

# Bell Boeing Tiltrotor Team's OSPREY FACTS

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## V-22 Integrated Test Team Completes Phase IV Shipboard Suitability Testing

By Ward Carroll  
NAVAIR V-22 Public Affairs Officer

**T**he V-22 Integrated Test Team recently completed a detachment in USS Bataan (LHD 5), the second at-sea period for the Osprey program this year. During the eleven days of the Phase IV shipboard suitability testing, the ITT conducted deck landing qualifications for five V-22 pilots (including one from VMX-22, the new test and evaluation squadron based at MCAS New River, North Carolina), completed test points necessary to expand the Osprey's wind-over-deck envelope, and measured the effects of hovering H-53 and H-46 helicopters on a V-22 on deck behind them.

ITT engineers were pleased with the test results. "With the V-22 at its lightest

operational weight, its roll response to an approaching H-53 or H-46 wake was three-point-five degrees, approximately half that of what was predicted," said Dave Mason, Bell-Boeing flying qualities engineer. "This represents a tremendous improvement over the previous configuration. We still have some testing to complete and data analysis to do before removing the restriction on helicopters landing on adjacent spots forward of the V-22, but these results are promising."

The wind over deck envelope expansion testing was conducted with the V-22 parked on Spot 7, near the Bataan's stern, and the results gleaned

could allow the aircraft's operating envelope to be increased by as much as fifteen knots of wind velocity across the flight deck during take offs and landings.

Osprey No. 22 was used for the bulk of the testing and was joined for the final two days of the detachment by Osprey No. 10.

"The deployment went very smoothly," said Colonel Craig Olson, USAF, V-22 Joint Program Manager. "Our success is a reflection of the effort of the test team - from flight control software development to simulation to shipboard verification - and the cooperation of Bataan's crew."

Phase V, the ITT's next shipboard suitability testing period, will be carried out in April '04.

### 2004 Program Goals (Revised January 15, 2004)

- Improve Employee Satisfaction
- Complete OTRR for OTIIF and G
- Obtain Funding to Support 8 August '03 ADM
- Definitize and Obligate FY05 Production Funding
- Being Icing Test with Production Configuration in November
- Execute Flight Program with Zero Class A and B Mishaps
- Reduce Lot 10 Aircraft Cycle Time to 30 Months
- Reduce CV Flight Test Event Deficit by 50%
- Deliver ATA and 17 MV-22 Aircraft to Plan
- Achieve an Approved V-22 Master Acquisition Plan



Osprey No. 22 hovers over the flight deck of USS Bataan (LHD 5) during Phase IV of shipboard suitability testing. (Photo by PHC Carol Vernon)



## PM Perspective: A New Year

By Mike Tkach  
Vice President; Program Director  
V-22 Program Office, Pax River, Md

**A**s the New Year begins, I believe we should follow one of our Guiding Principles and celebrate success by reviewing the many accomplishments of the past year. In 2003, the team successfully met all but two of the aggressive set of Program Goals we had set early in the year. I truly believe that this could not have been done without the hard work, dedication and commitment of all facets and members of the V-22 team.

In the last year, we had some terrific opportunities that allowed the V-22 to shine, including a V-22 fly-over and static display at the Centennial of Flight celebration at Kitty Hawk, NC, for thousands of aviation enthusiasts.

A few other noteworthy achievements in 2003 include:

- Delivery of the first two aircraft to VMX-22.
- Provided V-22 flights for Sen. Ted Stevens, Rep. John Murtha, Gen. Michael Hagee, USMC and Gen. William Nyland, USMC.
- Held seven IIPTs and OIPTs, two EXCOMMS and two DABS.
- Presented 118 briefings to senior DOD officials - Wow!

Most significantly, the last year saw continued progress on our path towards a completely integrated and single V-22 team. We remain focused and committed to our V-22 Vision and Guiding Principles, which were recently reaffirmed for the upcoming year at the joint Off-Site this past November.

We should also take this opportunity at the beginning of the year to look ahead at the challenges and opportunities for success in the coming year. Clearly 2004, leading up to OPEVAL, will be just as demanding as 2003. I'm confident that our team will continue to successfully meet the many challenges facing us. Always take pride in what you do and the contribution each of you makes to the success of the V-22 Program -- Let's keep up the momentum!

## News and Notes

### V-22 Osprey Is Hit of Show

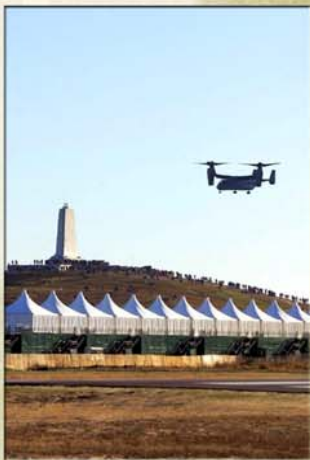
The V-22 Osprey stole the show while on static display in December at Kitty Hawk, NC, as part of the Centennial of Flight celebration. Inclement weather did not dampen the enthusiasm of thousands as they waited in line for an average 30-minutes to walk through the aircraft and ask questions of the flight crew. At the end of the day, thousands more stayed after the event ended, and applauded as the Osprey rose, transitioned and departed for its return flight to Pax River, MD. "It was a magnificent experience and the V-22 Osprey was the highlight of the show", said Mike Tkach, Vice President and V-22 Program Director.

