

042517 Missile Defense Advocacy Alliance (MDAA) Capitol Hill Briefing with Major General Glenn Bramhall, Commanding General, 263<sup>rd</sup> Army Air and Missile Defense Command; Retired Lieutenant General David Halverson, Former Assistant Chief of Staff for Installation Management; and Riki Ellison, CEO of MDAA, on “Air Defense for the U.S. Army and Europe.”

MR. RIKI ELLISON: Hi, everybody, thanks for joining us today. I'm Riki Ellison. I'm the founder and CEO of the Missile Defense Advocacy Alliance. We've been around since 2001. I've been around as long as Brian Reed (ph) has, all the way back to 1980 with President Reagan.

We're here today, and I know the focus of the world right now is on North Korea. It's pretty satisfying to know that we have capability that's in play today that we've invested in, we've tested and is working in terms of creating stability in that situation today. Every one of our territories, every one of our states, Japan and as soon as THAAD becomes operational, which is pretty close to becoming operational over there, the population of 500 million people will have a defense and deterrent on that.

But the other side of the world is what we're going to focus on, because the other side of the world has gaps in capability and capacity on air defense. As we look at missile defense, our Army missile defense in Patriots, we've wrapped it into our boost missile defense, and eventually took -- you know, we have 15 battalions of it. But back in the day, we had 15-16 short-range missile defense battalions attached with each one of our divisions. Today, we have a tremendous gap of not having air defense capability for our military forces in Europe.

Europe has seen the Ukraine crisis, as you know. A lot of you have read the Potomac paper that Russia has demonstrated a use of UAS and use of UAVs to take out tank battalions very quickly. And Russia has taken advantage of our lack of investment in air defense over the past decade and has got an advantage in the air on the use of force.

So we've been over to Europe several times this year. We've been exposed to it. We've been over in Crete for the testing the last two years. We've watched probably 150 missiles being fired for both air and missile defense. We've helped bring this issue to bear with our forces over there and our allies over there.

We're very fortunate today to have a couple of experts here that can talk to this issue.. It's important because if we cannot protect our maneuvering forces we don't have a deterrent. That is probably the number one thing we're trying to do. We've got, I think, three combat brigade teams in Europe. One comes over and is transient and the other two are permanent. But that's a critical piece for us to come up with a capability that's effective to do it.

This past Friday we down-selected -- the Army's has addressed this issue. We had an open competition with the best solutions to be able to protect the maneuvering

force. Last Friday they down-selected 10 or 12 different solutions that were put forward on the table. In October we're going to be able to see which is the best solution, and they're going to make a decision on that. We would love to see it project less than three years from now when we have stability in the field. So that's something that's really -- the PEO office over in Alabama is going to have to be efficient and has to be able to move forward as quick as possible.

I believe today General Milley has addressed the situation by putting forward our Avenger and Stinger capability as a solution with what we've got now. But that solution obviously is an old 1970s type solution that has some limits on its capabilities. So there is a sense of urgency to be able to get this solution fixed and get this solution into the field as quick as we can to do that.

We're fortunate because the National Guard, when the U.S. Army moved away from its air defense capability in SHORAD, gave most of it to the National Guard. The U.S. has only two battalions, the 55 out of Fort Lewis (ph) that supports the Korean mission over there at Humphrey, and then we have the one, the 82<sup>nd</sup> Airborne, and that's all the U.S. Army has. So they are reliant on our National Guard who has the mission for the Capitol Region. The National Guard has the mission of defending the homeland. So this is a big, big priority for the National Guard moving on.

It also, I think, is a win-win for us, but we have to also enable our allies, our NATO allies, to help resource it, help with manning it, and so forth because we can't do this alone. I think you're going to see some big things that are happening. I think you're going to see for the first time ever an integrated exercise in July out in Romania, and it may be our first opportunity to have a synchronized, integrated air and missile defense with 22 of our NATO allies in play with that.

We've also got to remember that not just the shooter is important. The sensors are very important to be able to take everything out. And we have to be able to be integrated to be able to talk with other systems from other countries to get a clear picture on that. We know that NATO has (command posts ?) that have to be protected, as well as our three combat brigade teams that are over there.

One more little thing, we've been focused on forward operating base protection, so we've been developing technologies and so forth for point defense forward operations. We've been developing our Patriot and THAAD systems for area defenses. There hasn't been that development or investment in maneuvering force capabilities. We still have to have a capability for ballistic missile defense and forward operating bases for logistical support for refueling areas and so forth; again collectively, to make our deterrent better than it is today and be able to stabilize situations that are not going to be stabilized if one side has more capability than the other side in terms of air superiority. So I think we've got some great solutions coming forward.

I'd like to introduce our first speaker, Major General Glenn Bramhall. We've been together in a lot of places, especially Israel. I've been with him and seen him lead.

