hilaman, director of V-22 Operations, discusses the Osprey's cargo ramp with two Marines.

NOTICE

On May 1 at 2 p.m., the Military Procurement Subcommittee will receive testimony and recommendations on the V-22 Osprey program. Members of the Panel to Review the V-22 Program (see pg. 1), Gen. James L. Jones (Commandant, U.S. Marine Corps) and Gen. Charles R. Holland (Commander-in-Chief, U.S. Special Operations Command) will be present.

Citizen responds to commentary

By Ron M. Aryel, MD MBA
This Letter to the Editor appeared in the Philadelphia Inquirer on April 2, 2001

Rev. Bob Edgar's premature and unjustified swipe at the MV-22 Osprey ("Rep. Weldon, it's time to ground Osprey" Commentary, April 1) misses several crucial points. While the aircraft's development has, unfortunately, cost lives, it is so radical a departure from previous aircraft technology that it actually compares favorably with more conventional aircraft which have crashed more often, such as the F-104 and the F-14. Moreover, the technology transfer potential for this program, and its benefits to us, are higher than those other programs. The aircraft's advantages have been clearly demonstrated, another fact that Rev. Edgar ignores in promoting his point of view.

Rev. Edgar's wish to direct these funds to other needs is misguided and not really pertinent to the Osprey anyway. Head start, health insurance and housing assistance are laudable goals, and it is appropriate for our government to provide them. Experience has shown, however, that spurring investments in broadly applicable technologies and high-paying industry jobs serve those goals much more effectively by generating sustained employment and empowering people to afford those services themselves. While many defense programs may indeed be wasteful, and could be cut to redirect funds, the Osprey is not one of them.

Osprey Facts is published monthly by The Boeing Company in Philadelphia and Bell Helicopter Textron, Texas. Editor-in-chief is Norb Josten (E-mail, norb.josten@phl.boeing.com); production editor, Doug Holmes (william.holmes@phl.boeing.com). Information contained herein is compiled from unclassified sour ces and does not represent an official position of either of the companies. Comments or suggestions should be forwarded to Norb Josten, Boeing Philadelphia, M/S P23-00, PO Box 16 858, Philadelphia, PA USA 19142-0858. Tel (610) 591-3366. Back issues may be found, along with other V-22 data, at: http://www.boeing.com/rotorcraft/military/v22/