### Marine Corps Brass Pilots Osprey

Lt. Col. Kevin Gross, USMC, the V-22 Integrated Test Team's Government Flight Test Director, and Maj. Gen. Jim Amos, USMC, Commanding General 3rd Marine Air Wing, seen in the cockpit of Osprey No. 22 before the General's familiarization flight on January 9. General Amos is only the second VIP to co-pilot an Osprey since the program's return to flight in May of 2002. In spite of less-than-optimum weather conditions, General Amos was able to put the V-22 through its paces in both airplane and helicopter modes of flight. Following the flight, the General gave the Integrated Test Team an overview of the lessons learned from Operation Iraqi Freedom and then thanked the ITT for their efforts toward getting the V-22 to the fleet.



Lt. Col. Kevin Gross, USMC, V-22 Integrated Test Team Government Flight Test Director, (left) and Maj. Gen. Jim Amos, USMC, Commanding General 3rd Marine Air Wing, pose for a photo before the general's familiarization flight.  
(Photo by Randy Teufel)



1903 **FIRST FLIGHT** 2003  
CENTENNIAL.



(Photos by Keith W. Wood)

## Marine Corps V-22 Osprey Visits Bell

A crowd of more than 500 Bell Helicopter employees in Fort Worth, TX, were on hand to welcome Aircraft #50 recently when it stopped for a visit on its way home to Marine Corps Air Station, New River, NC. The aircraft was officially delivered to the U.S. Marine Corps earlier in the day at Bell's V-22 Manufacturing Facility in Amarillo, TX.

Aircraft #50 is assigned to VMX-22, the USMC squadron with responsibility for conducting the important Operational Evaluation (OPEVAL) mission to test the V-22 in all types of military environments.

For many Bell employees who have worked on the V-22, this was their first experience to see the aircraft in flight

and called it an "eye-watering" event. Following an overnight stay, the aircraft departed the next morning after giving employees another thrill - a high-speed pass over the plant in airplane mode.



(Photos by Ben Cashion)

## Integrated Test Team Continues De-icing Testing

Osprey No. 24 launched from Naval Air Station Patuxent River on November 7 bound for the Canadian Forces base at Shearwater, near Halifax, Nova Scotia. The V-22 Integrated Test Team has sent a 67-person detachment to eastern Canada to continue the development of the Osprey's

de-ice and anti-ice system, known as the Master Ice Protection Control Unit. The Halifax area was selected for this phase of testing because of the characteristics of the ice that forms within clouds around the Maritimes. Osprey No. 24 will fly developmental tests out of Shearwater until late April 2004.



(Photo by Randy Teufel)

## V-22 Surpasses 1,000 Hour Mark

The V-22 recently surpassed 1,000-flight hours flown since the Osprey's return to flight in May '02. Osprey No. 24 got the program past the mark during an icing test flight over Nova Scotia, where a V-22 Integrated Test Team detachment is currently based for the first half of the icing portion of the test plan.

"It's fitting that this milestone was reached by Osprey No. 24 on our crucial icing detachment in Canada," said Col. Craig Olson, USAF, V-22 Joint Program Manager. "We've accomplished what we'd intended at this point since the return to flight, and that is truly a reflection of the teamwork between the program office and integrated test team."

"This milestone represents a year and a half of hard work, successful testing, and mishap-free flying," said

Kevin Morgan, V-22 Contractor Flight Test Director. "We've accomplished a lot over the last eighteen months. I couldn't be more proud of the folks at Pax, Edwards, and New River, and our industry partners at the sites. A lot of people came together to make this milestone happen."

Since the V-22 program's return to flight, the Osprey has gone through exhaustive developmental testing, highlighted by two at-sea periods and a battery of high rate of descent tests that clearly defined the airplane's robust operating envelope and led to Tom Macdonald, the chief corporate test pilot, receiving the Society of Experimental Test Pilot's prestigious Iven C. Kincheloe award.

Additionally, the program received important shows of confidence from Department of Defense leadership

during the two most recent defense acquisitions boards held at the Pentagon. In the coming months, the program will be focusing on other facets of developmental testing as well as supporting VMX-22, the tiltrotor test and evaluation squadron based at MCAS New River, North Carolina, as it prepares for the Osprey's operational evaluation next year and eventual fleet introduction of the aircraft.



(Photo by Noel Hepp)