He is the leader of the 363<sup>rd</sup> National Guard. They are in charge of the air defense for the National Capital Region, and he is in charge of moving in Avengers and supporting the European theater and so forth there. He's an expert at this field.

MR. GLENN BRAMHALL: Thank you, Riki. When I talk about air defense I like to start off with a statement that actually came out at the end of World War II. It really defines how our business should be conducted in the future. At the end of World War II we dominated the airspace. We dominated the airspace over the European theater and over the Pacific theater.

General Karl Spatts (ph) was an Air Force guy. Think about what he's saying. He's saying that from the point of the victor, and also from the point of the defeated, but it's also something that we need to be aware of and also keep at the forefront for the future too.

He said, "if you don't dominate the sky and airspace above you, be prepared to be buried in the earth beneath you." Dominate the sky or be defeated. And if you look at the history of air defense, especially within the U.S. military, we've always had domination. Sometimes it really didn't start off with that, but then usually because of technology we would find solutions to it.

Going back through the Korean War, of course, it didn't start off very well. Then towards the end, with the help of the Air Force and the help of the AAA systems, again we dominated the airspace.

Early in Vietnam we ran into issues because the North Vietnamese learned that if I dominate my airspace then I'm able to defeat the air forces above us. So when they developed their missile systems around Hanoi, they used what Karl Spatts said. If I don't dominate a space then I can't win. They learned to countermeasure other people's ability to dominate.

During the Israeli wars they learned this trick. They learned how to do it. When the Egyptians introduced the SAMs into the airspace, all of a sudden the Israeli air force had a very serious problem, something they never had to worry about in the past. But they learned the countermeasures to defeat what the Egyptians were trying to do, which was to dominate the airspace.

So if you look at where we are today, you really see the last two wars we've had in Iraq and Afghanistan have really -- we've concentrated more on the Air Force dominating the airspace, because the Air Force did not have anyone that could challenge them. So I think it's time for the U.S. to really look at how they enable the ground force. They look at, how do we do a search in both these theaters? When they looked at a surge in theaters, they looked at what forces are not being utilized. And, of course, if the airspace is dominated, then really your air defenders are being used for convoys, for security.

So the Army made a decision, right or wrong, to take 14,000 air defenders and turn them into a surge force. They pulled this force out of SHORAD, which would be short range, because missile defense wasn't there, it wasn't needed. When they looked at it in the last '80s and early '90s when the Soviets were still a power, we needed these forces in Europe because the force was a deterrent against frontal aviation and against Soviet forces.

But when the wall came down, guess what? We did not have a peer. We did not have a near-peer. So senior leadership said, right or wrong, that because of this event that we would never have a near-peer. And because of the domination of our Air Force, guess what? We only need certain weapons systems.

So SHORAD pretty much took the blunt of a successful Air Force and no near-peer. So 14,000 soldiers were taken and turned into armor and into other forces that were needed in those two theaters.

So along come the Russians in Ukraine. If you've had a chance to look at the Potomac study, you can see what happened to the Ukrainian forces against the Russians. The Ukrainians were not able to defend their airspace.

The Russians were using very successful UASs and long-range artillery. They dominated the Ukrainian airspace. And in the Potomac study, and this is something General Hodges brought to the senior leadership, studying the pictures and pictures of burned out Ukrainian vehicles, the bottom line was that the airspace was dominated by somebody else.

The very last slide, and one that they used when I was over in Israel, said "Coming to a theater near you." So this is an event that could happen if you don't learn what General Spatts told us to do. You've got to dominate your airspace. You've got to command the airspace above your soldiers.

In Europe right now we're running into this same issue and guess what? We have a near-peer. We have the Russians. And the Russians have never, ever gone away, they just decided to take a step back, rebuild force, look at how they do their techniques and procedures, and they came out very strong.

So with General Hodges, we had to come up with a solution. How do we get the force back there? What is the force that is needed? I was at a senior leader meeting with the vice chief of the Army and he came out with a simple question. He said, "Whatever happened to our SHORAD force and where is it now?"

Of course, senior leaders, the way they are, they come up with this holistic approach. Holistically, this is what we're doing. To me, I hate to say it, but if you've ever seen the movie "Shawshank Redemption" they ask Red, do you feel you've been rehabilitated? He said, "I don't know the meaning of that word."

Well to me, holistic is a word you put out there when you have no answer. It's a War College phrase. It's a holistic approach. My God, he's holistic. So there is no answer.

The only capability we have for SHORAD -- right now the purpose of SHORAD as assigned to the National Capital is an enabler for the ground force. It allows the ground force, controls the airspace, and defeats the enemy over our ground forces, to allow a maneuver force to do what maneuver forces aim to. So right now there are seven battalions of SHORAD, and it's all within the National Guard.

We do rotations through the NCR and we do rotations in Europe. We are right now getting a battery ready as part of a brigade piece to go over there to provide a SHORAD force for a maneuver force. But it has been a long time coming.

