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ARMY AND MARINE CORPS FORCE PROTECTION PROGRAMS

JOINT HEARING

BEFORE THE

AIR AND LAND FORCES SUBCOMMITTEE

MEETING JOINTLY WITH

SEAPOWER AND EXPEDITIONARY FORCES SUBCOMMITTEE

OF THE

COMMITTEE ON ARMED SERVICES

HOUSE OF REPRESENTATIVES
ONE HUNDRED ELEVENTH CONGRESS

FIRST SESSION

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ARMY AND MARINE CORPS FORCE PROTECTION PROGRAMS

HOUSE OF REPRESENTATIVES, COMMITTEE ON ARMED SERVICES, AIR AND LAND FORCES SUBCOMMITTEE, MEETING JOINTLY WITH SEAPOWER AND EXPEDITIONARY FORCES SUBCOMMITTEE, *Washington, DC, Wednesday, February 4, 2009.*

The subcommittee met, pursuant to call, at 3:00 p.m., in room 2118, Rayburn House Office Building, Hon. Neil Abercrombie (chairman of the subcommittee) presiding.

OPENING STATEMENT OF HON. NEIL ABERCROMBIE, A REPRESENTATIVE FROM HAWAII, CHAIRMAN, AIR AND LAND FORCES SUBCOMMITTEE

Mr. ABERCROMBIE. Hello, everybody. Thank you so much for your patience. We were a little bit too optimistic in terms of the classified briefing that we were going through up until now, and it necessitated us being a bit longer to come here than we intended.

And again, I want to emphasize our appreciation, Mr. Taylor and myself and the members.

We are coming to order for our first subcommittee meeting of this session of the Congress. We are holding a joint hearing on the Army and Marine Force Force Protection Programs.

We are joined, of course, with the Seapower and Expeditionary Forces Subcommittee under Mr. Taylor, to receive testimony today on force protection programs from witnesses representing the Army and the Marine Corps.

If members will look at the witness list, there is an extensive number of witnesses, but we are going to have singular speakers. And some of the witnesses are there to provide perspective, observations, backup, et cetera, and to answer questions or comment on observations of the members.

In addition, should there be questions or observations which need commentary arising, we have the Deputy Director of the Live Fire Test and Evaluation and Deputy Inspector General for Auditing, as it proves appropriate and useful.

For the Army, may I ask just who is going to be speaking for the Army? Will it be Major General Lennox?

General LENNOX. It is, sir.

The CHAIRMAN. And for the Marine Corps, it will be Major General Brogan, right?

General BROGAN. Sir, I am still a Brigadier General, but yes.

The CHAIRMAN. I beg your pardon, it is Brigadier General. Well, we can change that. I am engaged in sympathetic magic, General.

The testimony then, obviously, will include the status and effectiveness of force protection equipment, both in Iraq and looking—you can look forward or project forward to Afghanistan or elsewhere, if you wish, as well—with particular focus on tactical vehicle and personnel body armor initiatives.

I want to say, for those who are new members, that this committee—this subcommittee and its counterpart, and Mr. Taylor and Mr. Bartlett—in terms of my personal experience, has been in the forefront of providing necessary nonpartisan—we don't use the word "bipartisan" in our committee, we use "nonpartisan." We don't believe that questions of life and death and the national strategic interests where the armed service is concerned is a question of partisanship in any respect—the full spectrum of force protection matters.

For a number of years, members have been aggressively urging the Pentagon to be more proactive in fielding Counter Improvised Explosive Device (IED) systems, better personal body armor, better helmets, add-on armor to tactical vehicles; and adding intelligence in this respect as well—intelligence, surveillance and reconnaissance systems (ISR)—to Iraq and Afghanistan. And we have had the added advantage of having the Chair of the Intelligence Committee serving on Armed Services, as well, in Mr. Reyes.

I go through some of this preliminarily for the witnesses, not because you don't know any of these things, but because the public at large, of course, is viewing and listening and hopefully understanding what is going on; and we are trying to provide a perspective, and also one for new members, as I said.

Too often the Pentagon's and the military services' discussions and promises of transformation in joint programs have not necessarily been met because of what I would call "grinding bureaucracy" and failure to overcome individual service cultures. I do believe that that is a difficulty that—in other words, there has been some partisanship on the part of the Pentagon, I think, maybe even more so than there has been in the political arena, in the electoral political arena, and that needs to be overcome.

So today's hearing will continue our efforts to assure that our personnel—and I say our personnel, not the military's personnel, those people serving in the interests of the United States of America—have the very best equipment possible.

We are told that equipment deemed operationally suitable in Iraq may not be operationally suitable in Afghanistan. The operational environment in Afghanistan differs from that of Iraq in very significant ways, including a less-developed transportation infrastructure, higher and more rugged terrain. This places greater demands on personnel and equipment; it requires modification with regard to tactics, techniques, procedures to address specific threats; and it requires continuing oversight by the Armed Services Committee.

We ask that the witnesses provide testimony on what they see as the unique equipment requirements of Afghanistan and how they are addressing those equipment requirements in a timely way and how we can be helpful in that regard.

We hope to not replicate previous delays in getting proper equipment fielded for our personnel, and we don't want to go through

what we did go through previously in terms of having to have hearings in order to expedite or to bring focus to these questions.

Regarding the Mine Resistant Ambush Protected (MRAP) Vehicles, commonly known as MRAPs—again, Mine Resistant Ambush Protected Vehicles—$24 billion has been authorized and appropriated for these vehicles. Over 15,000 vehicles have been produced in just under 2 years, with approximately 10,000 MRAP vehicles being fielded in Iraq and 2,000 currently in Afghanistan.

These vehicles have saved lives and may save more, and are considered to be the most survivable vehicle class in theater. However, these MRAP vehicles are heavy and they are wide, and they have been altered in various and sundry ways and come in various versions. Operational feedback from theater has indicated a need for a lighter weight, smaller and narrower version, if possible, of the MRAP, especially for Afghanistan.

My mother used to say, if wishes were horses, we would all be riding. So we know what we are looking for. Whether that is possible, whether we need to bend laws of physics—which my good friend, Mr. Bartlett, would say is impossible and will no doubt comment on it if he thinks that is the case—we want to make sure that we are not trying to say we can do something we can't do. We don't want to mislead anyone.

At the same time, the MRAP vehicle requirement in Afghanistan continues to increase, we are told. The word we have now is that the requirement is for at least 2,900 vehicles. This is before any changes which may occur in the strategic environment, let alone the political environment, that will unfold in the weeks and months to come.

We are also very concerned and have the advantage again of having the Readiness Chairman with us as well, where we are dealing with spare parts, distribution, rollover accidents, repair, maintenance depot questions with regard to the vehicles and personnel.

We understand that there is a program now to field a lighter MRAP variant. We don't want to fall into something where we are going to be told, as we have with other programs, everything is on schedule and on budget. If it is not on schedule and it is not on budget, or it is not on schedule because we are not able to do what we hoped we could do, we need to be told what we need to know.

We expect to receive updates on this program today and on a continuing basis so that we can better understand the acquisition strategy, the fielding plan, and what we can do to be helpful.

With regard to soldier equipment, recent media reports have indicated that in Afghanistan soldiers routinely carry loads from 130 to 150 pounds for a 3-day mission. We have previously received testimony that personnel can wear only so much armor beyond which their operational effectiveness is inhibited, which, in turn, increases their risk of being injured.

We expect to receive updates and efforts to lighten the load of soldier and marine without sacrificing their safety. For our purposes today, we are not talking about whether it makes tactical sense to even have military personnel operating in that kind of environment under those kinds of circumstances; we won't explore that today, but that is a policy issue when we may be expecting something to occur because we want a political outcome, and we

are asking military personnel to effect that outcome perhaps in ways that are not appropriate. But that will be the subject taken up in other venues.

Finally, despite the fact that the committee has received continued assurances of body armor systems effectiveness from the Department of Defense (DOD) and the military services over the past several years in hearings, briefings and personal conversations, body armor effectiveness continues to be an issue, which I am sure is no news to anybody who is going to be testifying today.

Most recently, the Department of Defense Inspector General (DOD IG)—and when I say "recently," I am talking January of this year—report stated that if standardized procedures for body armor were consistently followed by the Army, three-plate designs procured under one contract would have failed first article testing, affecting 16,000 sets of body armor plates. I bring that up again because that is out there, people know that, members may be aware of it.

I understand, as well, it depends on how you start defining things and what criteria you use and what protocols were in place, and I am sure that will be gone into.

But I bring it up because this is the kind of thing that becomes part of the conversation that takes place, and we have to answer for that on the committee. The DOD IG, the inspector general, recommended that the Army remove the body armor plates in question from the inventory. We need to address that.

The Office of the Director of Operational Test and Evaluation, the DOT&E, the Department of Defense's testing expert, reviewed the three tests and disagreed with the DOD IG. So the DOT&E concluded that the plates met the contract performance specifications, although agreed that there were significant issues in the Army's testing documentation process and scoring analysis.

Again, I bring this to the attention of the public at large and to the members because this is the kind of thing that we have to then resolve when it comes to putting a defense bill together; and we want to make the right decision, because decisions that this subcommittee makes and the committee as a whole makes are life-and-death issues. And I know that you are as vitally concerned about that as we are and take it as soberly and as seriously as we do.

And so I am going to take it that the testing and evaluation branch and the inspector general branch are both operating on the basis of professional competence and commitment and determination to persevere in that regard. So it puts us in a dilemma, and we need your professional observations and commentary.

We understand the Secretary of the Army has requested the Deputy Secretary of Defense to adjudicate the issue. I am not sure that is the right way to go. I am not interested in adjudication, we are interested in what do we need to do in terms of policy that we put into the defense bill that is going to advance the interests of the personnel involved.

In the interim, the Secretary has issued a precautionary order to identify, collect and return the plates in question while the matter is being adjudicated. I am not sure that that advances what this committee's work is going to be.

I regret having to go into such detail about this, but we have a lot of new members, and the public is not necessarily aware of all these things; and I want you to know what is on our plate right now.

Why the Office of the Secretary of Defense (OSD) authorized the release of the Inspector General's report with its own testing director disagreeing with its own inspector general is not known to me, but many things are not known to me in the Pentagon. I realize there are no politics involved in the Army or the Marine Corps, so this may be an obscure corner for you. Perhaps politics of some kind was involved in that, but we can't allow that to affect our decisions.

Given the critical importance of the issue, we would like to see prompt action taken to resolve this body armor testing issue. That is the reason I am bringing it to your attention today; we want to have answers.

What direction should we go? None of the members on this subcommittee, let alone the committee as a whole, is going to do any of this testing. We are totally and completely reliant upon your professional understanding of what is required for military personnel as translated or transposed into the defense bill. And then we have to make that recommendation to Mr. Skelton and the committee as a whole and then on to the appropriators. So we are counting on you to have this issue resolved.

The number of body armor plates in question comprises a very small percentage of the total number of the plates procured, about two percent, but the implication is the Army is not fully testing plates and allowing them to go into the hands of our soldiers. So the whole program gets brought into question, even though it may not be entirely the case.

Because of continued concern with the Army development testing process for body armor, the committee has taken action to have the Government Accountability Office (GAO) review and evaluate the body armor first article test. The GAO has this under way.

The IG has also made recommendations regarding standardizing body armor, which I hope that you will address, and we expect to receive an update on these provisions.

We are told, finally, that there is not a single fatality in Iraq or Afghanistan due to the failure of the currently fielded body armor plate to defeat the small arm threats it was designed to stop.

I want to repeat that. We are told there is not a single fatality at this point in either of those two immediate fields of military endeavor. Our goal must be to maintain that record and to provide our military personnel with the best body armor and force protection equipment available. That is the duty and obligation of this subcommittee, first and foremost, to the committee as a whole, and to the Congress and the people of this country.

So troops and their families must have continued confidence in the body armor being provided to our personnel. And the hearing today is to be the first practical step in seeing that task completed.

Again, I apologize for taking so long to do that. I ordinarily don't have such a long opening statement, but the issues involved are so volatile, they have such public attention being focused on them at

the moment—not necessarily fully informed—that I felt it was required of me to do that.

And with that, I am going to turn to Mr. Taylor for any remarks that he would like to make at this juncture.

Mr. TAYLOR. Mr. Chairman, with your permission, I would like to submit a very well written statement for the record.

The CHAIRMAN. Without objection.

STATEMENT OF HON. GENE TAYLOR, A REPRESENTATIVE FROM MISSISSIPPI, CHAIRMAN, SEAPOWER AND EXPEDITIONARY FORCES SUBCOMMITTEE

Mr. TAYLOR. Mr. Chairman, I want to thank our acquisition folks for being here today. I think that the purpose of this is not just to educate a couple of Congressmen, but to let the moms and dads and loved ones of the people in uniform know what the military is doing and what this Congress is doing to minimize American casualties as we pursue the wars in Iraq and Afghanistan.

