

***AIR, SPACE, AND CYBERSPACE POWER IN THE 21<sup>ST</sup> CENTURY***  
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**DAY TWO**

**SERVICE AND COMBATANT COMMAND PERSPECTIVES**  
**2:00 – 4:15 PM**

**Lt Gen George J. Trautman III, USMC**

**DR. CHARLES PERRY:** Ladies and gentlemen, can I ask you to come your seats. For those who are standing up could you perhaps come down and take a seat and get settled. Let me welcome you to the final session of this conference in which we will have the unique opportunity to hear from six of this country's most senior and experienced combatant commanders and service leaders. Together they represent virtually the full spectrum of today's major operational commands and strategic planning centers and including key, geographic combatant commands, key functional combatant commands and the top echelons of our military service headquarters. We are delighted to have you all with us.

In their various capacities moreover, each of our panelists today has a decisive role to play in designing, fielding, training, exercising and, unusually together deploying US military forces, including many of the aerospace capabilities we've been discussing for the last two days—to address the increasingly diverse range or regional and global security challenges of that United States and its allies and partners must now prepare for.

In performing these multiple tasks they have all acquired years of hands on experience in the areas of joint and combined force planning, capability assessment and global force management, conventional and irregular warfare—security cooperation and building partner capacity and civil military coordination, of course, to include what we've



You know, compared to the Air Force, the Navy and the Army, the Marine Corps is a relatively small organization. We have grown over the past two and a half years. We were 175,000 strong two and a half years ago. We had a plan that we would grow to 202,000 in five years. And we—I don't know where we find such great men and women but the retention and the recruiting pace that we were able to get at, we are at 203,000 today. So now our struggle is to stop and get back to 202K in just two and a half years.

Of the 202,000 about 45,000 of those men and women in the Marine Corps serve in Marine Aviation. We operate tactical aircraft numbering about 1,150. Seven hundred of those aircraft are rotary wing or tilt rotor and about 450 are fixed wing. About two-thirds of the Marine Corps force serve in deploying units. So we are very much a young force and we are very much a force that is operationally oriented.

About 66% of our officer corps are captains and below. And about 66% of our enlisted force is corporal and below, that is E4 and below for those who aren't familiar with our rank structure. So it's a young force and we deploy that force at a pretty rapid pace. About 60% of our enlisted Marines have deployed to OEF or OIF and about 75% of our officers have deployed to either OIF or OEF.

Now, just like the other services, the last eight years have been fairly stressful on the United States Marine Corps. We would like to get to the point where we can put Marines out in a deployed environment for about seven months, get them back for about 14 months. And we believe that we can sustain that force for as long as necessary.

Unfortunately, in Marine Aviation, we have some communities that have been on a pace for the last few years that exceeds that. Some communities are out for seven months, back for seven months. In many cases you can find individuals who have done that three, four even five times. It is sort of astounding that people are able to sustain that tempo in support of what our nation needs us to do. We're pretty proud of them, though.

And one of the reasons we wanted to grow, however is that we do want to drop back a little bit on the kinds of things that we are asking these young men and women to do.

Now, there is a golden opportunity staring us in the face here. I don't know if you know it but we're about to end, tomorrow, five-plus years of Marine forces in the Al Anbar province in Iraq. We will have the turnover ceremony tomorrow. We have topped out at about 29,000 Marines in Al Anbar over, in the past. And coming out of Al Anbar is a pretty big deal for us. We're fairly proud of the way we are coming out. It has been a success story from our perspective that required us to apply lessons we learned in Haiti in 1920 to bring us into a current scenario. It is things we learned in three-block war that General Krulak put together in the nineties.

But it will be good for us to turn our attention to our persistent deployment requirements and Afghanistan because it will give us a bit of a break from the stress that we've been under. The Afghanistan force, the Marine Corps will double the size of the complement in Afghanistan. We have already leaned in. We were the first forces to respond by plan to the President's call for a surge in Afghanistan.