If you look at air defense, air defense really is a triad. You have your short-range, your medium-range and then your long-range. You have THAAD, Patriot and SHORAD.

If you take away one of those legs of the stool, you have a stool that cannot stand. It's really SHORAD that protects your other assets. It protects your logistics. It protects your THAAD systems. And pretty much, it protects your Patriot systems too.

But right now we only have seven battalions, and we're working on solutions. I had the privilege of being at Ramstein back in December at the International Fires (ph) Conference. The speaker at the conference was the Italian general of the Ukrainian rocket and artillery force.

He came up with something that he thought was just totally different and new. He said, you know what? We have changed the way we do business. Now we maneuver all the time and we are able to maybe shoot one or two (salvos ?) but we move, and we move and we move.

There was a French colonel next to him and he said, whatever happened to mass? We're supposed to mass artillery. I turned to him and I said, we found out real quick that if I stop to mass, if I don't dominate my skies, I die.

So this concept of moving is not new. It is something they do because it's survivability for them. So thanks to General Milley and people like General Hodges, we are now seeing the (recurrence ?) of why we need SHORAD back in the force. There is a big push to get this back because they know that it is part of a needed capability so if we ever get in trouble in Europe we are able to protect our maneuver force so our maneuver forces can engage and destroy the enemy. If not, on our epitaph, it's going to be the words of General Spatts, if you don't dominate your airspace, be prepared to be buried in the earth below it.

MR. ELLISON: Thank you, Glenn. Our next speaker is retired Lieutenant

General Dave Halverson. Dave has been a great friend and a great advocate. He was the head of the Fire Center, the Artillery School and the Air Defense School, when they started to merge that concept together to have both offense and defense together. He went on to be the Deputy Commander of TRADOC, so he's been ahead of the game here on where this gap has been. He ended his career as the installation commander for all U.S. Army bases around the world.

GEN. DAVE HALVERSON: Thanks. First of all, it's great to be here with Riki and Glenn. I appreciate the invite. Glenn, it's good to see you again, as always.

We've been slugging this thing out for a few years and I think it's really important to kind of put it into a strategic context, as Glenn kind of said, because there is no reason why we just gave away SHORAD, right? Why would you do that?

A lot of us grew up in Germany during the Cold War. Battery Command -- I had nuclear weapons back then as a young artilleryman and I understood the responsibility that we had. But the strategic context like Glenn laid out, it just started (at the end of the Cold War ?) as you said as a risk that everyone took. The bottom line, though, is I was the chief of plans that sent down the (911 plan ?). So when you talk about writing two (XO's ?), I understand what the joint and combined effects of what you have to do. You understand the role of air supremacy and air superiority at all levels, and it's very true.

The fact that we had in 2003 air supremacy. General Goldfein declared that in Iraq. But at the beginning of that, trust me, General Goldfein was not too excited about pushing a lot of stuff in there until we defeated the Iraqi's IADs, just like Glenn said. He had to create the dominance of airspace to allow them to maneuver the force. So it was a very unique aspect, just like he was saying, of how do you do that?

The challenge of that, just like you said, since about May of 2003 we've had air supremacy. When you have air supremacy, then when budgetary things take off, guess what happens? The Army had to be decreased.

So there are no evil people here, it's just the realities. What do I need and how do we deal with this as we look for other enablers? So I think what we really have to understand is to put it into historical context and then how do we fix it, how do we turn?

So when you talk to General Goldfein and stuff like that, when he was at ACC and we used to have discussions, he would sit there and go, we've really got to stretch our folks because we need to be creative as we sit there and fight through the IS (ph). I'm limiting capability with airpower to be able to understand what they need to do when they do all their air exercises and stuff -- understand the complexity of what the enemy can do to that.

We've heard now the three "Rs" that General Milley always talks about. The Russian threat, just like Glenn highlighted, is a reality. They invested in a few great places.

One was electronic warfare, right, which is very huge. So if you ever think that you're going to be able to (radio ?) with people understanding what's going on, they're going to be able to do things. As stated, they're going to be able to have capabilities to be able to understand.

They've invested in long-range fighters and things. So we're outgunned. They're into that 70 kilometer with much longer-range fires. And just like what Glenn said, the study that folks have done referencing the effect of the Ukraine war and what happened in a few short hours, the starkness and meaning of it. That's the gap.

The SHORAD force, when the budget for the Army dropped from \$250 billion a year in 2001 to \$125 billion now, guess what? It's hard for people to understand because it's just the cost. But that risk now is something they didn't have to (contest with ?), and I think that's really where Glenn and I are coming from.

It's going to take time and we're going to do it, but what everyone is telling us right now in Europe is, we've got to do something now. So just like before, you go into battle just the way you are, not as what you want to be, and you have to be prepared. So we have to come up with solutions to fix this conundrum, this dilemma that they have.