I think everyone on this committee was very frustrated with the attitude taken under the previous Secretary of Defense (SECDEF). That attitude, summed up in my line, was that casualties were acceptable, and that we were so busy worrying about the next war that we were not responding quickly enough to the war we were fighting; and hence, the foot-dragging that took place, first on body armor, on getting a jammer on every vehicle, on up-armoring High Mobility Multi-Purpose Wheeled Vehicles (HMMWVs). It should not have been up to the individual trooper to go to a junk yard in Iraq in order to up-armor his HMMWV. We, as a Nation, should have been taking the steps.

Although I don't see him in the audience, I want to thank again publicly Colonel Jim Littig, United States Army (USA), Retired, for being the first person to actually come up to me and say there is a better way to protect a vehicle from an underbody explosion, it is called a mine-resistant, ambush-protected, V-bottom vehicle. The South Africans figured it out, the Israelis figured it out, the Japanese figured it out. It is regrettable that it took the United States Army as long as it did to figure it out.

I also want to remind people that these hearings have a purpose. Two years ago right now, the United States of America had less than 500 mine-resistant vehicles. Right now, we have over 13,000 in theater. I want to commend General Brogan of the United States Marine Corps for the outstanding job he has done in, first, developing that vehicle, fielding that vehicle when needed, flying those vehicles to theater, and finally, producing enough vehicles to where we can send them shiploads out of town to theater.

General, I wanted to let you know that in December I met a Lieutenant General Helmick, who tells me that the vehicle he was in was attacked by an 800-pound vehicle-borne IED, and he lived to tell me about this, walked away from that explosion.

I want to let you know that the Mississippi Guard unit I visited in December, every route clearance mission they run is in ambush-protected vehicles, mine-resistant vehicles. I met another colonel who will not let his troops leave the wire unless they are in mine-resistant vehicles. Your work is saving lives every day.

It took longer than any of us would want to; none of us like the idea of going to five suppliers, using three different engines and all the other different parts that you had to do in order to get them fielded in a hurry. But I want to commend you and all of your team for the work that you did. You are saving lives every day.

The purpose for hearings like this is to identify other needs, and on the part of Congress to fund and on the part of your acquisition boards to build the things that we need to save the lives of troops. We also need to know, in the case of MRAPs, what sort of logistical problems we have created, as we have—I mentioned three different engines, approximately 30 different varieties of vehicles. What do we as a Congress need to do to help you simplify that process and make sure that the troops are getting what they need?

Lastly, General, I would hope we could touch on it, for the many years I have been fortunate enough to serve on this committee we have heard the Army, in particular, say, "We train as we fight." We know in the case of MRAPs you did the right thing in fielding those MRAPs as they came off the production line, getting them to theater as soon as they came off the line—in many instances, flying them there, later on, sending them there by ship. I would hope that as that need is filled in theater, that there is a plan in place to get those vehicles to our training installations so that the first time our troops see an MRAP is not in theater, but at that training installation, and that they have adequate time to train on them before they get to theater.

For whatever reason, I do read the casualty reports. And every time I see a noncombat-related injury listed in those casualty reports, I have got to wonder, was it an MRAP rollover by someone who wasn't properly trained to operate that vehicle in a tough environment, and is someone dying needlessly because we haven't gotten the vehicles to the training installations? So I would very much like to hear from you what is being done to get them to the training installations in a timely manner.

And again, I want to commend all of you for the job you have done. And I hope I told General Helmick your name in particular, General. If I didn't, I hope he will get a copy of this transcript and know that your work resulted in the saving of his life and the lives of lots of sailors, soldiers, airmen and marines on a daily basis in Iraq and Afghanistan. And I want to thank you publicly for the work you have done.

[The prepared statement of Mr. Taylor can be found in the Appendix on page 45.]

Mr. ABERCROMBIE. Thank you. As I indicated, we are nonpartisan in this subcommittee and in the committee as a whole. Gene and I have the pleasure, the honor and the delight of having two close friends and colleagues serving now as ranking members as we served as ranking members previously, in Mr. Bartlett and Mr. Akin. And I will go to them now for their remarks, Mr. Bartlett first, followed by Mr. Akin.

STATEMENT OF HON. ROSCOE G. BARTLETT, A REPRESENTATIVE FROM MARYLAND, RANKING MEMBER, AIR AND LAND FORCES SUBCOMMITTEE

Mr. BARTLETT. Thank you, Mr. Chairman.

Mr. Chairman, I want to thank our panel for being with us. We are very fortunate to have each of you serving our country. And we are very pleased to have you with us here today.

Force protection has always been a top priority to both of these subcommittees—and I serve on both—and I have no doubt it will continue to be. We in Congress recognize that it is our constitutional duty to properly outfit our brave men and women who choose to serve their country in the military. Many of these brave troops are currently overseas serving in Iraq and Afghanistan and all over the world.

As the threat to our military personnel continues to evolve, force protection requirements must continue to change accordingly. We as a committee need to be reassured that all force protection programs are being accomplished expeditiously, the services are communicating with one another, and that every effort is being considered to meet new force protection requirements. Every day we must be able to confidently say that we are doing everything possible to provide our warfighters the protection they need and deserve.

It is along these lines—and I know the Chairman already hit upon this in his opening statement—but I am troubled with recent press reports in regards to the Army pulling body armor from the field based on faulty testing. These press reports are based on a recent Department of Defense Inspector General report.

Many of you may be aware that although I did not serve in the military, I worked for more than 20 years as a scientist and engineer on military projects to improve or invent equipment to protect the lives of military personnel. I mention this because I understand the importance of testing to guarantee that equipment performs to specifications and expectations. I believe a fundamental foundation for those who do serve is confidence in their government, confidence in their civilian and military leadership, and confidence in their equipment.

We are very fortunate to have some new members who have recently served in the military and, Mr. Chairman, I think it would be very beneficial for us to hear from them in regards to how soldiers and marines react when they read these types of articles that question the capabilities of their equipment.

Finally, Mr. Chairman, I am puzzled as to why the Department of Defense leadership has not yet weighed in on this issue. We certainly know where the Department stands on MRAPs and ISR, and rightly so. It seems to me that if the enemy gets through the ISR and gets through MRAPs, body armor is the ultimate last line of defense for the individual soldier and marine. We have the Department of the Army, the Director of Operational Test and Evaluation, and the DOD IG, all DOD agencies and all with differing conclusions. I hope that this hearing will shed some light on this issue. And depending on what we learn today, Mr. Chairman, I may suggest that we work together to send some kind of official correspondence to DOD leadership expressing our concerns.

I look forward to hearing from our witnesses today. And I want to thank you again for your service to our country and for appearing before us this afternoon.

Mr. ABERCROMBIE. And last, but certainly not least, our good friend, Todd Akin.

STATEMENT OF HON. W. TODD AKIN, A REPRESENTATIVE FROM MISSOURI, RANKING MEMBER, SEAPOWER AND EXPEDITIONARY FORCES SUBCOMMITTEE

Mr. AKIN. Thank you, Mr. Chairman. And also, thank you very much to our distinguished panel.

Like some of my colleagues, I have some great comments that were prepared, and I would ask that they be made part of the record.

Mr. ABERCROMBIE. Without objection.

Mr. AKIN. Thank you, Mr. Chairman.

The one thing that I might add, and I don't know that this is specifically any of your specific responsibilities, but as we were dealing in Anbar Province with the problem of MRAPs and having those fully armored vehicles there, what happened that was kind of interesting was that our number of fully protected MRAPs, we had met that in Iraq. But the problem was that the distribution was improper, and so we had a lot of people riding around where there was no action going on in fully protected vehicles, and yet our marines in Anbar Province did not have enough of those vehicles. Fortunately, we did a quick adjustment and made sure that the distribution followed where the attacks were most significant.

So as we start looking at Afghanistan, trying to wrap up the number of the smaller, I guess the 2,000 additional MRAPs that are narrower and a little bit lighter for that road system, that we could also be careful that those are distributed at the most strategic places as they are delivered.

I don't mean MRAPs, I meant the up-armored Humvees. We had trouble with the up-armored Humvees going to the wrong places. The same thing could happen with the MRAPS. I am just encouraging that we don't make that same mistake again.

And that is all I had.

Mr. ABERCROMBIE. We will go right away to General Lennox. Should there be a call for us to vote, we will return as quickly as possible from that.

And in relation to the policy of my subcommittee, because I happen to be in the Chair now, we are going to start with the most junior members. The newest members will start the questioning and we will work our way up to the senior members. And then the next hearing we have we will reverse that and start with the senior members back down.

So when the testimony is over—and by the way, you can summarize if you would, because I do expect we are going to have to vote fairly quickly—we will start with the newest members and work our way up.

General Lennox, please.

STATEMENT OF MAJ. GEN. ROBERT LENNOX, ASSISTANT DEPUTY CHIEF OF STAFF, G–3/5/7, ACCOMPANIED BY BRIG. GEN. PETER N. FULLER, PROGRAM EXECUTIVE OFFICER SOLDIER, AND KEVIN M. FAHEY, PROGRAM EXECUTIVE OFFICER, COMBAT SUPPORT & COMBAT SERVICE SUPPORT

General LENNOX. Chairman Abercrombie, Chairman Taylor, Congressman Bartlett, Congressman Akin, and distinguished members of the committees, on behalf of the Army, thank you for this oppor-

tunity to appear before you today to discuss the Army force protection programs.

I would like to start by introducing the fellow panel members and the soldiers that have come with me today.

First, Brigadier General Pete Fuller, next to me, is the Program Executive Officer (PEO) Soldier and the Commanding General for Natick, Soldier Support Systems. So, body armor, the fire-resistant gear, all those kinds of things, General Fuller is in charge of.

Mr. Kevin Fahey next to him is a Program Executive Officer, Combat Support and Combat Service Support, and he is in charge of armoring the vehicles, mine-resistant, ambush-protected vehicles and things like that.

Behind me is Brigadier General Tom Cole, and he is the Program Executive Officer for Intelligence, Electronic Warfare and Sensors. So the sensor platforms that are protecting our combat outposts, forward operating bases and things like that are delivered by Brigadier General Cole.

To my right is First Sergeant Patrick Schrader. First Sergeant Patrick Schrader is a combat veteran of OIF (Operation Iraqi Freedom). He has been awarded the Bronze Star medal with a "V" device for valor for his conduct during OIF.

Next to him is Staff Sergeant Fred Rowe. He is a veteran of multiple tours in Operation Iraqi Freedom. In fact, he is a survivor of several improvised explosive device attacks. And Staff Sergeant Rowe has an amazing personal story that helps validate the effectiveness of the body armor that we provide our soldiers. And I hope he gets an opportunity to share that with you, Mr. Chairman.

Today, we are honored to be accompanied by Brigadier General Mike Brogan of the United States Marine Corps, with whom we work closely on the Army-Marine Corps Board, and we help synchronize together the requirements and our efforts to the greatest degree possible.

Mr. Chairman, we are going to discuss a lot of facts and figures today, but our overriding concern is the welfare of our soldiers. Today's Army general officers have 107 daughters and sons that serve in the Army. The Army is really a family business. And I don't mean to tell you that to be self-serving, but I need to convey the idea that when we think about soldier protection, we think about it like our sons and daughters. And we are inculcated with that idea from the first moment that we serve as leaders when you stand at the end of the chow line and make sure that your soldiers are taken care of first. Soldier protection, force protection are those kind of concerns for the leadership of the United States Army.

As I was preparing to come speak with you today, I contacted leaders in both Iraq and Afghanistan and I asked for updates on what is going on in the areas of force protection in their theaters so I could share with you all today. And what I was struck with, really, was the effort in both theaters, but a story that was told to me by leaders in Iraq about how they are laser-like focused on defeating the improvised explosive device threat there and their passion for solving this tough issue; and how that number one threat to our soldiers in Iraq starts with the individual protection gear, the body armor that a soldier wears. It then goes to the vehicle that they ride in, the armor that we have added to the side of the

vehicle, the MRAPs, the mine-resistant, ambush-protected vehicles with a V-shaped hull. And then it goes to the technology that we provided to them, with both active and passive countermeasures to help either detonate the IED before they get there or to defeat the explosion in general.

And then it goes to the use of manned and unmanned aerial platforms that provide sensors to help find the devices as they are placed, to track the networks down to find out who is doing those kind of things. It goes to the route clearance teams that Chairman Taylor talked about that are out there on the roads 2,500 miles a day, running the routes, making sure they are clear. And it goes to putting all those bits and pieces of intelligence that they grab together to form a picture to help roll up the threats of these bomb makers before they are allowed to hurt and damage our soldiers.