Most of the Marine force is down in the Helmand province, a place where criminality and drugs and Taliban birthplace collide. There hadn't been much US presence down there in the past. And over the past year about 11,000 Marines have been down there and we are going to increase that size to about 20,000 in the next few months.

We also have several obligations, just as you do for global persistent presence. In our case, we deploy to Korea and Japan. But we also work with the Navy to keep Marine expeditionary units afloat, head to tail, three west coast, three east coast and one out of Japan. Currently down in Haiti we have two of those Marine expeditionary units serving. They are trying to do their best to augment the wonderful effort that General McNabb talked to you about with our Navy partners. We also have one in CENTCOM. We have one in PACOM.

For those of you who don't know a Marine expeditionary unit is about 2,200 Marines. They go to sea, built around an infantry battalion. The aviation combat element associated with that force, which may be of most interest to this audience, consists of six AV8B Harriers, a core of 10 V22s or CH46's, an HMLA, a Marine Light Attack Helicopter squadron detachment with Huey and Cobras, and a heavy lift squadron detachment with CH53s. And that force has the potential to operate across the range of military operations, well suited to contribute to an HADR event—such as Haiti today or do some other smaller scale things around the globe as they have been called upon to do time after time.

The Marine Corps is a light force. I mean we are essentially light infantry. One of our mottos is that every Marine is a rifleman and we mean it. We really do. We are willing to expend a lot of our forces to insure that there is seamless integration among all elements of the Marine Air Ground Taskforce. We need to because we depend on our aviation to provide the fire power and the maneuverability that that light force needs to accomplish its mission and to minimize risk in the face of a determined enemy, when and if we encounter someone who would do us harm.

It was interesting in the build up to last years' Navy, correction, Air Force / Marine Corps war fighter talks. As we did some analysis we found the Marine Corps was willing to, not willing, we do put about 12 times the numbers of aviation personnel with our ground combat element than the Air Force contributes to that same skill set. That doesn't make one service right or wrong but it does highlight the incredible importance that the Marine Corps places on insuring seamless integration among our aviation force and our ground force.

We're also an expeditionary force. Everyone has to be expeditionary today. And I think one of the beautiful things that has happened in the last 20 or so years is that all four services in SOCOM are more expeditionary than they have ever been before. One of the things that we try to do, though, is insure that we can take the Marine Corps to the

most austere environments imaginable. We consider expeditionary maybe on a tougher, not tougher but a more austere scale than, perhaps, some of the other services do.

That is one reason we need a young force, men and women out there doing that kind of work. It is really a young man's game. And they love it and we exploit that capability to our advantage. We are doing that in Helmand now, go down and scratch out a runway and build it out of AM2 matting and start operating and let the quality of life things catch up later. That is sort of the way that we chose to operate in. It tends to serve us well.

We are also a naval force. Our naval character is very important to us. We cherish our operational relationship with the United States Navy both in the amphibious and the carrier environments. We contribute aviation to the amphib world. We contribute our F-18 Hornets to the carrier world. And our partnership leads to goodness for our nation. We have a certain role to play in that regard. And we believe strongly in the power of naval expeditionary presence in an increasing anti-axis world.

And so we see that domain, the maritime domain, as a domain that the United States naval force can and should dominate. And we work very hard to make sure that we can do that. We are building and procuring quite a few different new type model series in the Marine Corps and during the Q and A we can burrow into any of those that you like.

I'm particularly proud to say with this audience, and happy to say how grateful I am for the three type model series that we are working on together. The KC130J is really an Air Force program that the Marine Corps has leveraged to our advantage. We've now been able to get our aged legacy C-130s out of the active force, 40-year old machines. And we have a full, active force of KC130J's. The Joint Strike Fighter – the Air Force is really leading that program. Our part of it is the VSTOL variant of the Joint Strike Fighter.