It is fixable, because this is not a U.S. issue. I think we have more combat brigades in Europe than the Germans do, right, from a capability perspective and what they have to do. So therefore, this is a collective issue and what we have to do is deal with near-peer competitors, people that actually have true capability to threaten our way of life.

There are certain people that did not give up tactical nukes. There are certain people that did not because they (might have to fight ?) These folks have the means to threaten our way of life. That's the start of how do we fix this thing?

From an Army perspective I think this operational environment now -- and Glenn, what you were talking about is really important. We're really working hard. I'm the deputy and an adviser with Brian McKearn (ph) in the (Fighter Center ?) and how do we sit there and try to think through these issues?

The first is we've got to say we've got a problem and how do we fix it? I think we're on this path. Glenn and I were talking just before we got here and I said, I remember you sitting there and told me about so many Soviet battalions.

He kept on saying, how do you do it cheaper and quicker? He goes, well sir, we're the National Guard. We're among the five -- I need headquarters to be able to synchronize the effects that we have. It's just not the units themselves, it's also headquarters that allow us the capability to do planning, to do things.

So I think the three things we have to look at on how we're going to try to fix this

thing and where we have to go is, one, institutionally. When I talk about institutions, that's obviously at the Fire Centers. So how do you recruit for air defense, how do you train folks in (skill sets ?) that they have not?

We understand it because we used to have SHORAD. I remember a time when we used to have Red Eye present in our formations that we would sit there and integrate with our capabilities. My first roommate was a Red Eye (crew leader ?). Then we went to battalions and then we went to a (army capability ?).

So what I'm saying is those folks, i.e. General Milley -- remember, he was a brigade commander in 2004, so he's been in this environment. So institutionally we have a whole set of warfighters that have to be able to understand a layered defense, just like what Glenn said, from the national stuff at MDA to the operational aspects of Patriot into the SHORAD aspect, protects echelons. We've always had air defense as a layered approach. It gives us this capability.

When you deploy a THAAD you'd better protect it with a Patriot or guess what? You may have a bad day. If I'm the enemy, guess what I'm looking for? I'm looking for a THAAD system.

So I think institutionally we're really going to have to invest in the Fire Center to ensure that from a leader development perspective and from a doctrinal perspective and from other things, we get it right. So you enroll the people that then understand the effects and the complexities it takes for air and missile defense, and it takes for air defense and artillery to be fully (covered ?).

MR. ELLISON: Would you look at putting missile defense back into lorries? Would you put them back into the corps? Are you going to --

GEN. HALVERSON: I think the Fire Centers will work up the operational concepts. They're looking at four things. One, they're looking at the brigade level, at the division level, the operational and the corps level. Each one has a certain opportunity that you have to be able to do.

But what is emerging, clearly, from the doctrinal leg to the fire concept that Brian and them have done, you have to have electronic warfare, you have to have IO, you have to have fires to be effective against what the enemy is going to do to you. So those four (relations ?) have to set but you're going to see formations as it moves forward. Institutionally, the Fire Centers have started investing in and starting to flesh out exactly what it is. Their course of action is to find the right mix to the senior leaders to make sure they get it right.

So as you well know, the SHORAD issue is an issue of -- the Patriot force has always been at the echelon and above. So the echelon and above issue is always very important. I'm not talking about (5-0 ?) issues, but it's the reality that we have to do that and it's the Fire Centers that can bring all that together to make sure we have the

capability that we do need.

The second thing is I think with a force like that we're going to have to exercise the missileers that can do it. I'm telling you, the Air Force is not going to give us free rein when they have sorties out there just so the budget folks certify on Stinger missiles or other things. They're going to require a little bit more confidence that the environment is right, and I think they should.

So I think we're going to have to work through all this stuff to make sure we've got the trained people at the level of responsibility with the command and control so they can understand it, and then properly work this in a combined arms team. I think those are really what's important because each capability that you bring to the war fight, it's not only the strength of America, right? It's the strength of what we are from a joint warfighting perspective and a combined arms Army perspective.

Right now we're at the razor's edge, be it Air Force, Navy, Army, Marines, in terms of capability, and we need everyone to do that. That's why I think between us that diversity is going to be very important to protection. We're going to have to do things quickly now. Institutionally we're going to have to do this. It is not going to be an easy investment.

It's going to take long term. This isn't going to turn over night. This is going to have to be a long-term investment to be able to move this forward from the intermediate, short-term, to a mid-term, to a longer-term approach of what we need from a sensor perspective, to a maneuverable SHORAD capability back in the formations so we can protect.

Institutionally also, as Riki mentioned, it's just not the U.S.'s decision. We have to be part of a broader international community. This is where we get into NATO setting up their own center of excellence and how they deal with this issue of air and missile defense and SHORAD.

