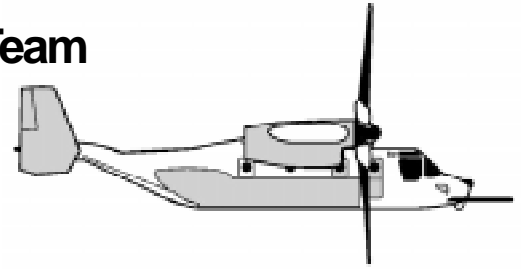


OSPREY FACTS



McCorkle speaks to National Guard TAGs



Lt. Gen. Fred McCorkle used electronic slides to brief Adjutant Generals from many states' National Guard units.

ticularly at platforms that will ensure the National Guard retain their military relevance in the coming decades, while giving the guard even more to offer on the civil support side."

The Osprey is the type of system that addresses the Air Guard's two greatest force structure needs -- Modernization and Relevance, according to Andriotti. "We're determined not to be left behind and in fact we may lead the way in some modernization efforts," he said. McCorkle also had strong opinions to express in favor of the new tiltrotor airplane.

"The V-22 is a natural for the Guard's combination roles of military and civil support," said McCorkle. "When I talk about this aircraft, I say in Fred McCorkle's opinion that it is going to change the way we do business, just like the jet engine did in the Air Force, Navy and Marine Corps. During World War II, the services lined up and said we do not want or need the jet engine. But the second we began to get our butts kicked by the Germans, we said -- the jet engine might not be a bad idea. Now everything we've got is a jet. I would tell this crowd that when these aircraft first deploy, and fly off a boat, in the year 2003, everybody's going to be scrambling to buy these aircraft."

By Norb Josten
USAF & Guard Business Development

Adjutant generals and assistant AGs - Air and Ground, from a couple dozen states attended a V-22 presentation by Marine Deputy Commandant for Aviation, Lt. Gen. Fred McCorkle at the 122nd National Guard Association (NGAUS) conference in Atlantic City, N.J., Sept 13. McCorkle provided a brief V-22 program overview and described the Marine requirement for the revolutionary tiltrotor aircraft. He concentrated the bulk of his remarks on the potential utility of the Osprey for National Guard civil and military support applications.

The Marines had been invited to address the NGAUS event on the V-22 in light of the growing interest in the aircraft by various Guard states. A four state coalition led by AGs and Assistant AG-Air's, had visited the V-22 Program Office at Naval Air Station Patuxent River, Md., in January. That in-

cluded Alaska, California, Minnesota and New York. They are interested in exploring the Osprey's capabilities in nuclear, biological and chemical (NBC) incident response missions. This is a role for which the National Guard has primary responsibility.

"We see the Osprey's unique ability to operate in an NBC environment, as well as its ability to respond quickly," said Maj. General Gene Andriotti, Adjutant General for Minnesota. "It can carry sufficient payload of response personnel and equipment. We're looking par-



Maj. Roy Osborn (L) and Lt. Col. Ray Celeste (R), USMC, and others at the exhibit.

BB selects turreted gun system for V-22



The Bell Boeing team has selected a General Dynamics Armament Systems (GDAS) 50 calibre turreted gun for the V-22 Osprey aircraft. The gun will be mounted in the aircraft's nose section. The decision projects a contract award and program start in the first quarter of 2001, with development extending through February 2005. Initial phase is for systems engineering and design, development, fabrication, testing and spares for three complete V-22 turreted gun systems. All production V-22s, whether Marine Corps (MV-22) or Air Force (CV-22), will feature the GDAS gun.

The GDAS gun will integrate a GAU 19/A Gatling gun, a lightweight turret; and, a composite linear linkless ammunition storage and feed system. The system provides the V-22 with a strong defensive firepower capability to greatly increase the aircraft's survivability in hostile actions.

Dear Ms. Pattie Liepert,

This letter is in response to the article "Concerns Grow Over Osprey's Readiness," by J. Stryker Meyer and J.E. Mitchell dated Sept. 4.

Since the North County Times has published several articles about the V-22 over the past several months, I know that you and your writers are interested in accurately reporting on any changes, events and accomplishments about this revolutionary aircraft and tiltrotor technology.

As such, I would like to bring to your attention several inaccuracies that appear in the above referenced article with hopes that these statements can be corrected or at least that future articles will reflect these facts. For ease of pointing out what areas are incorrect or need to be clarified, I will cite the area and then a correction or clarification.

-The V-22 is not equipped to enable mid-flight refueling. **Correction:** This is false. Inflight refueling has been tested and evaluated. The V-22 has this capability.