We are about to stand up our first Joint Strike Fighter squadron down in Eglin. They will be part of the 33<sup>rd</sup> Fighter Wing, commanded by an incredibly capable colonel that you

all put down there to command that organization. The integration and the seamless teamwork has been near perfect. And then, finally, the MV22—my partnership with General Worcester(?) is making sure that, the CV22 and the MV22 can perform and do the kinds of things, revolutionary things, really that no other platform in the history of mankind has been able to do—has been sound. And I'm very grateful for all of that.

I will give you one other example of the kinds of machines that Marine aviation is procuring, just as a means of maybe highlighting how we can be—we are a little bit different. That would be the light attack helicopter airplanes that we are procuring. We're actually upgrading our UH1 series. It's an airplane that is nothing like any Huey you ever heard of. It's a twin-engine T700, four bladed, very agile, very adept, very sophisticated cockpit, very multi-mission capable. Performance on about par with the UH60.

And so you might say, the UH60 is a great airplane. Why don't you just buy that? That's a great question. I love the UH60, as I know many of you do. But the beauty of what we've done with this program is that we are also building a replacement for our AH1 attack helicopters, called the AH1 Zulu, which is probably about a year down the road still. But the two machines are 84% identical. So the benefit that we get while on board ship, with regard to the kinds of peculiar support equipment, the kind of maintenance equipment that we have to take, the kinds of training challenges that we have—the seamless back and forth of both pilots and maintainers in both shipboard and in expeditionary environment, makes that airplane perfectly suited for us.

And, again, you might say, "Why don't you buy the Apache?" The Apache is a wonderful airplane. We would love to have it. But, on the other hand, these two airplanes are the right, two airplanes for us. And I think the fact that we are a light force, an expeditionary force in austere conditions and a naval force, is kind of what drives us to think that way, versus what maybe a more classically normal thought process might be in that regard.



**ADMIRAL GREENERT:** Sure.

**GENERAL TRAUTMAN:** The Marine Corps' view of electronic, airborne attack is that we are going to keep our Prowlers going until about the 2019 timeframe. We have four squadrons of five Prowlers and they are being used heavily in the current fight. And they need to be available for some unexpected future fight.

We see the future of airborne electronic attack, at least in the Marine Corps, being to leverage the inherent capability of the F35. But also key is the next generation jammer, OSD has wisely, I think, laid out that the next generation jammer will have as a threshold both the F18G and the F35. They've done that because it just makes sense to take advantage of the 3,000 3,500 F35s that will be in the battle space.

And so you may end up with a situation where you fly VLO F35s and then, when it make sense, and when threat drives you to this position that you would put next generation jammer on some of the F35s in the force. That is a potential path. But beyond that we see the expansion of UAS capabilities. And putting some of these systems on unmanned aerial systems in the next decade that heretofore had been mostly on manned systems.

So that is the path that we have taken. The Admiral can talk to the path that the Navy has taken, which is the Growler. The next general jammer, as long as it can be a multi-platform system, I think we are going to be in very good shape as we wait for the unmanned aerial system to evolve as we hope they will.

We have a couple of things that we are doing, a JCTD called *corporal*, where we are getting our nose wet with regard to unmanned systems in the electronic support, electronic warfare area. And also, we are very excited about software reprogrammable payloads, which also will have a role to play in the unmanned environment.

**ADMIRAL GREENERT:** I think George summarized it pretty well. I think if I were to put it in a category, we've got to go digital, just as the ISR radar, you know, did with the electronic scan, what that did for us versus a moving scan, if you will, moving parts. So I think it needs to be digital, and expanded in the frequency spectrum to be broader. Also it's about pods, not hard mount in the future. So you can go to UAVs if you need to. You can go to prop. You can go to helo I guess.

And it has to be agile enough, if you will, to be used for IW, irregular warfare, and perhaps MCO. Again, that could involve change in the frequency spectrum, the amplitude, whatever. So it's more about mobility and transferability I think in the future. And you got to be able to share it. So there is an international dimension, probably.