Even this total commitment, this passion that comes through in their discussions with me, is not sufficient, and they know this. We are making progress. We are finding 40 to 50 percent of these devices and either detonating them in advance or exploiting them for information.

I wanted to share that with you today because I know that this committee shares the same passion for protecting our soldiers. We care, and we know that you do, too.

For this same reason, there may be some information I am reluctant or hesitant to share in an open hearing with you today. If that is the case, I want to make sure that we follow up quickly in a closed setting or a classified setting to address the concerns that you raise without endangering our soldiers that are deployed.

Mr. ABERCROMBIE. It may be that the briefing we had will have covered that. If it doesn't, we will take it up. So when that comes up, just say so and we will move on.

General LENNOX. Thank you, Mr. Chairman. I appreciate that.

The progress I have talked about wouldn't be possible without the help and cooperation of the committee members here, your support for our investment in training and equipment, facilities and services.

Mr. Chairman, I have submitted a written statement that I ask be made part of the official record.

Mr. ABERCROMBIE. Without objection.

General LENNOX. It has a lot of those facts and figures. The main point that I want to make today, and the one that often gets lost in the middle of those facts, is that we do care. The leadership of the Army is committed to protecting our soldiers.

With that, sir, we stand ready to answer your questions.

[The prepared statement of General Lennox can be found in the Appendix on page 50.]

Mr. ABERCROMBIE. So General Fuller and Mr. Fahey, you are prepared to answer questions and comment on observations?

General FULLER. Yes, sir, I am.

Mr. FAHEY. Yes, sir.

Mr. ABERCROMBIE. General Brogan, would you like to make a statement at this point?

STATEMENT OF BRIG. GEN. MICHAEL M. BROGAN, COMMANDER, MARINE CORPS SYSTEMS COMMAND, PROGRAM EXECUTIVE OFFICER, MRAP JOINT PROGRAM OFFICE

General BROGAN. If I may, sir.

Chairman Abercrombie, Chairman Taylor, Mr. Bartlett, Mr. Akin, distinguished members of the subcommittees, thank you for the opportunity to appear before you today, and thank you for your continued support of our men and women who wear the cloth of our Nation.

The theme that I would like to provide for you today is one of iteration and evolution. Our personal protection equipment has evolved significantly throughout this current conflict. From the flak vest that we were all used to wearing prior to 9/11 to the outer tactical vest, the modular tactical vest, and looking forward to future improvements in that vest.

But beyond just the ability to stop shrapnel and limited small arms fire, we included the small arms protective inserts (ESAPI), the first time that we had ever fielded bullet-proof equipment to our soldiers, sailors, airmen and marines. And then, as the conflict progressed, we moved on to the enhanced small arm protective inserts. We have now fully fielded that ESAPI ensemble to the marines, soldiers, sailors and airmen engaged in the current conflict.

Likewise, we began this effort with helmets that used a webbed suspension system. We have now fully fielded the pad suspension system to all of our troops.

We entered the conflict with canvas High Mobility Multipurpose Wheeled Vehicles, the HMMWVs, through two generations of Marine Armor Kits, and then to the M–1114, and finally today, the expanded capacity, up-armored HMMWV vehicles; and as you both discussed in your opening statements, the Mine Resistant Ambush Protected program. We have now taken delivery of more than 15,000 of these vehicles by the U.S. Government. We have over 13,000 in theater, and today, over 11,600 are in the hands of our warfighters.

Likewise, we armored our line-haul logistics vehicles, the Medium Tactical Vehicle Replacement truck and the Logistics Vehicle System.

We also made significant improvements in the fire-resistant clothing we issue to our marines. Through the fire-resistant organizational gear ensemble, we went from what was historically given to our aviators in flight suits, our combat vehicle crewmen, with a combat vehicle crewman suit, to now issuing to every single individual who leaves a forward operating base a combat suit that has fire-resistant properties. And as we look forward to migrating to Afghanistan, we are including in our cold weather ensemble those same fire-resistant properties.

But this has been, as General Lennox indicated, more than just that last line of defense, with vehicle armor, body armor, and flame resistance; it is that holistic way that we look at defeating IEDs through intelligence, surveillance and reconnaissance assets, some of which he described. Through mine rollers, through jamming equipment, through a number of different means we look to protect our troops. We believe that today we have the best equipped, best

protected force this Nation has ever fielded, and we continue to make improvements to that equipment.

We look forward your questions.

Mr. ABERCROMBIE. Thank you very much, General.

[The prepared statement of General Brogan can be found in the Appendix on page 62.]

Mr. ABERCROMBIE. Mr. Sayre, could you identify yourself just for purposes of the committee members being able to see who you are, should questions or—and Ms. Ugone. There you are. Very nice to see you.

They won't be testifying as such, but will be available; and you can chime in when you think it is pertinent or appropriate. And I don't take it as anything other than the luck of the draw that you are sitting on opposite sides of the room.

Let's see, the first question, then, or commentary is from Massachusetts, the winner of the new member lottery is Representative Tsongas—I should say, new member to the committee.

Ms. TSONGAS. Maybe one of the newest members, but I hate to admit I am one of the oldest as well.

General Lennox, a question for you. And I appreciate very much your testimony and the professionalism with which you take the concerns we all have for how we care for our soldiers, but I do have a question.

The Army reported 250,000 acute orthopedic injuries in 2007 that were linked to the stress of bearing heavy loads during repeated deployments. According to General Peter Chiarelli, Vice Chief of Staff of the Army, there are about 20,000 nondeployable soldiers equal to about four brigade combat teams, which puts an additional stress on the force, that were hurt from the sheer weight of the equipment. Now it appears that the Army will issue a contract award for a stronger but heavier ceramic plate.

I understand the need to be prepared for contingencies that may require the increased protection of this equipment, but what are we doing to produce lighter-weight plates at current levels that are not only requested by commanders in theater, but will also preserve the health of our force and allow us to remain at appropriate force levels?

General LENNOX. Yes, ma'am. You hit upon a very, very good point.

It is a real tradeoff between protection of our soldiers, providing the requisite amount of body armor, and the impact that it is having not only on their wear and tear over time of our soldiers and the readiness of our units, but really on their effectiveness as they fight day to day.

Sergeant Rowe can tell you, if permitted at an appropriate time, that wearing the body armor today, day in and day out over an extended period of time, does take its toll.

Mr. ABERCROMBIE. General, would you like to bring him up now?

General LENNOX. If you don't mind, Mr. Chairman.

Mr. ABERCROMBIE. Not a bit. Can you do it so we can get the microphone so everybody can hear.

General LENNOX. Sergeant Rowe, would you mind just explaining about the impact of the body armor.

Mr. ABERCROMBIE. Before you start, that is indicating that we are going to have a vote. I expect it will be more than one. If we hear five bells, it means that we will have about 10 minutes; I will stay here that long, but the members will have to leave.

I expect there will be three votes. So there will be a 15-minute vote, two 5-minute votes. And it doesn't mean that, obviously; it will be longer than that.

We will have about 10 minutes, Sergeant. I don't think we will get to a second question before we have to go.

Sergeant ROWE. Mr. Chairman, I can tell you from firsthand experience——

Mr. ABERCROMBIE. Thank you for being here, Sergeant. And thank you for your service.

Sergeant ROWE. No problem.

Over time, the wear and tear on our bodies is——

Mr. ABERCROMBIE. Did you hear the question from Ms. Tsongas?

Sergeant ROWE. Yes, sir.

Mr. ABERCROMBIE. Okay.

Sergeant ROWE. Over time, sir, the body armor, it does wear on your body. I can tell you from personal experience in Iraq that, you know, with the heat and all the weight, it does wear on your body.

I was there for a year and a half on this deployment, and it is rough. But I couldn't imagine doing what I did and carrying what I carried in Afghanistan. It would have been absolutely impossible to have carried the weight and the weapons and the ammunition that I had to carry in Iraq. It would have been absolutely impossible to have carried all that equipment in Afghanistan.

General LENNOX. Would you mind sharing your experience about how you know the body armor does work.

Sergeant ROWE. Mr. Chairman, we were conducting a patrol, and my truck was struck by an IED and was blown up and landed on its right side.

Myself and the rest of the soldiers in the vehicle went ahead and exited the vehicle through the turret because obviously we couldn't get out of any of the doors and the truck was on fire.

When we came out of the truck, there was an ambush set up for Iraqi insurgents, and they began shooting us as we came out of the truck one at a time. I took three rounds to the chest at a less distance between me and you with the body armor, and all three rounds were stopped by the plate. It hurt, but I was still mission capable, and I was still able to do my job throughout the rest of the day.

General LENNOX. To answer your question, it is just a tradeoff between effectiveness and weight.

General Fuller can probably talk a little bit about what we are doing in terms of research and development to develop lighter armor that is equally capable. And that is the tradeoff, I think, over time: How are we going to be able to have lighter capabilities, lighter armor that still allows our soldiers to perform and do their mission?

And we struggle with that, frankly. And we struggle with that in some of the decisions.

If you will allow me, I would prefer to respond to the question about the new production in a closed session for some of our rationale.

Ms. TSONGAS. One quick question before we hear from General Fuller—and I can't see the time to know—but does the temptation exist to take the armor off because it is heavy or hot or whatever?

Sergeant ROWE. Yes, ma'am. There is a risk that all soldiers are willing to take. And I think that in certain situations, mission dependent, that as soldiers we would be happy to take off some of the body armor to be more mission capable, more mobile on the ground, more flexible, faster. It comes to a point where you are more mission incapable of doing your job or more at risk or vulnerable with all of the equipment on.

I think it should be left up to the commanders or to the independent leaders on the ground to decide what kind of armor we need to take out or what we could downgrade. Because there are times that I have been on mission where I could have got out of the firefight a lot quicker and I could have handled business a lot easier if I would have been able to be more mobile or do my job more effectively with less weight.

Ms. TSONGAS. Thank you.

General BROGAN. Ma'am, this is an area where we need some additional science and technology research conducted. In public appearances over the last 18 months, on six separate occasions where I have met with leaders of industry and their marketing representatives, I have implored them to develop the materials that will allow us to go from the hard ceramic plates with the Aramid fibers that we currently use to something that may involve carbon tube nanotechnology that can significantly reduce the weight.

Currently, that technology does not exist. There is limited work being done in government laboratories that the Office of Naval Research, some sponsored by Defense Advanced Research Projects Agency (DARPA), but today we do not have that technological breakthrough. We need to significantly lighten the load.

Mr. ABERCROMBIE. General Fuller, did you want to comment?

General FULLER. Yes, Mr. Chairman.

Ma'am, an interesting point is, you also have to recognize that Sergeant Rowe didn't tell us what he was doing at the time. He was a sniper. And we now are looking at a solder as a system. We just can't focus on giving him body armor independently, giving him a weapon independently, giving him all the other gear that they would carry. Now we are looking at it as how do we provide soldier as a system and recognize you might save five pounds in one area, but add it back in another area that you didn't intend to because you are not managing it as a system.

Mr. ABERCROMBIE. So in other words, when you are dealing with, as the sergeant indicated in Afghanistan, or dealing with a different kind of terrain, a different kind of situation may call for a different set of body armor, which may not be the same kind of protection you would have under other circumstances. But as he mentioned, the mobility question is more important than the stopping power, necessarily, of the armor.

I am not trying to simplify it, but I am just trying to give a for-instance.

General FULLER. Yes, Mr. Chairman, I think that is an accurate assessment. I think what we are trying to do is provide the commander in the field that flexibility. We want to make sure that they stop the rounds that come at them, but how they carry that plate might provide a different weight factor and different weight consideration.

Mr. ABERCROMBIE. I think we will leave it at that, because if we go further, we are dealing where we need to get into a classified situation.

Let's try one more and we can get started.

Congressman Wittman, followed by Congressman Massa. Congressman Wittman, maybe we can get started and we will take it from there.

Mr. WITTMAN. I will get started by directing a question to General Lennox.

I had the opportunity to go to Iraq and Afghanistan here recently, and I heard a number of complaints when I was there about stoppages and malfunctions with the M9 pistol and the M4 rifle. And with respect to the M9, I have been told that the 9mm doesn't have the stopping power that some of the larger calibers do like the .40 and .45 caliber pistols. And what I have learned in the meantime is that there is a 2006 study out by the Center for Naval Analysis which polled soldiers who use these weapons in combat and found that 48 percent of the respondents were dissatisfied with the M9 Barretta, and 26 percent requested a larger caliber rifle.

Given these issues and the fact that there have been numerous advances and improvements made in pistols since the M9 was fielded in the mid–1980's, can you tell us a little bit about what the Army is doing to address those concerns? And is the Army working to generate a new pistol requirement?