What they do have in Europe is they have a lot of other capabilities that we need to leverage. So we need for them to be a part of this and to create centers of excellence there, to assist them and their allies, just like we've done with other allies, is going to be very important. So we have a dialogue, we have training so they can grow their folks.

I was at the ceremony where Germany did their transformation on their forces within their missile defense. It's going to be important for us to re-establish those institutional means to be working together so we can leverage all the players in the European community. They do have capabilities, but now how do you integrate that capability? That's going to be very important.

As you know, a life insurance policy (requires a premium ?) and we've been doing a lot of heavy lifting there. It needs to be a part of them so they have skin in the game, as they call it in football, to be a part of the solutions and get the authorities and

get the responsibilities so they can actually protect the ports of entry and all those types of things institutionally that we used to do back in the old days when we were in Germany.

Where are those exercises now that we used to do before? Where are those exercises where you have to deal with threats? What are those key things we need to do to be able to protect when we don't have freedom of access, or to be a deterrent, to what's facing you? It's very, very important.

For capabilities, and I think Glenn kind of highlighted it, there is no BMD medium fix that they have to do: train people, be certified on the approach to what they want to do with the starers and other capabilities. They're going to have to do that from a capabilities perspective.

Riki kind of talked about the ICPIC (ph) program. It's still in the program. They have the capabilities. We're going to be out to adapt that because that's a layered approach -- (inaudible) -- it has to be adaptive, but it is going to be something where, in today's thinking, to the senior leaders, maneuvering is how you stay alive. If you stay stationary you're setting yourself up. So how do you sit there, maneuver, have the freedom and things to be able to survive?

It's going to be a mixture of lethal and non-lethal. You want something that's (as light as a jeep ?). I know I'm getting old here. People buy jeeps now, but guess what? We had gold tarps on those jeeps, right?

What it taught me is that in the missile business we need protection against fast movers, helicopters, Hinds, and stuff. How are we going to shoot those down? You have to have training ranges, all those types of stuff to be able to defeat.

It's everyone's responsibility to be the eyes, the ears, the everything, to have an integrated air and missile defense SHORAD capability. That's what you learn, and we're going to have to do the same thing, for both lethal and non-lethal means, to have that capability. It could be multipurpose because trust me, some of the best gunners we had to be able to shoot down something was the old guns we had on the air defenders, high penetrating, high speed, that could be used on soft targets, as we used to call it in the Cold War. It was very important and I think those are the means that we have to make sure we bring into the SHORAD force, where they have common operating pictures, they have confidence of what's going on, and then they have both lethal and non-lethal means to ensure that they have either a local or a longer effect of that protection that we're doing.

I think that capability always leads into -- you're hearing a lot of pressure on NATO and stuff to get up their investments and look at themselves. Europe also needs to modernize and be a part of that process. They have to be committed to modernization or, as Glenn would say, they're going to have to deal with the consequences, which is the worst thing.

So from an institutional side, what do we do at the school house and how do we apply it and train our leaders and certify that our people are trained and ready? And that's not just on the AVA (ph) side, it's also with maneuvers, understanding what their capabilities are at that level. Then on the capabilities side, how we monitor both the near-term and into the far-term, is going to be very, very important.

The last thing is going to be organizational change. We're going to have to take on organization. In today's environment, it's not going to be where we're going to grow a bunch of headquarters. We're going to grow capability and the chief is -- the number one thing that the chief wants fixed -- trust me, there is going to be organizational structure added into this, because the chief knows that they're taking too much risk.

(Inaudible) -- de-competed and we'll have to see what goes on in 2024 and stuff like that, but the chances are that they're going to grow this capability and we're going to have to lean back because, as the Army grows, as we increase conventional capabilities, it's going to be important for us to have this stuff. All the impressions I've had is that the Army is very focused on ensuring that they have the means and the organizational things set. So you'll see that not only from the division fires command, to the fires battalion, to the operational and corps level. You're going to see this fusion of capabilities which will have electronic warfare, we'll have cyber, we'll have all these types of offensive and defensive (venues ?) so that the capability, just like the Russians deal with the strike force capability they provide to the enablers to what's going on. That's going to be really important.

I think -- (inaudible) -- even in Europe. What is that right structure? We've been struggling with the WMDC (ph) and their being a colonel and how do we highlight that to a higher level to be a general officer flag, and then how do we bring the allies in to meet it. It could be very, very vital to us to make sure we have the right leadership at all levels, so therefore we can bring the effects of their missile defense and the SHORAD capability that had been lost.

It is going to be a market that needs the best and brightest to try to solve to ensure that we don't put our soldiers at-risk. The challenge the chief has, and the challenge our country has is that it's time. General Hodges can say how we need 39,000, right? Who has heard him say that? Raise your hand.