-The V-22 has auxiliary fuel tanks that are not considered crashworthy. None has been delivered to the fleet. **Clarification:** Cabin auxiliary tanks being engineered now will meet crashworthy standards and they will be delivered to the fleet to support the first V-22 overseas self deployment beginning in Fiscal Year 03.

-The V-22 has a cockpit and cabin environmental system that does not protect crew and troops from exposure to battlefield nuclear, biological or chemical agents. **Correction:** The V-22's environmental system is as capable as the systems in every other rotorcraft in the Department of Defense. Mission oriented protective posture (MOPP) gear can be used by the crew and troops to safely fly in this adversarial environment.

-The V-22 has a faulty false alarm system that is constantly forcing test

This reproduction of a letter (to the left) is from Col. Nolan Schmidt, V-22 Program Manager (Patuxent River, Md.) to the editor of the North County Times, Escondido, Calif., sent Sept. 7, to correct published inaccuracies that appeared in an article dated Sept. 4, 2000, "Concerns grow over Osprey's Readiness."



Continued on page 4

pilots to make unneeded precautionary landings. **Correction:** This is not true. Further, there are no significant issues identified with regard to aircrew warning/caution/advisory indications. In fact we appear to be meeting our threshold requirements for false alarm rates based on developmental test data. We will continue to evaluate with operational evaluation data when available. Corrections continue to be incorporated and will be addressed in Follow on Operational Test and Evaluation III-B scheduled for Dec. 2001 – Feb. 2002.

-The V-22 has radar altimeter that regularly fails when the craft is carrying external loads. **Clarification:** The radar altimeter has had some failures on the dual points while carrying external loads, however, this is not the case with the single point while carrying external loads. A new radar altimeter to correct this problem is being evaluated at this time.

-The V-22 has maximum (shipboard) take-off weight of 48,500 pounds – some 4,300 pounds lighter than originally proposed. **Correction:** This is not true. The V-22 is fully capable of taking off with its required loads, however, because further shipboard envelope expansion is necessary, the fleet is currently operating with a reduced envelope. Further shipboard tests and validation to expand this envelope are scheduled for later this year.

-The V-22 has difficulty remaining parked on rolling aircraft carrier or assault ship decks. **Correction:** This is not true. Initially there was a problem with the parking brake when the aircraft were moved on deck because the brake rider in the cockpit needed improvement. This fix was made in three of the four aircraft that were used during the recently completed Operational Evaluation and in all production aircraft since.

-The V-22 has no external (defensive or offensive) weapon system. **Clarification:** The turreted self defense system was never funded in this program. This has changed and it is currently funded to start development in Fiscal Year 01 and production in Fiscal Year 04. All production aircraft will be outfitted with this defensive weapon system.

-The V-22 has no ground-collision avoidance and warning system. **Clarification:** This capability was not required nor funded in the early stages of the program. It is currently funded for ongoing trade studies, development in Fiscal Year 01, and for incorporation in all V-22 aircraft beginning in Fiscal Year 03, if a software solution is selected.

Since accuracy and balance are two journalistic elements that writers strive for, I hope that the above information will benefit the writers who will be reporting on the V-22 program in the future. The Marine Corps is proud of this new technology and the capability it will bring to our operating forces. As with all new weapon systems there are growing pains until the system is mature. We are happy to report that even though the V-22 has had its share of problems along the road to maturity, the V-22 program delivered this aircraft ready for Operational Evaluation with the least amount of deficiencies in the history of Navy/Marine Corps aviation. This is a story worth telling.

Sincerely,

Nolan Schmidt, COL USMC,
V-22 Program Manager

Live fire testing scores a bullseye!

By Bob Torgerson, Boeing
Senior Manager, V-22 Business Development

A joint government-industry team has successfully completed nearly 60 sets of live fire ballistic tests (LFT) on V-22 components and systems.

“This testing is highly significant to all V-22 users, as it validates key systems that make this aircraft the survivable platform that the U.S. Marine Corps and Special Forces require in today’s highly lethal combat battlefield,” said Col. Nolan D. Schmidt, Naval Air System Command’s V-22 Program Manager. “The V-22 is intended for use in highly lethal scenarios and as such it is our responsibility to do all we can to ensure that our Marines and Special Forces personnel are brought home alive.”

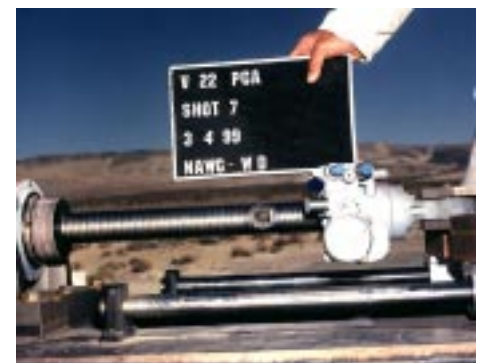
This testing has spanned 16 years and extends to the program’s earliest days. In a report to be provided soon to the Department of Defense, NAVAIR testers state that the LFT activity will provide:

- * valuable feedback on the extent and types of damage that can be expected in a combat environment

- * information to enable early planning repairs and techniques before aircraft have seen combat

- * test data that is applicable to all V-22 aircraft.