Are we doing things to increase the competition for those small arms? And if so, when do you anticipate that this requirement would be released?

General LENNOX. I am not aware of the stoppages and the trouble that you've identified, and we will definitely look at that. And if you don't mind if I take that for the record, I will go and investigate and get you feedback on that, in particular.

[The information referred to can be found in the Appendix on page 78.]

General LENNOX. We do have an open competition for a new carbine. The Secretary of the Army has made sure that we were doing an open and competitive competition, looking at all comers to see if we can provide something with the right capability for our soldiers, using the latest technology and weighing things like maintenance and effectiveness and looking at it, as General Fuller said, in terms of soldier as a system—the weapons part of it, the optics are part of it, the soldier's training is part of it, and it all comes together to deliver an effective soldier in the field.

I believe there may be some work being done on a pistol, but I can't tell you that for certain, sir.

General FULLER. Sir, I am also responsible for the weapons, and I am not aware of a new pistol competition, though we are constantly looking at improvements and looking at other calibers, but we have not initiated an action to get a new pistol.

We are looking at constant improvements. As you articulated on the M4, we aren't just waiting for the new carbine competition to come forward. We have been doing industry days, we have been asking industry, what can we do to our current systems to give it better capability, make constant improvements, not just waiting for our future technology or future capability, but constant improvements. And I believe you will see, as General Lennox articulated, it is more than just the actual weapon; it is the training, it is the ammunition, it is the optics, and it is the soldier.

Body armor actually has an impact on the soldier when you are talking about the rifle, ensuring that they can get their butt stock into their shoulder to get a good firing position. We actually gave a little pad for left- and right-hand shooters to ensure they can get that rifle into the correct position and hold it there to get a steady bead.

We are constantly looking at everything we can. And as General Lennox said, a soldier as a system, let's just not look at the pistol, the rifle; let's look at what does that soldier need to be able to do in their mission? How does it interface with their body armor? Where would they carry their pistol? Where do they carry the ammunition, et cetera?

Mr. WITTMAN. Let's go back real quickly to the Center for Naval Analysis. They did conduct a survey on small arms fire in 2006, and let me speak specifically about the M9.

The study found that 38 percent of soldiers who experienced a stoppage with the M9 reported an inability to engage the enemy with the weapon even after performing immediate action to clear the stoppage during a significant portion or throughout the entire firefight. So I think there is some concern there with the M9.

Special Operations Command (SOCOM), I know, as you say, is looking to replace the M4 rifles with a new weapon. Given the level of dissatisfaction with the small arms and the issues that our solders are having to deal with found by the Center for Naval Analysis, can you tell us why the Army hasn't been able to generate a new requirement for a pistol or a rifle, and some of the directions we need to take to address that?

Mr. ABERCROMBIE. Can you answer that in about 30 seconds? I doubt it. Do you think we should come back to that?

General LENNOX. I think I can be very quick, Mr. Chairman. This is the first I have really heard of the level of dissatisfaction, sir, that you are aware of. And I think not having heard that, we have not seen that kind of a problem with an M9 before or heard about it. It is something we will definitely look into and see if there is that kind of dissatisfaction.

Mr. ABERCROMBIE. Are you familiar with the report or the article that the Representative is referring to?

General LENNOX. No, sir, I am not.

Mr. ABERCROMBIE. Okay. Maybe we can take a look at it. Why don't you take a look at it and get back to us and to him with some—perhaps you can do a book review of it. How does that sound?

General LENNOX. That is great, sir.

Mr. ABERCROMBIE. With that, we will recess and return as soon as we can, but I expect it is going to be closer to a half an hour than 20 minutes.

[The information referred to can be found in the Appendix on page 78.]

Mr. ABERCROMBIE. Thank you for your patience. We almost made it. Let us see. We finished with Representative Wittman. I don't know if Representative Massa—let us give him another 10 seconds.

Who will be next, then, after Eric? It will be Mr. Sestak.

Mr. SESTAK. I am Navy also.

Mr. ABERCROMBIE. I beg your pardon?

Mr. SESTAK. Massa is Navy also, so I will take his place.

Thanks, Mr. Chairman.

I wanted to ask a question. It came up already with the Representative from Massachusetts, and the chairman mentioned it to some degree. This morning we had a briefing, classified, in Pakistan and Afghanistan. And I have been quite taken by the difference between the two ventures, as I think the sergeant pointed out. And to my mind is why Congress has done immense goodness, under the two gentlemen behind me particularly, but to some degree I am almost concerned that we can become risk-averse, particularly as we head into Afghanistan. Because force protection, you would know better than I would, is not really just solely or even maybe primarily a materiel solution. So my question is to you, and I would be curious is, how does training, tactics, techniques, intelligence, mobility, and I don't mean mobility with a lighter vehicle only, tie into this? Have you seen, you know, I mean, because I think Afghanistan is so different, that the lessons there that maybe were pending a little bit too much down the road here thinking about armor rather than the holistic approach that maybe it is kind of hard to transition out of that after you have had such a focus from Congress on it?

Do you have comments upon that?

General LENNOX. Sir, if you don't mind, I will start. I think your point is spot on, that there is enormous environmental differences—Chairman Abercrombie talked about it earlier—between the two different theaters. One size does not fit all. I was assigned in Colorado Springs a couple years ago, and that was about a mile high. And for the soldiers there, you take that mile high and now you add another 4,000 feet on top of it. And now you add combat loads on top of that it. And it is got a tremendously debilitating effect in terms of your ability to maneuver.

We are taking some initiatives at their request, at the theater's request. We are trying things like the Special Forces tactical vest and armoring system in small numbers because it is about 7 pounds lighter just to see if that works and try to get some feedback and learn from that. We are trying a lighter machine gun, four or five pounds lighter in small numbers trying it to see if that helps us.

You heard the earlier discussion perhaps about the mine-resistant ambush-protected all-terrain vehicles. One of the constant themes that has come from Afghanistan is the desire for vehicles that are lighter, capable of going off road, a smaller turn radius, capable of keeping up with some of the pick-up trucks they may be

chasing and things like that, giving you a little bit more capability. And not in all cases have we given people MRAPs, for example. The Third Brigade 10th Mountain Division was outfitted with armored security vehicles, specifically because MRAPs didn't fit their needs. So I think you are exactly right that the conditions are different in both theaters. You have to be cognizant of that. And we are working initiatives——

Mr. SESTAK. General, could you take me one step further. How do you begin to measure performance versus protection? For instance, there are really no roads along where the insurgents tend to cross into Afghanistan. There just aren't. And my goodness, I imagine down in Marine Corps Combat Development Command (MCCDC), I understand they are looking at an Unmanned Aerial Vehicle (UAV) to carry logistics around in Afghanistan, because the key here is to stay off any roads that might be anywhere. I mean, are we kind of pushing a little bit too much on this? Every solution you came back to me here with is something on the man. Shouldn't we be looking beyond that now for performance rather than protection only?

General LENNOX. I don't mean to give the impression that everything is on the soldier. Frankly, a lot of this is about intelligence, surveillance, and reconnaissance capabilities that empower the soldiers. In terms of the increase manned and unmanned vehicles that are going into theater, that provides situational awareness, can direct you and save labor. Some of the things that we are putting around the bases to provide situational awareness, the camera systems that work both day and night and allow you to see the enemy at farther distances. So some technological advances are not just in armoring but are in intelligence, surveillance, reconnaissance, I think that help get at some of those problems.

General Fuller, do you have any thoughts about that, or General Brogan?

Mr. SESTAK. I throw this out because this will be my last one comment and close. As you answer, I guess my issue is, Iraq you know you place people in a place and you basically secured it and held it and enhanced it, and we had to get logistics back and forth. I think the concept is so different in Afghanistan, and that is why I am just curious.

Thank you.

Go ahead, General.

General BROGAN. Sir, in addition to the things like General Lennox mentioned, when you met recently with Lieutenant General Flynn, he may have described for you the Combat Hunter initiative that we have going on, instilling that offensive mind-set into each and every marine, not just the riflemen, giving them the skills to help find enemy combatants in the shadows, behind windows where they would normally be out of view, those type of things, so that we can take the first shot and not be forced to rely just on our body armor when we detect an ambush because they have initiated it with a firing action.

You mentioned the cargo UAV. Anything that we can do to get our troops off of the roads certainly limits the opportunity of the threat to target us with the improvised explosive devices.

And then, in the training base, you know we have a pretty well established Mojave Viper, Desert Talon events that go on at 29 Palms and Marine Corps Air Station Yuma that have proved their worth in Iraq. We have a similar effort to focus on the unique aspects of the theater in Afghanistan, specifically so that we are not relying just on personal protection equipment to be the end of the story.

Mr. SESTAK. Thank you.

Mr. ABERCROMBIE. Is that sufficient, Representative Sestak?

Mr. SESTAK. Yes.

Mr. ABERCROMBIE. Thank you.

Mr. Coffman is next.

Mr. COFFMAN. Thank you, Mr. Chairman.

And gentlemen, thank you so much for appearing before this committee. I think my question is, if we look across the spectrum of the force protection initiatives that you have been discussing, whether it is a protective vest or Hesco barriers or it is MRAPs, are there any—obviously the Congress of the United States is looking at spending some money to get this economy moving, and we are trying to parallel our spending with the Nation's needs and with things that have a multiplier effect on this economy. Are there any deficits in the area of force protection that if the requisite funding were available could accelerate procurement so that our troops in Iraq and Afghanistan have the most up-to-date equipment possible?

General LENNOX. Thank you, sir.

We do have some differences between capabilities in Iraq and Afghanistan today. We do have funded things like route clearance vehicles that are en route to Afghanistan that are not yet the same as Iraq. Some of the unmanned aerial vehicles and things like that we do have funded, but they are not yet there. So there is a difference still in the theater capabilities that we are working to address. And should the President decide to switch emphasis or—and the Secretary of Defense—decide to switch emphasis into Afghanistan, there are some things that we have been doing to lean forward in terms of armoring vehicles and preparation for that. But there will likely be requirements for additional supplemental funding addressing some of those kinds of concerns in the event that policy decision is made.

General BROGAN. Sir, I would submit that the work of the legislature has fully funded all of our personal protection needs as well as the armoring needs for vehicles. So, unfortunately, there is not any of those quick wins that we can get that would fall in the realm of economic stimulus with respect to personal protective equipment.

Mr. COFFMAN. Thank you.

One follow-up question, Mr. Chairman.

And that is, with the MRAP, are there some issues given the nature of the terrain in Afghanistan that create a safety hazard given the weight of those vehicles?

General LENNOX. Sir, I think the right answer is, they are challenged. There have been accidents. There was an accident today with an MRAP in Afghanistan. The vehicle's rear wheels got

caught, and the vehicle turned over. Thankfully nobody was injured.

I think the terrain is extraordinarily demanding there, and it is a challenge each and every day to operate in those vehicles. We have received requests for the lighter version, and hence the request for the mine-resistant ambush-protected all-terrain vehicle. Nevertheless, it is state-of-the-art and it is saving lives in both theaters today. I don't know if I answered your question adequately or if there is additional comments.

Mr. COFFMAN. Is training a function of some of these—a lack of training, since some of these soldiers and marines, as I understand it, don't see these vehicles until they are in theater?

General LENNOX. I think that is a good question, sir.

There is training that goes on in theater before a soldier, marine, is allowed to operate the vehicle. It is not optimal.

We would clearly like to do training, as Chairman Taylor mentioned earlier, before the soldiers deploy back here. We would like to take our time. We want to make sure that it is right. But before they operate the vehicle, there is training in theater.

And some of it is certainly an impact of the theater itself. Roads give way, precipitous turns. And those things have an impact as well.

General BROGAN. If I may, sir, we have analyzed all of the vehicle incidents that resulted in rollover. Roughly—and that is about 94 vehicle accidents that resulted in rollover. Two-thirds of those are directly related to the weight of the platform. The road bed crushed underneath it, and the vehicle fell over onto its side or slid down into a canal. The next largest category has to do with maneuvering; a sharp turn, avoiding an accident, avoiding a pot hole, avoiding what they perceive to be an improvised explosive device. So those, I believe, can be impacted by training. Today we have simulators.

In fact, one is now at Camp Shelby, Mississippi. We also have in the Marine Corps, the Navy, the Air Force, and Special Operations Command, a significant number of vehicles in the training base. And there is an Army plan to cascade vehicles as we put the newest, most capable vehicles into theater to bring the ones that they are replacing out and put those at home station to be used for training by the forces here in the continental United States.