If I'm a Russian general, I honestly know one thing, 30,000 is 30,000 and I have interior lines and I'm pretty happy. So I think -- (inaudible) -- just like North Korea. When you're sitting there and you've got the interior line and you have the means and the capability, now it's a strategic chess game of when I want to do it.

So time is the most important thing that we're trying to deal with, to build the capacity, to maintain the capability, so we can have a viable option in the reassurance and deterrence aspect there in the European theater. So I think it's an exciting time because this capability, we're going to need the best and the brightest to be able to surge in all

three lines of effort that I talked about: the organizational, the institutional and the capability lines, all of them. And it's going to need the collective efforts of our coalition and our total force capability if we're going to be successful.

That's all I have.

MR. ELLISON: Thanks, Dave. I'm going to open it up. I'm going to start off with the first question. From my perspective I think there are three major obstacles, and it's not funding. I think that's common. It's not permission that's common.

The first one, and I had a chance to hear Todd Walters, who is the new commander who all countries report to, but he's saying we're in the junior varsity right now in our air defense capability. Going forward, we have to have C2 command, because he's not going to let anything go forward no matter how good it is. So how do we best (stress the metal?), how do we get everybody comfortable at the AOC level and the Air Force, that you've got this thing down?

The second thing is, when's the last time we actually exercised SHORAD with a maneuvering force anywhere? When's the last time we actually put everything together to fight together and demonstrate that, including airpower? So not just SHORAD, but the whole ball of wax, when does that come in and how long have we not done that?

The third challenge is our acquisition. We're challenged with getting things out in the field, and we don't have that time, as Dave said. How are we going to increase our capability in the field quicker than what it looks like is going to be three, four, five years from now to fill this gap?

Those are three things. If you can comment on those three then we'll just open it up to everybody else?

MR. BRAMHALL: The point about the Air Force really is, as far as it comes to air defense, your Air Force commanders, your three-stars but also your area air defense commanders. I worked with three area defense commanders in NORTHCOM, 1<sup>st</sup> Air Force, General Williams, the Canadian Air Division and then the 11<sup>th</sup> Air Force up in Alaska. So I am their deputy because I handle the ground component of the overall air defense.

When you talk about the 3<sup>rd</sup> Air Force in Europe, right now there is a push to funnel entry guys into air defense. It is a stopgap, because right now we need air defenders. So we're going to train these guys to do what an air defender has learned over the time he's started his craft and increased his knowledge about his craft, over five weeks.

So the problem that I would have, if I was an Air Force commander, the problem I would have if I'm an Army aviator, is do I want to fly over an area where I have people that may not be trained as far as (their limitations?). Do they have the ability to use

sensors? And who is going to command and control the systems on the ground?

I think right now we are looking at a lot of young kids who they're willing to scare the hell out of by telling us that we don't own the airspace. So if I hand a 23 year old private a weapons system that now he can command the airspace, how do I control that soldier? This is one of the issues we're going to have because we have lost generations of trained air defenders working with men in the force.

Our battalion commanders and our brigade commanders have not ever worked with SHORAD. So how do we integrate these enablers back into the force? How do we get them out of the mentality that I fight for a day and I go back and sleep behind the ESCO (ph)?

How do we increase -- (inaudible) -- how do we integrate our air defenders? It's not just the air defenders, but it's our FA units adding to this maneuver piece. We're trying to work out some NTCs, national training centers. Right now the national training centers have been, over the last 15 years, have never had to work with air defense. So the skills that these people have, these young captains, they just don't have anymore. We're still using the old threat sets. It's task force angel with the use of helicopters. It's the Hinds, it's (frontal aviation ?). So how do we integrate people who have never worked before and people who never had to identify what a threat is?

And I agree with part of what the CSA (ph) wants to do. It's a stopgap. I've got to get a weapons system out there. I've got to gain the confidence.

But what it is, it's really not training these guys as air defenders, it's really a competence in the fact that I can -- I've developed a system that I can to help (me enable air defense ?). That's why we've come up with in the National Guard, when we deploy a battalion to the DCNCR (ph), to the national capital, it doesn't take a whole battalion. So what we are looking at is along with that battalion that we will deploy a battery here to work with the DC team.

To me the main focus of that battery is to instill confidence into the leadership of the brigade and battalion so they can learn and to be taught how to use air defense, how to use air defense to allow them freedom to maneuver. That's what we're there for. We are an enabler of freedom of maneuver.

So if we can provide a standoff from Russian invasion, Russian frontal aviation, Russian UASs, we can allow that freedom of maneuver. It's not just something that, as Dave Halverson says, something that we're going to be able to teach within a year or two. There's a lot of institutional knowledge that we have lost.

I have lieutenants from the National Guard who go out to the schools and come back more trained on Patriot than SHORAD. That's one thing that Randy Macintyre (ph) is re-looking at, how we train soldiers. We need to get back into the dirt. We need to go back into how we work with RE3 (ph) and our armor to provide them the air protection.

