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TESTIMONY

The Future of the MV-22 Osprey

Testimony Before the

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Committee on Oversight and Government Reform

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Introduction

Mr. Chairman, Congressman Issa, and distinguished members of the Committee, it is my personal honor to appear before you today to discuss the MV-22 Osprey.

I have been asked to elaborate on various issues related to the Osprey originally outlined in a paper we at CSBA published this past fall entitled "The US Marine Corps: Fleet Marine Forces for the 21st Century," a monograph in a series of reports written for CSBA's "Strategy for the Long Haul" project.

The point of the larger project, begun nearly two years ago, was to "inform and shape the next administration's defense strategy review"; that is to say, to highlight a range of defense and national security issues to be considered in the 2009 Quadrennial Defense Review by whichever administration was to assume office following the national elections in November, 2008.

This particular monograph on the Marine Corps examined the readiness of the Service to do its part in meeting a set of emerging security challenges we addressed in detail in a separate paper. These challenges include defeating strains of violent Islamist radicalism, hedging against the rise of a hostile or more openly confrontational China or other authoritarian capitalist state, and preparing for a world in which there are more nuclear-armed regional powers. In addition to these specified challenges and their related operating environments, there are also the "meat-and-potatoes" missions typically associated with Marine Corps deployments, such as: non-combatant evacuation operations, humanitarian assistance and disaster-relief missions, various security cooperation initiatives that focus on working with the military forces of other countries, and serving as a general force-in-readiness able to respond to pop-up crises along the world's littorals.

Within the paper, we described the current state of the Marine Corps, discussed what the Corps must be able to do to help meet these emerging challenges successfully, and briefly assessed the Service's program of record and related conceptual, organizational, and operational efforts as they pertain to, or would be impacted by, the aforementioned challenges and operational demands.

With specific reference to the MV-22 Osprey, we questioned the current Marine Corps plan to replace all of its medium-lift helicopters—the CH-46E Sea Knight and the CH-53D Sea Stallion—with the MV-22 and suggested that the Corps revisit this plan to see whether a mixed fleet of MV-22s and a replacement helicopter might be better. During the Osprey's long period of development, some twenty-five years or more, changes in the operational and threat environments, increasing budgetary pressures, and the various implications arising from the Service's own strategic and operational concepts suggest that a mixed medium-lift fleet composed of MV-22s and a new helicopter would provide more options and increased flexibility for the Service at less cost than a fleet composed only of MV-22s.

As already mentioned, the Osprey has been in development for over a quarter of a century at a cost of more than $20 billion. The Corps plans to acquire a total of 345 at a projected total cost of $42 billion, roughly $120 million each. Over the years, the aircraft has been the subject of controversy arising from engineering challenges and related development delays, a

few highly publicized crashes, and many funding debates. It has strong supporters and equally passionate critics, both sides claiming that it is either better or worse than conventional helicopter alternatives. Those favoring the program cite its speed, range, and altitude advantages over helicopters, characteristics that make it possible for Marine Corps forces to execute operations from increased distances. Those against the program cite its troubled developmental history and its high cost (relative to helicopters) and argue that less expensive helicopters can just as effectively support ship-to-shore movements, amphibious landing operations, and various amphibious assault missions without having to coordinate with aircraft of lesser capability—this last point deriving from the fact that standard escort or attack helicopters would not be able to keep pace with the Osprey.

The argument between advocates and critics of the Osprey appears to rest on a fundamental question: does the Marine Corps' commitment to field the MV-22 as its sole medium lift helicopter-like capability help or hinder its ability to perform anticipated missions at an acceptable cost, both in dollars and overall effectiveness in an operational environment? Or should the Corps pursue a much less expensive path that gives it the ability to effectively execute the missions it is most likely to encounter even if this means it would not have the ability to conduct missions at extreme range in as timely a manner? Of course, not having the more advanced capability provided by the MV-22 precludes undertaking missions that would require it.