**DR. PERRY:** Another question?

**BRIAN GREEN:** Brian Green with Systems Planning and Analysis. Hybrid warfare is a term that has gotten some attention recently in town. I know that the Secretary has used it and it was used several times earlier in the conference. The term of choice among the panelists is still irregular warfare. And I was wondering if I could solicit from the panelists if they have any views about whether there is a difference between the two terms, hybrid warfare and irregular warfare? And if so, what the difference is and whether they think hybrid warfare is a term or concept that has any legs to it.

**DR. PERRY:** Who wants to take the first cut at that? General McNabb?

**GENERAL MCNABB:** I will just tell you that to me we are just going to have to be very flexible on the systems that we have that can move all these different ways. Again, the warfighter is going to say, "Sometimes I'm going to need this. Sometimes I'm going to need that", and we are going to have to have multipurpose platforms that we can swing as we need to in support of the warfighters.

And that is across the board. That is every service. And you can see it where we've had those systems and we have been able to adjust them very well. And we have to be

thinking that way that you can—and really, hybrid warfare requires that kind of flexibility. Because we don't have the money to have systems for everything. We have to have a system that supports the concept that the war fighting commander will say, "This is what I need to do to win." And we've got to be flexible enough to deal with that.

**PANELIST:** Brian, I might just add that I think this construct captures a bit of a strategic struggle that is going on in the defining what adversaries might do in the future. I think it clearly acknowledges that you can't discount a conventional, more conventional kind of enemy and a threat. But increasingly, you see actors growing in a spectrum that grows from theater security cooperation through terrorism to countering space threats, countering cyber threats—and an enemy, if you will, that is agile among all of those domains.

So I think this term hybrid warfare is an attempt to try to capture that it is not just irregular. It is not just conventional. It is really a spectrum in between. And we have to be organized, trained and equipped to operate across that spectrum. You know, the war colleges will muse on this some more I'm certain. But I think that is where the Secretary is trying to come up with a way to not limit us but to force us to adapt across a very broad series of operations.

**GEN Fridovich:** I would like to jump on that one a little bit. It is going to be talked about for a long, long time. And it is going to, I guess, remain still to be defined completely. Probably never will get there completely. If you think in terms of ...(inaudible) in that they know how to politically empower but not avail themselves of the target. Below the line they have got everything they need to project power. They've got everything they need to politically, you know, help run a government or be part of a government and be recognized legitimately. Yet, they still can do things globally with a wide variety of tactical operational, even strategic outcomes engineered with a chain of command.

That might be one of those places to point to and say, "That is truly a hybrid enemy that understands political power, understands not gaining too much where you become an

absolute target and then can be disenfranchised from that political power. And they know right where those operations design lines are and stay beneath those. Thinking about that as the higher end of a hybrid enemy, then there are other, lesser I suppose, cases out there that know a little bit about that but haven't crossed over.

Or you might look from an Israeli perspective. Hamas helped themselves to cross over. And as soon as they do, they become the governance. They avail themselves of the target, especially when they start applying some of their weapons technology outside and breaking the red lines that the Israelis might have.

So when you start thinking about it in those notions, and look and understand globally where there are linkages between those players, then we can start saying, if we understand that part of it, now how do we engineer ourselves to be able to counter that, if that is at all possible. This gets you into alacrity, flexibility but probably more than anything else a very deep understanding of the operational and strategic environment that they are using against you and getting into your decision cycle.

Which is one of the things that I failed to mention, one of the strategic notions of a SOCOM is not to be reactive. It's to finally get out there and be pro-active and think about where are the opportunities in the globe that we need to get to, where a small investment might have huge dividends in the future—and start mapping the future that way instead of always reacting to things, trying to get out ahead of that. And I think that is really where our next steps are going to be for the next year or two at a minimum if not longer.

But that does start getting back to the notion of the hybrid. Does that come close to answering?