Mr. ABERCROMBIE. General Brogan, could you comment further in relation to that question in the context of the question about the idea then of the so-called lighter, I don't know, smaller, faster, you know, the welter-weight version of the light or heavy weight or heavy-weight versions with regard to whether or not that takes you into what General Fuller was talking about and what some of the questions previously related to with regard to function and purpose altering. In other words, you have heavy armor, that is one thing, but you lose mobility. Now, if we are talking about a lighter, faster, et cetera, MRAP, are we also talking about a difference then in what you can expect in terms of vulnerability?

General BROGAN. I won't go too far into the vulnerability area, sir, in open session. But what I will offer is that the MRAP all-terrain vehicle was specifically requested by the Commander of Joint Task Force 101, those folks operating in Afghanistan. The at-

tributes that they described in their desire for that platform indicate that they want MRAP-like survivability with Humvee like mobility, the tighter turning radius, et cetera.

Mr. ABERCROMBIE. I understand that. So here is where the testing question, here is where the research and development question has to be concentrated on. And we need to move in that direction.

In other words, I am not saying it can be done or not be done. But if it is going to be done, that means we have to concentrate funding and emphasis on research and development, right.

General BROGAN. We believe we have the technology today for MRAP All-Terrain Vehicles (ATV), sir. I mean, it may be lighter, but it is still 24,000 pounds, which is 10,000 pounds more than an up-armored Humvee. So that is still a fairly significant, substantial platform. As we discussed previously, the three mechanisms that injure people in an improvised explosive device event are the blast and over-pressure, fragments, and then acceleration. It is that third piece, the acceleration, that is more of a concern with a lighter platform because the same size explosion will move that lighter vehicle much faster.

Mr. ABERCROMBIE. And that is also a question of training, too, isn't it.

General BROGAN. It is, sir.

Mr. ABERCROMBIE. You are going to need preparation. You can't just drop somebody in theater and say, you will pick this up real quick I am sure.

General BROGAN. These are large vehicles with air brakes, high centers of gravity, so training certainly plays a role.

Mr. ABERCROMBIE. Thank you.

Mr. Hunter would be next.

Mr. HUNTER. Thank you, Mr. Chairman.

Gentlemen, first for Staff Sargent Rowe, I would like to get back to what you were talking about, about body armor. You are a sniper, right, which means you aren't necessarily walking point, and this goes back to your answer that you would not wear the same equipment in Afghanistan that you wore in Iraq, correct? That was your statement. And then you said you were a sniper. I have been to both theaters. I have been to Iraq twice and Afghanistan once. I have had shrapnel bounce off my flak jacket and never have an actual bullet hit it and break it. But you are a sniper, so you have a much different role than the guys walking point or the guys just driving roads every day or the guys just walking through passing out Meals Ready to Eat (MREs) or anything else. So what you are saying is not that the usual equipment is bad, but that you would like to have different equipment for different scenarios like climbing cliffs in Regional Command East (RC-East) in Afghanistan as opposed to walking roads in Regional Command South (RC-South) correct?

Mr. ROWE. Yes, sir. I am 11 Bravo; I am just a regular infantryman, too. I have done both jobs, and that is why I say I think the decision should be left up to be tailored by the commanders on the ground to whether, if I was a sniper one day and I was out doing a mission, then I might not need all the body armor because I will be dragging my equipment behind me.

Mr. HUNTER. Is it not now, though? Is it not up to that ground commander?

Mr. ROWE. No, sir. You know, the body armor and the equipment that we wear is tailored for the Army as a policy that you will wear all your equipment at all times and that all equipment is needed at all times. Whereas, you know, as an infantry squad leader, and you are on the ground and you are trying to chase down the enemy or you are reacting to contact, you need to be lighter; you need to be able to react to that contact properly or enter and clear buildings. Whereas, if you are just walking down the street as a patrol, you might want all that body armor because you are just going to get shot at. So, yes, sir, I think it should be tailored to the soldier, his job and the situation at hand.

Mr. HUNTER. So, General Lennox, that is more of an Army staff level tactical decision. That is not a congressional decision or necessarily even a DOD decision. That is your decision.

General LENNOX. Yes, sir.

Mr. HUNTER. Right, so that is not up to us whether or not have you to wear your body armor. We had Marine snipers that would wear outfits like the enemy. They wouldn't wear anything. And that was up to that ground commander at that time. So that is up to the Army generals.

General LENNOX. And what we are after is actually trying to equip them with things that give them equal protection but at a lighter weight. And I think that is the common theme that comes from theater, sir.

Mr. HUNTER. And my last question here, this is a force protection meeting. But the golden hour in Afghanistan, there is no golden hour, the much talked about golden hour that we developed in Iraq. And that means that if you got somebody back within one hour, they had a much higher chance of living as opposed to, after that hour, they would bleed out or whatever else happened to them. That does not exist in Afghanistan right now at all. There is no golden hour. It is like an hour and a half, hour and 45 minutes because how spread out everything is. And I was wondering if you have been working that, are we going to start deploying more forward surgical units? Are we going to use the Osprey there? What are we going to do to make that golden hour come to Afghanistan?

General LENNOX. The Secretary of Defense and Secretary of the Army have been very personally involved and committed to getting the same capabilities in both theaters responsiveness to a forward surgical team. They are in the process of deploying an increased number of assets. I don't want to go into details of a request for forces here in the open hearing. But they are in the process of deploying additional capabilities to meet that objective.

Mr. HUNTER. Is there an actual time line for that.

General LENNOX. Yes, sir.

Actually, by April, it will be done. We are trying to mitigate that by pushing as much earlier as possible. So there are steps that are happening now, but by April, it should be accomplished.

Mr. HUNTER. In Afghanistan by April?

General LENNOX. Yes.

Mr. HUNTER. Thank you very much.

I yield the rest of my time.

Mr. ABERCROMBIE. Could you as a matter of interest to not just this committee but to Mr. Skelton, if not resting with you personally or within your command area, give us an update, give the committee a perspective on that question about the surgical units and so on and how that is going to be done and how the funding is going to take place, et cetera, how that is being accounted for?

General LENNOX. It is really a question of the resources that are being reallocated and pushed forward in order to make sure, resources that are available now to make sure that the capability is the same for a soldier in both theaters.

Mr. ABERCROMBIE. No, I understand that. But the logistics of it are going to be entirely different.

General LENNOX. Absolutely.

Mr. ABERCROMBIE. I think that is what Mr. Hunter is referring to. Am I correct?

Mr. HUNTER. Yes, Mr. Chairman.

General LENNOX. Mr. Chairman, you are right. Some of the challenges are things like, in Afghanistan, you may have to use a lower—

Mr. ABERCROMBIE. That is okay. You needn't go into it now. But why don't we get a little more direct report about that, what is involved in it.

General LENNOX. Absolutely, sir.

Mr. ABERCROMBIE. Or what is likely to be involved in it, because that needs to be made a part of the budget process. I don't want to see this stuff start showing up in supplemental budgets because that means it is not real in terms of the budgeting process of the Pentagon—do you get what I mean—or the services. And once you get started down that road in Afghanistan like we did in Iraq, we are going to have serious problems, budget problems, okay. So it is not entirely on your shoulders, but the question is a real one, and it needs to be pursued. So if it is not entirely within your purview, if you can shift that to somebody who can alert Mr. Skelton about it and then send us a copy of it, we would be gratified.

General LENNOX. Yes, sir.

[The information referred to can be found in the Appendix on page 77.]

Mr. ABERCROMBIE. Mr. Taylor is next and is going to take the Chair of the committee for the moment.

Mr. TAYLOR. [Presiding.] I want to thank you gentlemen again, and we all apologize for keeping you here later than you would like to be because of the votes.

General Brogan, a couple of things that I would like you to address. For one, for the newer members, I want to commend General Brogan on the huge task you had in developing the MRAP. It is a lot more than just a V-shaped bottom. For what it is worth, the fuel tanks have to be designed to blow away, otherwise you incinerate the occupants; that as a matter of the seats, whether you suspend them from the bottom or from the ceiling, again, because of the initial shock of the blast coming up, limiting the number of port holes where a Rocket Propelled Grenade (RPG) or explosive penetrator can enter. So it was a, in fairness to the General, it was a huge task. And as new threats evolved the need to respond to those

threats, and, General, again, you and your crew deserve our Nation's gratitude and the gratitude of every mom and dad who has got a loved one over there.

One of the things we discussed as you were looking at the nine or so different varieties at the testing ground was you had come up with a grading system and you had, I don't know, maybe 10 different criteria that you were looking at; one of it being the hull, another being the fuel tanks, fire suppression, et cetera. And I remember you saying that one or two of the vendors might do really well on one thing but poorly on nine, or it might do well on nine and poorly on one. And I think at the time you expressed a frustration that the ideas belonged to the vendor, that you couldn't pick and choose different characteristics and incorporate them in your ideal vehicle. And one of the things I hope I had asked you to do was see to it that future contracts were written so that, as our Nation paid to have these different varieties of vehicles proposed, if you saw something you liked, a feature you liked, that you could incorporate it in the final version of the vehicle that you ordered, water under the bridge with the first MRAP. And again, you did a great job, but as you are looking at the second variety, the one that is being designed for Afghanistan, I am curious if you have the contractual freedom, if you see a characteristic you like in one vehicle, that you could incorporate that idea in the final vehicle that you decide to make.

General BROGAN. Sir, as you recall in a previous hearing where you brought the representatives from industry in here, each of them agreed to share the test results on their platforms with the other vendors. And that spirit of cooperation continues to exist today. I am going to have to check and see if we put a specific clause in the contract. As you know, we intend with MRAP ATV to down select eventually to a single manufacturer. And we will do everything we can to ensure that that vehicle is the most survivable, most capable platform that we are able to field.

Mr. TAYLOR. I am curious, given the unfortunate economic downturn, one of the problems that we were facing as you built the first batch was a fairly red hot economy and a limited number of people who could make the vehicles and wanted to make the vehicles, which is why you ended up going to five vendors. I am curious, given the economy now, I am glad to hear that you can go to one vendor. Once you down select, what do you anticipate the time line from the day you place that order, let us say the first order is for 2,000 vehicles, which is the number being kicked around, from the day you place the order, what do you expect the delivery day to be of that 2,000th vehicle off the assembly line and headed over to South Carolina for integration?

General BROGAN. Sir, as you know, we are now in source selection on that. And I have not personally looked at the proposals. And even if I did, were I to divulge the most aggressive of those time lines, I could be adversely affecting the outcome of that solicitation. So I am going to have to take that for the record, and after source selection is complete and we have awarded the initial five contracts for the more exhaustive testing of the platforms, be able to provide you an update at that time.

[The information referred to can be found in the Appendix on page 77.]

Mr. TAYLOR. I guess my last question, General, would be, it is common knowledge in this town that we have paid too much for the first of any platform, but the real bargains come at the tail end of a production run. That is when the manufacturers come and say, hey, I am getting ready to lay people off. It is a fact that the price of particularly metals have dropped dramatically since you started the MRAP program because of the worldwide economic slowdown. I think the price of aluminum is the cheapest it has been in about five years. I am sure steel is about the same. So, given the fact that the tail end of the run you get your best bargain and that we need vehicles at the training installations, do you have, number one, the financial empowerment and the legal empowerment to buy whatever vehicles you deem necessary or the training commander deems necessary to get them to Fort Polk, Camp Shelby and the other training installations, again in a timely manner? And this is very personal. I have got about another 5,000 Mississippi Guardsmen have been notified that they will be training up this summer to be deployed. I would sure like to be able to tell their families that they will train on an MRAP stateside before they deploy some time next fall.

General BROGAN. The short answer is, yes, we have all of the funding we need to buy all of the vehicles that are destined for the training base. All of those vehicles are on contract and being produced. But as I indicated, the plan is to take the most capable vehicles, which are the ones coming off the assembly line now, place them forward into theater and then retrograde the vehicles, the early delivery vehicles, back into the CONUS training base. So we don't need any additional money to buy training vehicles, sir. They are all on contract.

Mr. TAYLOR. Again, so what would your time line be to get 20 or 30 vehicles of each to the stateside training bases?

General BROGAN. Sir, I would defer that to Major General Lennox with respect to the Army training.

General LENNOX. Sir, I think we have about 300 scheduled to be back in the March time frame. And I don't want to commit to an exact date, but it is because we have to take a look at the states of those vehicles, make sure they are refit and ready to go out for training and we don't put any of those soldiers in danger. But I expect the big numbers to start flowing some time in this next quarter. And our ultimate goal is about 1,000 total, so to have enough of every variety at all the different post camps in the station.

We also are very aggressive with the trainers. General Brogan mentioned the very first one, by coincidence, did go to Camp Shelby. But there are many more that are coming. And not just the drivers trainers but also the rollover trainers to try to get us to where we are comfortable exiting the vehicles and not just doing make-believe drills to get at that training that you so aptly put.