This leads one to assess the various advantages and disadvantages, or pros and cons, associated with either an MV-22 pure fleet or a mixed fleet of MV-22s and helicopters. From an institutional perspective, the Corps would benefit from the efficiencies of adopting the MV-22 as the sole replacement for its aging fleet of transport helicopters. By eliminating both the CH-46E and CH-53D and fielding the MV-22, supply, maintenance, avionics, and ordnance support will be simplified. Efficiencies would also be obtained in the training and assignment of personnel. Additional efficiencies might be realized in operational employment planning, since operating forces would become accustomed to the specific performance characteristics of the MV-22 rather than having to account for a mixture of platforms. If a mixed fleet approach is adopted, the Service will have to maintain all of the infrastructure and supporting establishment needed to service two platforms vice one, while also retaining the dissimilar communities that operate and maintain the helicopter fleet.

In evaluating such options, however, institutional efficiencies should not be the sole determinant. Resource limitations and overall force effectiveness must be taken into account. The United States has a Marine Corps to accomplish military missions for which it is uniquely suited—i.e. projecting combat power from a seabase to objectives ashore. But the resources made available to the Service to do this, to include equipping its operating forces for such tasks, are not unlimited. Therefore, other factors should also weigh heavily in deciding the type of capabilities to pursue, and the mix (if any) among the various types. Certainly, operational relevance and effectiveness, in addition to resource availability, must be taken into account.

A sound strategy should reflect careful prioritization in the allocation of limited resources. This often demands balancing a variety of capabilities and operational demands such that one can meet the challenges of the most likely threats or operational requirements while

hedging against threats or operational requirements that are less likely to occur, but that are of high consequence when they do occur.

As discussed in our monograph, the Corps' current approach to conducting routine operations in the littorals, expanding and enhancing its presence aboard US Navy ships, developing more aggressively its long-term relationships with the military forces of key US allies and partners, and meeting the likely operational demands of an assortment of missions associated with the strategic challenges facing the United States would all be ably served by a helicopter fleet. To be sure, a case can certainly be made that the MV-22's speed and range would enable the Marine Corps to conduct raids, support widely dispersed units, and influence a much larger battle space than is currently possible with a helicopter force, especially in sustained operations ashore.

For operations that cover a very wide expanse of territory, assuming they can be procured in sufficient quantities, an MV-22 fleet would be valuable in supporting the movement, sustainment, and reinforcement of dispersed small units. It should be noted, however, that the advanced capability of the Osprey, its speed and range, would preclude use of escort support from the Marine Corps' helicopter gunship, the AH-1W (soon to be AH-1Z) Cobra. Accordingly, an MV-22 raid force, or distributed operations force, would need to be supported by conventional fixed-wing, fighter-attack aircraft.

But, again, any assessment of the MV-22 must take cost into account, especially in what is likely to be an increasingly constrained fiscal environment. Just because the MV-22 can fly relatively long distances and at a relatively high rate of speed, it does not automatically follow that the type of missions it can undertake and the mission objectives it can accomplish justify the substantially greater cost of acquiring the capability in the first place.

Moreover, an MV-22-transported raiding force cannot travel with heavy armor or substantial ground mobility systems. Yet, if U.S. operations in Iraq and Afghanistan, or Israeli operations in Southern Lebanon, have taught us anything, it is that today even irregular enemy forces are likely to be equipped with very effective improvised and state-produced weapons. However, a force delivered and supported by MV-22s, operating far from supporting fires, will be limited in its ability to move, shoot, and sustain itself once on the ground.

Furthermore, the proliferation of modern anti-air weapons and more lethal anti-personnel capabilities to irregular forces likely means that even in low-end conflicts MV-22s may be highly vulnerable to enemy action while in flight. When all these factors are taken into consideration, it appears that the mission to be accomplished by an MV-22 transported force would of necessity have to be limited, both in duration and scope. The unanswered question is: does having the ability to conduct such a limited mission set justify its high cost?