**GEN Trautman:** I think we are on a slippery slope when we try to characterize warfare with stark terms. We better be ready as warriors to flex between various types of things that we will encounter in the battle space. You may think that you are on occupation

duty in Lebanon or the Gaza for years. And you may, indeed, be there. But then, the next thing you need to do is figure out how to integrate fire and maneuver rapidly, and operationalized intelligence—and respond in a wholly different way from the way that the force has been used in the previous months.

Same thing in Iraq. You may be in a COIN environment in Al Anbar and find out you have a very tough urban fight in Fallujah. It is the nature of warfare that you need to be able to flex among the various options that the enemy chooses to place you in.

So I sort of like the term hybrid warfare. I don't know why none of the panelists said it. In my mind, and I think in most of the Marines' mind, a fair description, an apt description of what the future holds for us.

**DR. PERRY:** General Edgington, did you want to weigh in on this at all?

**GENERAL EDGINGTON:** I guess I probably need to because General Mattis is one of those who has kind of embraced the hybrid concept. And when he was first reading about it and was just starting to embrace it, it was the Hezbollah, as General Fridovich points out, using RPGs in the second Lebanon war—that a traditional, terrorist enemy is having modern weapons. And so where is the line being drawn?

Getting back to the question, specifically, it dawns on me that we are a society of labels. We need to label something and define it. And there is certainly purpose in that. But as soon as we do, we create the opportunity for seams. And so I think hybrid is probably the best word in the English language to define that. We just have to put aside the boxing, the container-izing of exactly defining what this type of warfare is—and realize, especially in light of the cyber world that we are going into now, and the potential of where we can get challenged—that warfare can encompass just about anything that we have thought about and probably some things that we haven't thought about.

So let's continue to be open to define the fact that war is not uniformed militaries across the Maginot Line fighting it out like what we had studied in school. It has evolved. But I would tell you that probably in World War I there were flag officers discussing something of this nature of, "Hey! This is a new way of warfare. What is this?" And trying to work on a label for it at that time, too. So I would just resist trying to fully define it and get the concept of the fact that warfare can include just about anything.

**DR. PERRY:** Does anyone have one, last, burning question? This gentleman right here. And then we will close it there.

Japan Self-Defense Force Officer: I have a question with regard to missile defense. Admiral Greenert, you touched on the missile defense capability somehow. Do you have somehow a joint doctrine or concept of operation to respond to ballistic missile and cruise missiles simultaneously?

**ADMIRAL GREENERT:** We don't now. I mean we have a concept. If we had what we wanted for radar fire control, but you are talking about a ballistic missile launch simultaneous with a cruise missile launch. I think that is what you said. If you are talking about the same vessel, then that is part of what we would look toward a future radar for, a multi-volume, if you will, radar, multi-level radar. But we do have that concept within the sea base if you will and defense therein.

So, in other words, the concept of operations among several platforms is there today, but we don't have a platform right now today that does both simultaneously.

**DR. PERRY:** General Renuart.

**GENERAL RENUART:** I might just add, Jon, there is a joint, integrated air and missile defense construct that is being circulated through the services for final approval. And it is designed to acknowledge that you could have air or ballistic or cruise missile threats near simultaneously. What it attempts to define, and we've been involved with PACOM

and the Navy and others in developing this concept, is that it depends upon a system of sensors that allows you to look for both and can capture and characterize and assess, especially low altitude, high speed, low visibility targets, like a cruise missile.

So we are pursuing this forward in the area of homeland defense. But it also has significant impact for deployed forces forward. And I think we still have a little work to do. And there are not yet sensors that allows us to be highly confident that we can capture all of those pieces simultaneously. There are pieces and parts and we are working through that.

**DR. PERRY:** Well, it only remains for me to thank you all for being with us and giving us your time and the benefit of your vast knowledge, and it was vast. I appreciate it very much. This is the end of the session and we will now have closing remarks by Dr. Pfaltzgraff and General Schwartz. (END OF SESSION)