To me, arming (11 Bravos ?) -- I'll tell you a quick story. When I was a lieutenant they gave us an air defense unit that was a Red Eye session. I was out at the NTC. I was in the 24<sup>th</sup> Division and we'd see these captains coming out of a ready battalion, and actually -- (inaudible) -- I always scratched my head about.

But he asked me, he says, what's with these guys? What does an air defend unit do for us? I said, sir, I just came out of Fort Benning and we put them on high terrain and they provide this umbrella over our force. He said, good, find a nice hill and put them on that hill.

So two and a half weeks into the operation he says, what ever happened to those air defenders? I said, sir, they're still back on that hill providing air defense. It's because we weren't trained on how to use air defense, and that's how the Army is right now.

So it's that institutional knowledge that we need. The other part is how we work the branches together, not working separate. It's hard for these guys to get together at a national training event. It's how we start forming these relationships.

I'll say something that I shouldn't say, but I am not a fan of -- (inaudible). I believe that units need to have associations. I don't like to be thrown with a unit that I haven't worked with. I don't like to show up, as General Halverson (ph) would say, on the 20 yard line with a new kicker or a new quarterback. That doesn't work for me. We need to integrate these forces and work together so we are an Army of one.

Acquisition, we are working on acquisition. We're working on how to increase the lethality of our systems right now. We've had some successful testing of a (proximity fuse ?), which increases the capability of our Avengers to be able to go after UASs and other types of systems.

I think pretty soon we're going to be testing new missiles. There's going to be a missile shoot-off to see what missiles we need. What do we really need? What capabilities do we need? What's the requirement? We have a requirement, now we just need to (fill it ?).

That gets us into fielding. What do we field? I think we need to get away from fixed -- from defending from fixed platforms. We cannot fight how we fought the last two wars.

I don't think the Russians are going to allow us to set up Hescubs (ph) and do the Afghan thing where I unload the truck, go out and fight for a day, then I come back for a hot meal. We shouldn't operate like that. We've got to change the mindset and go back into a fluid battlefield, go back into the old AirLand Battle. How do I fight?

I think once we change the way we feel about fighting, then we can take a look at these enablers, the offensive fires and defensive fires. Then we'll have an integrated

force that the Russians will say, damn, I'm not going to mess with those guys. I might have long-range precision, but these guys know how to protect their forces on the field. So I don't want to lose people testing the American Army. That's where we need to be.

MR. ELLISON: Well said. We'll open it up for questions.

MR. : I'm not sure this is a question, but I'm hearing General Bramhall and General Halverson and you, Riki, it's like the story of my life, like I'm with the people that someone left in some mountain and I grew up there. (Inaudible) -- go to a centralized weapons system, let's call it. We are talking about different interceptors, different types, different communications capabilities, command and control, sensors, something that in those days we operated, the Red Eye, the Vulcan.

Today we are looking at the SHORAD system. I think that we have a lot of assets, a lot of things that we can adapt and we should adapt. But now, kind of the next question, what is the threat that you'd like to deal with, that we should deal with?

I would like to raise maybe we should adopt some definition of the Navy. (Deterrence ?) should be a close-in weapons system. As General Brown said, we should protect our forces, our soldiers.

So maybe the mission should be not to deal with the platforms, but to deal with the mission. I put in the same category the UAV and the UAS. These are the systems that we should look at, not to do platforms for long-range weapons systems for aircraft. We should create some umbrella that gives a last ditch protection to soldiers.

But then, I think General Halverson presented, and also General Bramhall, how we train, maintain these forces, in the meantime between wars. Really, if you are looking at a weapon, why the SHORAD system disappear? And I look at the Israeli air defense, what happened? We did not know what to do with these forces between three wars. We don't know how to train them.

Once you have a situation where a SHORAD system gets to fire, between wars, it's not so simple. It's very difficult, more than to sit in command and control, to decide what to fire. Now you have to identify, and this is the issue, how to train these soldiers, how to pick these soldiers, how to maintain them? This is the enemy of SHORAD because really, unlike tanks that can fire, against what?

(Inaudible) -- so these are the challenges. (Inaudible).

MR. HALVERSON: I do think from us we see the evolving threats. So the capabilities from the operating concepts I think are now moving towards this threat base. Obviously Russia is highlighted, along with other players, but I do think -- (inaudible) -- all these things have to be inculcated into their abilities.

The natural tendency, like you said, is that you won't train them. And it is

expensive so we're going to have to look at means of -- (inaudible) -- immerse them in the environment, and restart it, just like we do with -- (inaudible) -- we have to create systems. (Inaudible) -- so like you're saying, it's very, very important because a lot of -- (inaudible) -- take on the air-to-air threat before the -- (inaudible) -- the difference between strategic bombing and close air support. (Inaudible).

