

Osprey Readiness

Navy, Bell-Boeing tackle V-22 maintenance challenges through performance-based logistics

By DANIEL P. TAYLOR, Special Correspondent

Availability Rates

While the availability rate of the Osprey in the field has remained constant at just under 72 percent, the Marine Corps would like to see 75 percent across the board.

- The V-22's half-helicopter, half-airplane nature makes maintaining it in harsh conditions particularly vexing.
- Program personnel are in constant contact with maintainers in the field to stay abreast of any maintenance issues that need to be addressed.
- Availability and readiness remain a challenge that manufacturer Bell-Boeing and the government are beginning to tackle by partnering on "readiness initiatives."

The V-22 Osprey tiltrotor is no longer a newcomer in the field. It's been nearly three and a half years and numerous deployments since the controversial aircraft was first shipped off to Iraq aboard the amphibious assault ship *USS Wasp*.

Now, the question is how to keep the Osprey flying in the harsh, dusty environment of Afghanistan without having to absorb astronomical costs — and how to deal with availability rates that have stayed constant, but too low for Marine Corps standards.

"The capabilities rates are probably in the 70s," said Col. Greg Masiello, V-22 program manager. "If you look over the 18 months the V-22s worked in Iraq, they were just under 72 percent. ... That tells me we're pretty consistent. They've not missed a single mission or assignment out there, so it tells me the aircraft is ready when they need it."

U.S. Special Operations Command's Air Force CV-22s in the field have averaged almost 80 percent readiness in some deployments, he said.

"Those are all positive signs ... that a lot of the things we have addressed and talked about are starting

to take effect," Masiello said.

However, those high availability rates on deployed squadrons are due at least partly to the fact that they receive higher priority for available parts. The lower readiness numbers for the remaining aircraft in the fleet — which currently totals 131 V-22s — bring the figure into the low 70s, which is lower than what the Marine Corps wants it to be: about 75 percent across the board.

It's a challenge for a program that has to deal with dust and sand damaging components in the aircraft. All helicopters have to handle that challenge, but the V-22's half-helicopter, half-airplane nature makes it particu-

larly vexing. Masiello said the program is continuing to work on bringing the readiness numbers up, but it will take some time, calling it an "incremental improvement."

"Quite frankly, the deployed squadrons do get preferential treatment in the supply system, as you would expect," he said. "I would be happy if the entire fleet across the board ... had exactly the same numbers, which is what we are striving to. We definitely have a very concerted effort to continue to optimize readiness numbers and, at the same time, continue to have success in decreasing the operational costs.

"I think, right now, we've got a success story, and we're building on that capital we've gained," Masiello said.

A V-22 squadron currently is operating in Afghanistan, and the program already has sent numerous tiltrotors out on past deployments to Iraq and Afghanistan, as well as aboard ships as part of Marine Expeditionary Units. Masiello said the V-22 has had 14 overseas deployments.

The program keeps constant contact with maintainers in the field to stay abreast of any maintenance issues that need to be addressed either in the factory, through engineering changes or other methods.



U.S. MARINE CORPS

A Marine MV-22 Osprey lands Nov. 25 at Forward Operating Base Jackson in Sangin, Afghanistan, occupied by Marines with 3rd Battalion, 5th Marines, Afghan National Army Soldiers and Afghan Uniformed Police. Keeping the MV-22s flying in the harsh, dusty environment of Afghanistan, without having to absorb astronomical costs, presents significant challenges.

“We’ve got a pretty robust team on the logistics, the engineering side, the programmatics,” Masiello said.

The program and manufacturer Bell-Boeing maintain the aircraft through what is known as a performance-based logistics (PBL) approach. In a PBL-type deal, the Marines contract not for goods and services, but for the contractor to meet certain performance metrics for the platform. The idea is to incentivize the contractor to keep the aircraft flying with minimal maintenance.

“We’ve got a V-22 joint sustainment concept that covers a multitude of contractual vehicles and activities, including multiple PBLs,” Masiello said. “PBL itself is that sustainment strategy. It capitalizes on managing the supplier as opposed to the individual item, and the incentive structure is supposed to give the supplier [the incentive] to build inherent reliabilities into the product.”

He said the program also has had a “power-by-the-hour” — now referred to as “mission care” — PBL contract with engine manufacturer Rolls-Royce “since their inception,” so “we’ve got experience through the life of the program on PBL.”

Bell-Boeing was awarded a \$581 million contract for PBL work on both the Marine Corps and Air Force versions of the V-22 in January 2009, and a second contract for \$11 million in June 2009. Rolls-Royce was

awarded a \$75 million contract for V-22 logistics support of the engines for both versions in March.

Vern Lochausen, Bell-Boeing’s director of sustainment for V-22, said the objective of PBL is, among other things, “improved aircraft reliability, mission availability [and] aircraft maintainability.”

For example, over the course of the program, the Navy is going to run into problems it has not seen before and are not in the technical manual, so the service will have to reach out to Bell-Boeing and get an answer.

“The metric is, we have a goal of getting the maximum number of [answers] in the shortest period of time,” Lochausen said. “Getting the answer to the fleet maintainer since we’ve been on performance-based logistics, the majority of them they get less [in] than two hours, which means it’s in the same work shift. If you’re a guy on the flight line, you don’t want to sit around until the next shift to figure out how to go forward.”

To think about it in a different way, if Bell-Boeing is getting a lot of requests for answers, “maybe the tech manuals are not that good,” he said. “This airplane has been criticized for that in the past, but there are interactive tech manuals so, basically, when you go to maintain the airplane, there is a laptop that has troubleshooting procedures.”

Since the company has gone under PBL, Lochausen said, the volume of those requests has fallen by 50 percent since 2010, and 70 percent since 2009.

If the company determines something is missing or incorrect in the manual, “we immediately go to the tech manual guys and say, ‘OK, figure out if something is wrong with the manual or if this is a new one or if we need an update,’” he said. “Periodically, we do update the manuals.”

Bell-Boeing also will do engineering investigations if it comes across a problem where a component fails in a way that crews have never seen before.

“That is introduced into engineering shops,” Lochausen said. “The metric there is, if you have a problem, you don’t want to spend a lot of time figuring it out.”

He claimed Bell-Boeing has reduced the time it takes to do those engineering investigations by 40 percent under the PBL.

A key element to those metrics are award fees, he said.

“Meeting the goals get you certain award fees,” he said. “So you have the basic contract value plus that, so it’s a cost-plus-incentive-fee contract. Sitting down with the government asking how we define ‘good’ ... that’s how we came up with these metrics.”

Lochusen said he meets with site managers once a week and keeps in e-mail and phone contact with people “close to the tip of the spear” to find out what can be learned from Iraq and Afghanistan.

Availability and readiness remain that challenge the Navy and Bell-Boeing have yet to fully tackle, but Lochusen said the company is partnering with the government on some “readiness initiatives.”

“Last January, we kicked off with the government a readiness program,” he said. “We said we’re not getting there quick enough, we have to get there faster, so we wrote some readiness initiatives designed to attack component reliability and parts availability.

“In the long term, we’re looking at, now that we know the problems, let’s match the capacity of both the commercial repair facility and people building spares to demand in the fleet,” he said. ■



U.S. MARINE CORPS

U.S. Marine Cpl. Chris Hostettler, right, and Cpl. Frederick Ellis, with Marine Medium Tiltrotor Training Squadron 204, Marine Aircraft Group 26, perform maintenance on an MV-22 Osprey at Marine Corps Air Station Yuma, Ariz., Sept. 30.





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