Mr. TAYLOR. General, if I could, Secretary Gates had what I thought was a pretty good quote last week when he said that there is nothing magical about putting a date on a calendar, but in our world, if you don't do that, you really don't ever get there.

So what I would ask for the record is when you intend to have those vehicles at the different training installations, understanding the world changes, requirements change, but I would like to know at least what your target day is.

General LENNOX. Yes, sir.

[The information referred to can be found in the Appendix on page 77.]

Mr. TAYLOR. Thank you very much, sir.

The Chair now recognizes the gentleman from New York, Mr. Massa.

Mr. MASSA. Thank you, Mr. Chairman.

And, gentlemen, on behalf of the 645,000 men and women I represent, thank you and thank you for all that you do.

Just a quick series of tactical kinds of questions. I had a wonderful opportunity to talk with the staff sergeant, who I know is representative of so many. And I notice that he is a path finder, at least one of—my eyes are failing—but at least one of the senior officers at the table is an airborne qualified officer. To what extent is the United States Army and perhaps the brigadier can also mention, to what extent are the armed services looking at personal protective equipment and body armor from a weight-saving point of view with respect to airborne tactical services? We saw the largest air drop when we went into Iraq. We have added an awful lot, as you have said here today. And I am wondering if anyone has a weather eye on what this personal protective equipment does with respect to tactical air drops.

General, if you would like to lead off, and I would enjoy hearing a variety of responses.

General FULLER. Sir, I am not aware of jumping with—I manage the parachutes. We have a new parachute to ensure that we get the soldier safely to the ground. But I would have to sort out whether we jump with our body armor on. I am not aware of that at this time.

Mr. MASSA. So, as far as you know, there has been no tactical testing or training with respect to the increases in potential weight because of body armor vis-a-vis the kind of use of air drop forces?

General FULLER. No, sir, I am not aware, but I can find out.

Mr. MASSA. Obviously, you don't want to drop heavy. You can break a leg. But I am just wondering if anyone is looking at this as a synergistic issue.

General FULLER. I am not aware, sir, but we can sort that out for you.

Mr. MASSA. Anyone else?

General.

General LENNOX. I have to take that for the record. We recently opened a free-fall school, and I will find out whether or not we are jumping with the body armor or not.

Mr. MASSA. I appreciate the looks from the table. I hope it is because we brought up something that people aren't thinking about and not something that I am completely off the wall in asking.

General BROGAN. I think it is more a lack of knowledge of the details than it is inappropriate——

Mr. MASSA. Perhaps in a detachable kit, in a stringer, so the weight doesn't impact on the individual air drop element. Again, if

I had the honor of doing what you do, I can't imagine dropping with another 25 pounds, but I think it is something worth asking about.

[The information referred to can be found in the Appendix on page 78.]

Mr. MASSA. Two other real quick questions if I may, Mr. Chairman.

Mr. ABERCROMBIE. Sure.

Mr. MASSA. One is, first off, I honor all of the things you have said. It is incredible how far so many have come so quickly considering the starting point on these important issues. At any time during the years that this has been an issue of conversation have you ever felt that budgetary processes, money, inhibited your movement forward.

General FULLER. Not from my perspective. We appreciate all the support we have received from Congress. I think we inside the Department of Defense understand the priorities of protecting soldiers, providing them the best. When they come out of that MRAP vehicle, when they climb into that MRAP vehicle, they are a soldier, we want to give them the best kit that they have as a baseline. As we have articulated before, the soldier is the basic and is the centerpiece of our formation. The vehicles are the mechanism in which they get there, whether it is an aviation platform, a MRAP or whatever it may be. And I don't believe we have been slighted or not requested or been supported by this committee or any of the other organizations in that endeavor.

Mr. MASSA. And this is the concurrence of the panel.

General BROGAN. I would suggest that there are some processes that occasionally made it challenging but certainly never prevented us from fielding the life-saving equipment we needed to our troops. For example, the above threshold reprogramming ceilings, there is a limited amount of money we can move around ourselves without the support from the full committees. But even at times when the full committees were out of session, we were still able to get the chairman and get signatures on those Above Threshold Reprogrammings (ATR) actions, reprogramming actions. So it never inhibited us from doing our job. As you know, money is appropriated for specific line items. Having the flexibility to move between those line items requires that sort of reprogramming.

Special Operations Command has a pot of money that is kind of unlabeled, and it allows them, when a need arises, to rapidly react to it and then report after the fact how that money is spent. A similar pot of money for the other services would be very valuable. In the MRAP program, we have enjoyed the benefits of a transfer account. So all of the money from the MRAP program was put into one account, and then it was given to a service. And they either executed it on their own if they were buying the government-furnished equipment for the platform, or they transferred it to the MRAP program office for us to place on contract to buy vehicles and the things that we did jointly. If, instead of a transfer account that had been a true joint account, a huge amount of recordkeeping and accounting would have been able to be avoided because then the lead financial manager of the MRAP program could have done one set of books, one set of transactions. Now, she made it work

through Herculean effort. I mean, I very much appreciate Chairman Taylor thanking me for what has been done on MRAP, but in all honesty, it was a huge team effort. Mr. Fahey sitting next to me, my counterpart in the army, has shouldered every bit of the load that I have. The program manager, the extended program team, Defense Contract Management Agency (DCMA), Defense Supply Center Columbus, the Aberdeen Test Center. A huge number of folks have made this effort possible. I am very pleased to be here to accept the thanks and congratulations, but in no manner did I do that on my own.

Mr. MASSA. Thank you.

And with the indulgence of the Chair, one final follow-up, sir.

If I could ask the staff sergeant, please. Sorry to make you shift chairs there, staff sergeant. Now, I know that no one is looking at you and you are under no pressure or scrutiny. But if you could ask of the United States Congress anything before or if you had to go back to where you came from in Iraq, what would you ask of us?

Mr. ROWE. The restrictions that are mandated on us as soldiers in Iraq and Afghanistan, sir, I would like for some of those decisions or the majority of those decisions be left up to the commanders or the ground troop commanders on the ground. Depending on the mission or depending on the location of the mission, I would think that body armor, ammunition, being able to engage the enemy differently than you would in the city environment, those are decisions I would like to have left up to the commander rather than the Army in general or as a whole.

Mr. MASSA. Thank you for your candor. I appreciate that. And as an example of all who have served, again, I thank you personally.

Thank you gentlemen.

Mr. Chairman, I yield back the balance of my time.

Mr. ABERCROMBIE. [Presiding.] Mr. Bartlett.

Mr. BARTLETT. Thank you very much.

General Brogan, it is nice to have a confirmation once in a while that what we are doing is really important and makes a difference. In this regard, just yesterday I was made aware of a communication received just this week by the manufacturer of a new device from a Marine field officer in Iraq. I would like to read it to you and the committee for the record, Mr. Chairman, if I may. It is short.

He says, he e-mailed: I am the logistics Officer in Command (OIC) for my battalion currently serving in Baghdad, Iraq. We are having a serious issue compounded by the fragile political situation with bystander kids throwing rocks at our convoys as they pass by. We have had a few soldiers seriously injured from such occurrences. I researched the Long Range Acoustical Device (LRAD), and I believe that this device will fulfill our requirement to strongly deter personnel at distances of 50 to 75 meters from throwing rocks at our passing convoys. I just wanted to confirm with my company that my assessment of your product is correct and that it is the product we require. Thank you for your assistance.

The LRAD, which is the long range acoustical hailing device can be used to transmit clear voice instructions or deterrent tones to

break up crowds, encourage vehicle drivers and animals to move out of the way and to simply communicate to the outside from the safety of the inside of the convoy or an MRAP vehicle. The new LRAD 500X was developed in cooperation with the Joint Nonlethal Weapons Directorate and Research, Development, and Engineering Center (RDEC). It completed safety testing by RDEC, and Aberdeen is in the initial stages of fielding to the Army while also being deployed and supported by the U.S. Navy.

Combined Arms Support Command (CASCOM) commissioned Training and Doctrine Command (TRADOC) to complete an evaluation of the use of LRAD for convoy protection, and the recommendation was to field the system throughout the Army.

My question is, are we moving fast enough to get this added layer of force protection to our troops in Iraq and Afghanistan? And specifically, what is the MRAP joint program office doing to rapidly equip our forces with this technology?

General BROGAN. Sir, there were some early requests from theater for acoustic hailing devices. LRAD was one of the companies that provided those devices. There were some others as well. And there is obviously debate between the manufacturers about whose is the better product.

Specifically, with respect to MRAP, there has been no request from the field for us to integrate an acoustic hailing device on that platform. We certainly have that capability down at Space and Naval Warfare Systems Command (SPAWAR) Charleston to conduct that sort of integration and, if the need arises, to field those types of devices into theater.

Mr. BARTLETT. General, you can't ask what you don't know exists. I suspect that most of your people in MRAPs don't even know this capability exists. Wouldn't it be nice to let them know that?

General BROGAN. Sir, we are familiar with LRADs in the program office. I have been shown a number of that type of system by several manufacturers. And as I said, we have fielded some of this capability into theater. We are using some acoustic hailing devices at entry control facilities and things of that nature. So I believe there is some knowledge of those systems in theater. And if they wanted more, they have certainly not been shy about asking us for things when they need them.

Mr. BARTLETT. I appreciate that very much.

General Fuller, I am very distressed that there are newspaper articles out there implying that some of our young men and women in the theaters over there are wearing defective body armor. I have been briefed on this issue, and I don't think there is any evidence that this body armor is in fact defective.

The DOD IG report raises a number of questions regarding the integrity of the testing process for body armor. Specifically, the report states that parts of the testing were not consistently conducted or scored in accordance with contract terms and specifications. I don't think this means that our soldiers in theater are wearing unsafe body armor. This is just a disagreement as to how to conduct these tests, is it not?

General FULLER. Sir, I appreciate your concern. It is a disagreement on how we conduct the tests. We do agree with the Department of Defense Inspector General that we had deficiencies in our

testing processes, not in our product. Our product is safe. What we have done is gone and changed the processes. We have pulled the testing out, which was a point of discussion; we pulled the testing out of a National Institute of Justice certified lab and brought it back within the government. We are talking about a critical force protection survivable item. We should be monitoring that within the government, and we have done that. We have pulled back the testing inside the government. We have changed our processes and our procedures. And to this date, we recognize we needed to fix this, and we have changed it. We have gotten support from the Director of Operational Test and Evaluation. We applaud the insights that were provided to us by the Department of Defense Inspector General, and we want to fix this.

But we never issued defective body armor. We might have had process issues. We have cleaned up these process issues. We are moving forward to continue to straighten this out. But soldiers have the best body armor by far. And besides the discussion of Sergeant Rowe talking about receiving shots in the chest, they have the best body armor, and they continue to have the best.

Mr. ABERCROMBIE. Would you yield a moment?

Mr. BARTLETT. Yes, Mr. Chairman.

Mr. ABERCROMBIE. Ms. Ugone and Mr. Sayre, you heard Representative Bartlett's question. He was making a differentiation, if you will permit me, Roscoe, between experiment protocols per se and whether or not the body armor could be construed as being insufficient or not up to standard as a result of those. You don't have to argue with each other here about what your reports say or don't say. But could you comment with direct reference to Mr. Bartlett's observation and question?

Mr. Sayre, why don't you go first.

Mr. SAYRE. Thank you, Mr. Chairman for the opportunity to respond. The Inspector General has issued an important and significant report with significant recommendations that we find we are in agreement with all but one. In fact, this report is very supportive of our view that department-wide standards and processes for the testing of personal protection equipment is essential, and we support that view. Since the House Armed Services Committee (HASC) hearings in June of 2007 relative to the dragonskin issue, the Army Test and Evaluation Command has conducted significant testing of ballistic inserts under our oversight. We can report that many of the issues in the Inspector General's report had been resolved through that testing process; not all of them, but some of them independent testing by the Army Test and Evaluation Command is a significant improvement. New instrumentation that resolves many of the measurement issues, new processes that standardize the scoring and have resulted in, and I will comment on some of the statistics, resulted in improved scoring and consistency.

Furthermore we also appreciate that the Congress, recognizing this, has in the last Defense Authorization Act given us authority to exercise oversight over these systems. And we are moving out to do that so that, by the end of this calendar year, we believe we will have processes in place that will address all of the issues mentioned in the Inspector General's report. We do take issue with the finding that two tests failed and one was inconclusive which re-

sulted in their recommendation to return the plates. We defer to the Secretary on the return, but we do believe that using sound engineering judgment and the contract specifications in place and our professional judgment, that the three first article tests in question did in fact meet the contract specification, and that is our view. We do appreciate the issues that the Inspector General has raised about the consistency of scoring. But we were asked to conduct a limited review of these three specific tests which I believe to be appropriate as these first article tests are the basis to qualify the design and proceed to procurement. So we looked at the record of these tests and made this judgment. I am prepared to expound on each one of these if the members would like me to.