The LFT testing focused on six major sections, including: new ballistic/ram tolerant composite wing structures; new jam-resistant actuator technologies; damage-resistant run-dry gearbox technology; fuel suction transfer technology; new fire suppression technology; and, self-sealing/dry bay fire resistant capabilities in fuel tanks.



V-22 actuator shown with bullet hole, following live fire testing in 1999.

All performance requirements met



The V-22 has demonstrated 265 knots - maximum level speed; and a 25,000 foot altitude service ceiling.

By Bob Torgerson, Boeing
Senior Manager, V-22 Business Development

During its developmental testing period, the V-22 successfully met or exceeded all performance and 'handling qualities' requirements, two of which are illustrated. As of mid-September, the Bell Boeing team has delivered 18 aircraft to the U.S. Government. Beginning the week of September 18, V-22 aircraft will be located at five sites throughout the U.S., after the first CV-22 (aircraft #9), re-locates to Edwards Air Force Base, California, to start follow-on operational test and evaluation (FOT&E) testing. Other sites where V-22s are located include Naval Air Station Patuxent River, Md., Jacksonville's Marine Corps Air Station New River, N.C., and Bell Helicopter Textron's two key Texas locations: their Fort Worth test facility and Amarillo Tiltrotor Final Production facility. The MV-22B fuselage is built by Boeing in Philadelphia and shipped to Amarillo, where Bell completes each aircraft with its half of the work split: by mating the fuselage to the wing, propulsion systems and empennage, for which it is responsible.



The V-22's aerial refuel capability was demonstrated during a non-stop, 2,250 naut. mile cross-country flight.

V-22 EMD Flight Test Status as of Sept. 14, 2000

| A/C # | Total EMD Hours | Total EMD Flights |
|---------------|-----------------|-------------------|
| 7 | 455 | 231 |
| 8 | 508 | 283 |
| 9 | 330 | 149 |
| 10 | 464 | 203 |
| Totals | 1,758 | 866 |

| | |
|---------------------------|-----------|
| Total V-22 Flight Time | |
| with LRIP and FSD flights | 3,805 hrs |
| Maximum Airspeed Attained | 342 kt |
| Maximum Altitude Attained | 25,000 ft |
| Max Take-Off Gross Weight | 60,500 lb |
| Maximum Load Factor | 3.9 Gs |

This letter (below) was sent in to the Aviation Week magazine editor, in response to a letter they published. LtCol. Barney Wick is the V-22 Requirements Officer in the Pentagon, at Headquarters Marine Corps.

To the editors:

I read with surprise and dismay the letter from retired Marine Captain Arnold Reiner (AW&ST, Aug. 28, p. 9) disputing the findings of the investigation into the April 8 MV-22 mishap and questioning the viability of the tiltrotor aircraft.

Mishap investigations are conducted to find cause, not to support preconceived hopes and assumptions. A combination of human factors led to the accident. Tiltrotor technology, validated by more than 3,600 flight hours in developmental and operational testing, played no role in the mishap.

Surely a pilot of Capt. Reiner's experience understands that the wrong combination of forward air speed and rate of descent can cause the phenomenon known as "power settling," a known hazard that no pilot - however capable — nor any aircraft — however robust — can defy.

Additionally, contrary to Capt. Reiner's belief, the mission required the pilots to land at a precise point on the airfield at a specified time using night-vision goggles, far from a challenge-free landing in broad daylight.

In any case, this revolutionary aircraft is as technologically and structurally sound as any we've ever fielded. The MV-22 entered operational evaluation with fewer deficiencies than any aircraft program in history. It has faced an unprecedentedly rigorous reliability standard, exposing more blemishes early on, but ultimately ensuring a safer, more reliable aircraft.

The MV-22 has met or exceeded all of its Key Performance Parameters. Most significantly, the aircraft can fly twice as fast and three times as far with triple the payload as the CH-46 it will replace. It is difficult to overstate what that means to our operational capability.

I would encourage Capt. Reiner to re-examine his premise and would remind him that it is the aviators, including Lt. Gen Fred McCorkle - Deputy Commandant for Aviation, CH-46 pilot, and veteran of more than 1,500 combat missions - who are most confident in and enthusiastic about the MV-22.

Semper Fidelis,

Barney Wick
Lieutenant Colonel
USMC