A brief comparison of the MV-22 with a modern helicopter (the UH-60 is but one example) finds the Osprey easily outpaces a helicopter in speed and range. But the MV-22 possesses a substantially larger footprint and is therefore more restricted than a helicopter in the number of places it can land, whether ashore or at sea. For example, the rotor spread of an MV-22 is 85 feet, while a CH-46E has a 51-foot spread and a UH-60 one of 53 feet. This

characteristic could be troublesome in heavily congested urban environments, complex terrain, or around ships not configured to handle an MV-22. There is anecdotal evidence that MV-22 pilots in Iraq were more sensitive than their helicopter counterparts when it came to aggressively inserting their aircraft into situations where congested terrain was a prominent feature. It is unclear whether this is due to an increased sensitivity on their part to the first-time deployment of the Osprey to a war zone and the impact a crash or combat loss might have on the program, or whether it arose from a genuine safety concern associated with having to operate in urban terrain with an aircraft possessing a 50 percent larger rotor spread than a standard helicopter. But it does indicate there are differences in important performance attributes between MV-22s and helicopters, and not all of them favor the Osprey. The current shipboard deployment of MV-22s with the 22nd Marine Expeditionary Unit, and plans for deploying the Osprey to Afghanistan in the next year, should provide additional insights into such issues.

We should also not forget that even though an Osprey possesses greater range and speed, when it gets to its destination, it must transition to vertical flight and land in or take-off from a landing site just like a helicopter. This means that an MV-22 will encounter the same threats a helicopter would when inserting, extracting, or providing support to forces. Advanced man-portable air defense missiles (MANPADs), rocket-propelled grenades, heavy machines, and/or small arms will remain a feature of the threat environment and will continue to improve in effectiveness irrespective of the MV-22's speed and range advantages. Whether an Osprey is more survivable than a helicopter when under fire remains to be seen. While the loss of any aircraft is regrettable, especially when aircrew and embarked passengers are involved, one cannot discount the fact that the loss of a $100 million dollar aircraft will be more keenly felt than that of a $20 million helicopter.

Though the Marine Corps has routinely packaged the MV-22 as one part of an amphibious force's ability to conduct operations from the sea to objectives deep inland, the very fact that the MV-22 can out-range any other system used by an embarked force, yet cannot enable a small ground force to fight in a highly contested environment, should be cause for careful reflection upon the limitations of the MV-22. It would be very useful to analyze the various missions the Corps has been involved in over the past two decades (while the MV-22 has been in development) and, even more importantly, the types of missions the Corps envisions conducting in the coming years, to include the types of threats that may be encountered, and how they will be overcome. One outcome of such a study might be a revised assessment of the Marine Corps' MV-22 requirement. For example, the Marines may very well determine that MV-22s are best utilized in a paired relationship with their KC-130 Hercules fleet and that Marine Corps units embarked aboard amphibious ships are best supported with helicopters. The Osprey's range and speed would be well-matched by the capabilities of the KC-130 cargo aircraft and the mix of helicopters maintained aboard ship might better match the range of missions most likely to be undertaken by an amphibious force. In those instances where MV-22s are needed, or where operational demands could be forecast with confidence, MV-22s could be sent forward and embarked aboard ship or provide support for extended land operations just as KC-130s are called forward as they are needed today.

Conclusion

In the end, of course, the issue of the MV-22's value must be viewed within the context of the often competing demands of desired operational attributes, the nature of expected operational and threat environments, our experience of how forces are actually employed to achieve their objectives, and the resources available to support the overall force. Achieving such a balance is not easy. It inevitably requires compromises that, when done properly, carefully weigh the costs and benefits of various alternatives. The MV-22 Osprey can certainly enable the Marine Corps to perform a variety of missions far more effectively than has been possible in the past, and to undertake missions it would not otherwise be able to perform. But this capability also comes at a steep price, both financially and in terms of the opportunity costs of absorbing a major slice of the Corps' modernization budget that may starve other badly needed modernization programs.

Mr. Chairman, with these issues serving as points of departure for further discussion, I would be happy to respond to any questions this Committee might have.