Mr. ABERCROMBIE. I don't think that is necessary. The question here is, in your judgment, are the plates that are being utilized in the field meeting the test of field service?

Mr. SAYRE. My answer is that we stand behind the judgment that these three specific first article tests of these three designs met the contract specification.

Mr. ABERCROMBIE. You understand the differentiation here. We are not—there can be arguments about whether or not the elements of scientific experimentation are being met; replication, et cetera, those kinds of things. It may be—an argument about that doesn't mean that the product coming out of that process is any less capable than that which was contracted for in the first place.

Mr. SAYRE. I don't believe it is any less capable.

Mr. ABERCROMBIE. Okay.

Ms. Ugone, you get the context of the question?

Ms. UGONE. Yes, I do.

Mr. ABERCROMBIE. Because I really don't think this is the forum to conclude, let alone get an explication of what the differences may have been as to whether or not scientific procedure was adequately followed in all instances, let alone documentation of it.

Ms. UGONE. I agree with you, Chairman Abercrombie, but I would like to in general answer the question.

And thank you, General Brogan, for sharing the mike. If I could just give you a little bit of context in which we did this audit. This report is a third in a series of body armor reports conducted in response to requests from two Members of Congress.

This report had two findings. The first finding related to the inconsistencies in the testing and scoring processes during first article testing for contract 0040, and we used the criteria of the contract specifications. The second finding had to do with a lack of DOD standards for ballistic testing. In fact, with regard to the recommendations, we do not believe we have any disputed recommendations. The Secretary of the Army had agreed to identify and collect the ballistic inserts that are in question. However, we are still in disagreement about the finding. And as you have already mentioned, we are not here to argue the actual finding, but we are satisfied with the response that both the Army and DOT&E have made to our recommendations.

What we did also in our final report is ask for an additional information on the plan of action the Secretary of the Army has implemented as a result of his order to identify and collect these ballistic inserts. We have also added a recommendation with respect

to not allow government contracting officer technical representatives to make any changes to contracts without authorization from the contracting officer.

Mr. ABERCROMBIE. Well, again, though, I appreciate all of that, and I understand it.

Ms. UGONE. Well, we can state because of the inconsistencies, the Army does not have assurance that all inserts purchased under contract 0040 provide the level of protection required by the contract.

Mr. ABERCROMBIE. Okay. Well, then, that goes to your point, Roscoe. Back to you.

Mr. BARTLETT. Thank you very much. Let me give an example of what I understand was one of the inconsistencies. The plates are exposed to a shot. And the speed of the bullet is determined by camera, and sometimes there is an over-velocity of that first shot. Sometimes the testing officer would simply replace that plate with another plate and another shot to have the correct velocity. Sometimes he would take that plate and subject it to the second shot. If there was no penetration with the second shot—see, the notion is that the first shot, although it may not have penetrated the plate, may have weakened the plate so that it was now more susceptible to a second shot. So sometimes the officer would simply take the plate that had an over-velocity shot, expose it to a second shot, and if the second shot did not penetrate, then he made what I think is a logical conclusion that the plate is okay. Now, clearly, that is an inconsistency because sometimes he would simply take a second plate and do a correct velocity shot and then proceed with the test.

Now, if the first shot was over-velocity and you used the plate for the second shot and the second shot went through the plate, why did it go through? Because the plate was defective or because its capability was reduced by the first shot? So now he would take a new plate and do it again. This is not consistent. But I don't think that there is any evidence that this results in any lesser of a test for it. And I don't know what the other inconsistencies were.

But my major concern is that, why couldn't this have been resolved in-house? I like oversight, and I would love to have seen an article after the fact saying that the Inspector General found these problems, the Army immediately responded to this and fixed it, and none of the plates were found to be defective. Now there is the press out there which is implying that we have a lot of body armor out there that is putting our young people at risk. I am not sure that is at all true, and I think that does a disservice to all of you who work so darn hard to provide our people with the best equipment to have this out there. Why couldn't this have been resolved this way before it got out into the press? That added nothing to this, by the way, getting it out into the press. Why couldn't it have been resolved before it got out into the press? And what can we do in the future to make sure this kind of thing is resolved? I want oversight. I want visibility. I would love to have had an article out in the press saying that the IG did this inspection, the tests weren't consistent, the Army corrected the thing, they went back and the tests are consistent now, and what do you know, all of the armor was good, thank God. What do we have to do in this com-

mittee to make sure that this kind of thing doesn't get out prematurely in the future and harm what you all are doing and the image of this whole institution?

Ms. UGONE. Mr. Bartlett, if I could answer that question. You had mentioned a fair shot determination. And I am going to respect Chairman Abercrombie. I am not going to get into the details. But the issue with that was scoring. And how it was scored and the manner in which it was scored resulted in a first article test that had passed that really should have failed if you looked at the scoring. And when they entered into that determination, they already had four points; there is a six point system. And what we are saying is, had they scored it appropriately, it would have failed. So we can provide you more details upon that for the record. But in the second instance, with regard to our effort to dialogue with the Army, absolutely, we have been dialoguing with the Army since the middle of October when we first alerted the Army to the issue that we had related to standards of ballistic testing. We have had two discussion drafts, one formal draft. We have had numerous meetings. And, frankly, the Army has taken corrective action on all our recommendations. We don't have a disputed recommendation.

Mr. BARTLETT. Then why would we have this negative article out in the press? What could we do in the future to avoid that? This is not helpful to you or any of us.

Ms. UGONE. I am not sure that I can do anything about the press, sir.

Mr. BARTLETT. Maybe we can, Mr. Chairman.

If I might I have one more issue I would like to address very briefly, if I could.

Mr. ABERCROMBIE. Yes, you may.

Let me just say, this hearing, I think, provides the necessary incentive not to have this occur again, right? Okay. I have already quoted my mother once. I will quote her again. She used to say, a word to the wise should be sufficient.

Mr. ABERCROMBIE. She said that to me numerous times. Hopefully, we won't have to say that again here.

Mr. BARTLETT. General Brogan, we have read and heard testimonials in regard to how the ESAPI body armor has and is saving lives, and that it is obviously very important. We have also heard that we have added so much weight to what the individual soldier and marine has to carry that it is causing serious long-term medical problems and decreased deficiencies.

What are we doing to motivate or incentivize industry to reduce the weight of body armor, say by 50 percent? There is currently, as you know, no dedicated Research and Development (R&D) funding line. Maybe that is our fault.

Mr. Chairman, we need to fix that.

There is no dedicated R&D funding line for body armor, and the procurement is done through the Operations and Maintenance Command. What do we have to do so that body armor gets the same level of interest as a major weapons system, such as the Future Combat System or the F–22.

I have just got to think that meaningful R&D here, basic research and R&D could yield meaningfully better armor. What do

we have to do, Mr. Chairman and panel, so that we have a dedicated line for R&D?

Mr. ABERCROMBIE. Maybe Mr. Fahey would be most appropriate to speak at this juncture. You are getting an offer here, you understand.

Mr. FAHEY. I mean, I can talk about the armor of vehicles, and General Fuller can talk about the armor of personal vests. But we do have a——

Mr. ABERCROMBIE. Do you have a line as well, or not?

Mr. FAHEY. We do.

Mr. BARTLETT. Staff tells me we don't have a dedicated R&D line for body armor.

General FULLER. Sir, for body armor, that is correct.

Mr. ABERCROMBIE. So, just for the record, Mr. Fahey, that is why I wanted to ask you, you do have a dedicated line, right?

Mr. FAHEY. For vehicles.

Mr. ABERCROMBIE. For the vehicle, right.

Mr. BARTLETT. I am asking body armor.

General FULLER. Sir, that is correct. At this time, the Army does not have a dedicated line for both research and development funding nor procurement funding for body armor. However, it is predecisional, but the Army is looking at funding that in the near future.

We also have efforts underway, in our science and technology field, to try to reduce the weight of the armor and give it the same protection at a reduced weight or give it increased protection at the same weight. We are funded in that area. The research and development line associated with constant improvements is in our science and technology field right now, not directly in a body armor research and development line.

Mr. BARTLETT. Thank you for your patience, Mr. Chairman. I yield back.

Mr. ABERCROMBIE. So you compete, then, within that category, correct?

General FULLER. That is correct, sir.

Mr. ABERCROMBIE. What is the extent of the category? What are some of the other elements that are part of that science and technology line, if you know?

General FULLER. Yes, sir. Part of that is associated with, for example, as Mr. Fahey said, the armor associated with vehicles. Some of the technologies that we will see are common between a ground platform armor and a body armor. So we are looking at the basic core elements that allow us to——

Mr. ABERCROMBIE. Who do you compete with aside from that in that category?

General FULLER. Sir, we will compete with all the efforts that the Army has going on in research and development, whether it is in the aviation——

Mr. ABERCROMBIE. So you are in a big pool.

General FULLER. Yes, sir.

Mr. ABERCROMBIE. You are not in a little pond.

General FULLER. Correct, sir.

Mr. ABERCROMBIE. I think it is important, in response to Mr. Bartlett's inquiry with regard to the question of whether a line is

appropriate, you are competing against some pretty powerful internal research and development interests.

General FULLER. Roger, sir. On the science and technology side, a lot of the basic science.

Mr. ABERCROMBIE. Okay, very good.

General LENNOX. Mr. Chairman, do you mind if I add something to this?

Mr. ABERCROMBIE. No, not at all.

General LENNOX. There has been a lot of scientific talk and testing talk across the table here. And I want to go back to Representative Bartlett's point and underscore the fact that we believe every soldier has absolutely safe body protective armor. The Secretary of the Army has made a decision to identify and collect those that are disputed in this disputed lot—it is just the prudent thing to do——

Mr. ABERCROMBIE. That is 30,000-plus plates, right?

General LENNOX. Exactly, sir. So we don't have any question in the soldier's mind that they don't have the finest body armor in the world. And I just wanted to state that.

Mr. ABERCROMBIE. What stage is that in, that collection?

General LENNOX. The order went out last week, sir. We are monitoring that.

Mr. ABERCROMBIE. Okay. Very good.

Mr. Hunter, do you want one more shot?

Mr. HUNTER. I just want to say, my father was in the 173rd Airborne in the Army Rangers in Vietnam. I was a marine in these latest conflicts. And my little brother is now a specialist, just graduated from advanced infantry training (AIT). He is going to jump school in about a week and a half. So if you see Specialist Hunter, you can go ahead and haze him and tell him that his older brother said it was okay.

But, General Lennox, this really is a family business for quite a few of us up here. And what you all do affects our family and our friends as well as our constituents and young people across America. So I just want to say thank you. And especially to the staff sergeant, who was very candid here and answered the questions in front of all these folks, thank you for your service.

First Sergeant, thank you for yours, I really appreciate it.

And semper fi.

General LENNOX. Congressman Hunter, if you don't mind, I didn't want to leave you with the impression that commanders in the field don't have a lot of leeway, enormous leeway to do what is right for their soldiers. And that is taking place today. It is the commanders in the field, their role and responsibility to make these important decisions about tradeoffs and mobility and body protection. And it is not something that is being dictated by headquarters, Department of the Army. We provide the equipment. We provide the resources for commanders in the field to fight the fight and make those decisions.

Mr. HUNTER. Good. That is how it ought to be.

Mr. ABERCROMBIE. And for the record, this is something that the committee, let alone the Congress, won't be involved in, that is for sure. That is a policy and tactical and strategic decision that you have to make—or the services have to make, right?

General Brogan, I assume you wouldn't disagree with that. That is not something—to me, I will tell you, it is like this question about the UAVs and whether it is 3,000 feet or 3,001 feet and whether the Army is doing it or the Navy and all the rest, we shouldn't be involved in all that stuff. And that got kicked to us. What happens is, if there is a question like that and it doesn't get settled internally, what happens is, it ends up here. That is the problem. But I can assure you we won't get into that.

But what we do want to get into—and I am going to ask my questions right now, if that is okay, and then we will finish up.

Especially with relation to the last line of questions about a written line in order to do research and so on, is all of this or any of this part officially a program of record? Because I am concerned, going back to the MRAP situation, you have already heard me speak today and you have heard Representative Taylor mention this over and over again in this hearing and others, I am very concerned that this not drift into the supplemental budget situation. If I have my way, we will never have another supplemental budget unless it is real, an actual emergency, and it is supplemental to the actual real budget.

So is the research and the activity associated with the vehicle or with the personal armor force protection, is this a program of record?

General BROGAN. Sir, it is a program of record. But we have done some of the procurement——

Mr. ABERCROMBIE. Is the MRAP acquisition a program of record?

General BROGAN. Body armor. The family of personal protective equipment is a program of record.