It takes time because what you want to be able to do is respect the capability, and I think merging it into -- (inaudible). So we're going to have to continue to dialogue it. It's very important, along with the whole combined arms theme. (Inaudible) -- this is one we have to do, so we're going to have to -- (inaudible) -- we're going to have to press the acquisition side and facilitate a total force. It's a combined solution set that we're going to have to work through -- (inaudible) .

MR. BRAMHALL: I think that's one of the things we have to push. (Inaudible).

MS. : Is there a timeline on the SHORAD batteries right now?

MR. : SHORAD to Europe?

MS. : Yes, here.

MR. : I think we're looking at getting a SHORAD unit probably in the spring of '18.

MS. : Thank you.

MR. : I want to piggyback a little bit on the prior question. The historical example, obviously, is World War II we're defending against aircraft. And we talk about Avengers and Stingers that are aircraft oriented sort of systems, but as you look at the modern battlefield -- and you alluded to this in your description of Russia's use of UAVs -- you get off into this sort of seamless aircraft, long-range UAVs to short-range drones to swarms to rockets, artillery and mortars.

Now you're sort of getting out of SHORAD, you're into something else, but it sort of gets back to the notion of close-in weapons system versus longer-range things. So if you can talk a little bit more about that much more complicated threat environment and how that affects the range of organizational and material solutions, I think that would be helpful.

MR. HALVERSON: I would just say, coming from my TRADOC days, the most important thing you have to do is maneuver. Warfare is all about time and space, right? You can't protect everything, that's why you always have to prioritize. You have to be able to integrate. You have to be able to do that.

So I would say you have to be able to do that. You have to have a maneuverable force because you're going to have to give that commander a capability to be able to

provide -- (inaudible). It's going to be a time and space issue that gives you then that capability.

So how much time do you need at that company level, or at time level into the brigade level? Those are the capabilities the brigade commander will need / division commander, and those enablers (that he'll need ?). So I think that's what we're looking for.

How do I take something down that could be used for one thing to give me a good air picture, and the second time it could be whatever spectrum they're operating on stops working? All these types of capabilities are going to be important for us to ensure that we can facilitate that. The capabilities on there -- and I think what we need to be able to do is define that.

MR. BRAMHALL: Dave, I think one of the problems is we try to find one solution for everything. So we spend a lot of money trying to develop a system that can handle a spectrum of capabilities. When you start doing that, it's like you get something that really cannot, because the capabilities that our adversaries have is always going to change.

So one thing that needs to be done is the way we do procurement. It gets into (license ?) procurement. We have an adversary who has a capability. So we start working -- okay that's the capability, those are my requirements. So I need to build a capability to defeat his capability. And of course we have to go to industry and allow this thing we call the (procurement ?) process.

So if you give me something that I needed for capabilities, for requirements 10 years ago, that you're fielding today, it has changed. It's an antiquated system. So what we need to look at is -- and the problem is it's expensive stuff. If I want to shoot down a drone that a kid can buy in a hobby store, I don't want to launch a million dollar missile against it. So we need to look at the economics of battle and the economics of war.

So what else is out there? If we get to not just everything being an enabler, when we look at how we use single assets, how we use our intelligence assets, are there ways that we would capture this thing or use non-lethal, instead of always trying to put a bullet on something?

But if you ask me, how do I do air defense as far as UAVs in the capital, it's like I really don't because it's really not my job. It belongs to a member of law enforcement, so we work with agencies. It's all inter-agency.

When we get into Europe, it's working with other nations. What capabilities do they have? When we were in Slovakia, I was amazed to see SA-6s and SA-10s maneuvering and providing air space coverage working with Patriot and working with Avenger. They were coming back with an integrated air picture, so it can be done. It might not be the technology that we're using today. It might be technology that they

used 15 to 20 years ago.

But there is a way of integrating old systems into a complex system. A lot of countries, the Hungarians, the Lithuanians, have the old systems and really can't afford to go out and buy Patriots or buy a THAAD. And we don't have the ability to give them Patriot or THAAD. So we need to work with what they have and integrate it.

I'll tell you what, my hat is off to General Ikoff (ph) in the 10<sup>th</sup>. She has done yeoman's work integrating systems. When you go there and you can observe an exercise with multiple nations and an integrated air picture, with the radars and sensors all seeing one thing, and you have one track on that, to me that's science that is using old technology.

But it gets back into innovation. Canaris coined a phrase that innovation is the confluence of critical and creative thinking. That's what it is.

It's not always getting the big brain out there to figure this thing out. It's getting respect for the warrant officer and saying, here's the problem, give me a solution. They'll come up with a solution. It might be using stuff that was used 15 to 20 years ago. But there are ways of doing it.

We don't have to spend the national treasure we have, the money we have, to hit a \$2,000 target with a (Raytheon ?) missile. There are other ways of doing it, and that's what we need to do.