Mr. ABERCROMBIE. What about the vehicle force protection?

General BROGAN. Each individual vehicle program—leave MRAP off the table for a minute, if I may, sir—but Humvees, Advanced Artillery Vehicle (AAV), Expeditionary Fighting Vehicle (EFV), tank, those are all programs of record. And the equipment—survivability, packages, things that go with them—are part of the program of record. So research, development, testing and evaluation lines are rolled into the budget for those particular things. And they are normally at the program element level.

Part of the challenge is, with personal protective equipment, there is a whole family of things that are included in a single program element because program element is a fairly high level, so helmets, body armor, flame-resistant equipment, all of that is included in that one Program Element (PE), the procurement, because they are very small dollar value items. It is really not procurement. It is purchasing with operation and maintenance funding.

Mr. ABERCROMBIE. How are you funding the former? What you just cited before this last—how are you funding all the things that you just mentioned?

General BROGAN. A major vehicle program you would procure after you have done the research effort, the development effort, with procurement Marine Corps dollars, the Procurement, Marine Corps (PMC) appropriation.

Mr. ABERCROMBIE. Where does that fit in in the program of record? Is it a base budget item or not?

General BROGAN. It absolutely is a base budget item. And we have in our base budget money for this personal protective equipment. We did, however, take advantage of supplemental funding to accelerate the fielding of this equipment once we went to conflict. But we always had money to buy vests, to buy plates in our base budget.

Mr. ABERCROMBIE. Okay. Well, let's see, I understand that. That is a true emergency supplemental item that gets no argument from me or from other members because you are already doing something. The situation arises that wasn't anticipated during the regular budget process. You have to supplement it because it is in fact an emergency to make sure everybody has what they need. Is that a fair summary of what an emergency supplemental budget should be?

General BROGAN. I concur with your assessment, yes, sir.

Mr. ABERCROMBIE. Well, okay. Where does the MRAP fit into this?

General BROGAN. MRAP was not a program of record. It was funded purely under supplemental appropriation. However, all of the oversight that was provided in that program by the Department of Defense, Secretary Young, Secretary Etter, now Secretary Stackley, Mr. Popps and Secretary Bolton within the Army, it was managed as if it was a program of record.

Mr. ABERCROMBIE. I agree with you on that. But the status today, it is still not a program of record.

General BROGAN. In fiscal year 2010, the direction has been provided by the Department of Defense that each service will fund the sustainment of those vehicles not specifically associated with combat operations within their base budgets. So it, in effect, migrates to program of record status——

Mr. ABERCROMBIE. This is very good. You are going to be major general sooner than you think.

Leaving aside for a moment the migrating, in the effect, it is not a program of record as of now, although you are trying to treat it as much as you possibly can.

General BROGAN. Because it will be in the base budget, because it will have a program element associated with it——

Mr. ABERCROMBIE. It will be a program of record?

General BROGAN [continuing]. It will be a program of record.

Mr. ABERCROMBIE. So we haven't done the 2010 budget yet.

General BROGAN. Correct, sir.

Mr. ABERCROMBIE. That is upcoming. We are living with a continuing resolution—time out. I am asking for a real purpose. I am not trying to harass you or trick you or anything. There is a method to this.

We are dealing with a continuing resolution, and we will have a budget shortly that will be presented to fix that. There will be a supplemental budget, much to my great regret, that we will have to deal with in one form or another. Then there will be the budget for 2010, for the fiscal year starting in October of this year, of this calendar year, right?

General BROGAN. That is correct.

Mr. ABERCROMBIE. So, will the MRAP program be a program of record in the upcoming fiscal year 2010 budget which we will be

drafting in terms of the DOD bill and subsequent appropriations over the next few months?

General BROGAN. I would say, yes, given that each service was directed to fund its own share of the operations and maintenance costs of that program——

Mr. ABERCROMBIE. You can see where I am going, General. I hope the message goes back to the Pentagon and the administration——

General BROGAN. It will remain a hybrid program, because as new things emerge, for example, if we have to insert a technology into that program that we did not anticipate, it is going to come to you in supplemental.

Mr. ABERCROMBIE. Yes, but that is separate. A supplemental budget should be on programs of record. And if some emergency comes up that wasn't anticipated by anybody about anything and it doesn't fit in anything, yes, then we can take it up. But that is an emergency, an urgent program. I mean, that is what the whole MRAP was. And that came out of the Congress. It didn't come out of the Pentagon. But now that it is there, I hope we are not going to get into, well, this got originated by the Congress, so we are not going to pay attention to it.

General BROGAN. No, you are not, sir. The services will budget to continue the vehicle and——

Mr. ABERCROMBIE. The message should go back upstairs or down the street, or however it goes, or across the river, this has got to be a program of record.

General BROGAN. I understand, sir.

Mr. ABERCROMBIE. Okay. And then one other thing on the question of the multiple engines and the different variations—none of which I disagree with, by the way, the variations, they all have their reasons. But what are you doing, because we have scarce resources, to prevent duplication of effort? Maybe that is a program issue.

General BROGAN. Well, sir, one of the things that we did was we trained all of the commercial field service representatives——

Mr. ABERCROMBIE. In other words, I am not conflating multiple efforts with duplication, as I realize there are variations, the different manufacturers are not doing the same thing. There are different vehicles that are being put—there are variations in the vehicle. So I am not saying that the variations mean that that is duplication.

General BROGAN. I understand. So, for example, we trained field service representatives to operate on all of the platforms so we didn't have to hire them just from an individual company to work only on that company's vehicles. So we didn't duplicate field service representatives, we use a single one who is universal.

Because the engines on these vehicles are widely used in both commercial and Department of Defense, we are able to take advantage of some of those economies of scale.

Mr. ABERCROMBIE. Okay. One last thing, but you need not answer it now, but I would appreciate in writing, I would like both the Army and the Marine Corps, when contemplating the shift of forces to one degree or another from Iraq to Afghanistan, to give us, if you can, your primary force protection challenges—and I am

putting it in the plural. I am not asking you to rate one, two, three, or something like that. In fact, you may have one; I don't know, maybe you will have five. But if you can give us your primary force protection challenges with an eye toward helping us draft the DOD bill for this upcoming fiscal year.

General LENNOX. Yes, sir.

Mr. ABERCROMBIE. The budget that will be forthcoming within the next few weeks, I expect, isn't going to really address that. It is going to get rid of the continuing resolution and will essentially help us to operate up until October of this calendar year. So I am thinking about, for the next DOD authorization bill and its appropriation implications, if you could simply provide us with your primary force protection challenges as you see them for the Marine Corps and for the Army.

General LENNOX. We will do that, sir.

[The information referred to can be found in the Appendix on page 77.]

Mr. ABERCROMBIE. Very good. You have been very patient. And again, I apologize for the fact that we had to have this break in between, but this has been very, very helpful and useful to us. I hope you found it informative as well. I appreciate it. Aloha to everybody here.

[Whereupon, at 5:40 p.m., the subcommittee was adjourned.]

A P P E N D I X

February 4, 2009

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

FEBRUARY 4, 2009

Opening Statement of Chairman Gene Taylor

Joint Subcommittee Hearing on Army and Marine Corps Force Protection Programs
February 4, 2009

Thank you Chairman Abercrombie. I would like to associate myself with your comments and I look forward to the witnesses addressing your concerns. If there is no objection I would ask that my full statement be included in the record.

This public hearing is not just for a group of congressmen to receive an update on Army and Marine Corps programs. It is an opportunity for the families of our fighting men and women to hear what the Army and Marine Corps leadership is doing to protect their loved ones against the threats their Soldier or Marine faces in combat.

Personally, I was not satisfied with the effort the services made at the beginning of the conflicts in Iraq and Afghanistan to adapt and deploy the protective equipment necessary to keep our men and women in uniform safe. I was in Iraq, as were other Members of this joint hearing, watching our soldiers welding "hillbilly armor" onto their HUMMVEE's, and then listening to our then Secretary of Defense deny the need to rapidly field better protective systems. I also believe that some in the services were trying to protect funding for future acquisition programs and turning a blind eye to rapidly deploying better protective

systems. In my opinion, it took a very long time for the Washington military bureaucracy to break out of "peacetime procurement" policies and shift to rapid deployment of protective gear. And if I read between the lines correctly even today the Secretary of Defense continues to be frustrated with the Services for focusing on big and expensive procurement projects instead of projects that would help troops here and now. Mr. Chairman, I point out that the Secretary had to DIRECT the Services to make funds available for procurement of badly needed reconnaissance assets for Afghanistan. He had to DIRECT them. What a statement that is; saving lives had to be directed from the top.

For our purposes today I believe our biggest blunder was not incorporating the V-shaped undercarriage for our armored vehicles. This technology existed before the conflict in Iraq began; the Japanese, the Israelis, and the Australians all had these vehicles with V-shaped undercarriages. But no Service wanted to buy them because they are big, they are heavy, and they don't fit into Service generated "future visions" of force structure. Even today, Marine Corps Generals are on the Hill discussing "expeditionary needs" of the Corps and emphasizing that big heavy MRAPs do not "fit" into the vision for an expeditionary Marine Corps. Let me say this, I have visited the battlefield twice since we began to deploy MRAPs in significant quantities. Everyone I have talked to, and I mean every single Soldier, Marine, Sailor, or Airman has

asked me to thank the other Members of Congress for funding MRAPs. These vehicles save lives, period. The Services need to understand that MRAP type vehicles are here to stay. Most of us have been too far too many unnecessary funerals to ever again listen to a request for a vehicle that does not have MRAP type blast protection.

The Seapower and Expeditionary Forces Subcommittee held its first of several hearings on the Mine Resistant Ambush Protected (MRAP) vehicle program on January 16, 2007. At that point the MRAP program was still being developed and no vehicles had been produced. In just under two years, with strong bipartisan support from Congress, 15,000 vehicles have been produced. Over 13,000 vehicles have been delivered to theater and I understand the Iraq theater operational requirement has now been reached.

I want to publically thank General Brogan for the service he has provided to his country in leading this effort as the Head of the Joint MRAP procurement team. I don't think there has ever been an acquisition program in the history of our country that was fielded as fast and has had such immediate and dramatic results. Your efforts have saved lives General. There are young people alive today because of the efforts of you and your team. A three-star Army General told me when I visited Iraq just before Christmas that he survived a suicide car bomb attack because of your vehicles; an Army Colonel Brigade Combat

Team Commander told me that he only allows his soldiers to travel in MRAPs, because he knows MRAPs save lives. My own Mississippi National Guard soldiers exclusively use MRAP trucks in the very difficult assignment they have been given to ensure roads in Baghdad remain free of IEDs. Please pass to those folks working for you that those of us who know what a difference these trucks have made are very grateful for their dedicated efforts over the last two years.

However we still have major sustainment challenges ahead of us and Afghanistan will present severe logistical challenges for supplying spare parts. We need to get a better understanding of how the Department is managing MRAP spare parts and whether a potential shortfall exists. I was made aware of some potential issues with MRAP logistics when I was in Iraq. I believe that my staff communicated those issues to the MRAP program office and I would like to hear General Brogan address what he is doing to address those concerns.

To date the Army has filled only 4 percent of its vehicle requirement for training. Experience driving the Up-Armor Humvee does not translate to driving the MRAP vehicles. I know. I have driven both vehicles. As an example, just based on the weight of a standard MRAP, a similar civilian truck would require at least two weeks of supervised training to license a civilian driver. More than half of

accidents involving MRAPs since November 2007 have been rollovers. I believe these rollovers might have been prevented through better training.

A critical component to force protection is adequate training. That means having the ability to realistically train on the equipment the warfighter will actually use in combat. These subcommittees need to gain a better understanding of the Army's current MRAP training requirements, the current plan for addressing these requirements, whether this schedule is fully funded and to determine if there are ways to accelerate that schedule. If there are any potential problems that might disrupt this plan, now is the time for our witnesses to state those concerns so that we can help mitigate them. I must state that I cannot imagine a funding priority higher than training troops heading for combat, and I will personally not accept a single dollar being spent for a "program of record" that is not being used in the current conflicts until we will fill our moral obligation to adequately train our soldiers today.

At the end of the day we have to be able look every brave man and woman in uniform, as well as their family members, directly in the eye and tell them that we are doing everything possible to protect them. We owe them that.

Thank you Mr. Chairman.

STATEMENT BY

MAJOR GENERAL ROBERT LENNOX
ASSISTANT DEPUTY CHIEF OF STAFF, G-3/5/7

BRIGADIER GENERAL PETER N. FULLER
PROGRAM EXECUTIVE OFFICER SOLDIER

MR. KEVIN M. FAHEY
PROGRAM EXECUTIVE OFFICER
COMBAT SUPPORT & COMBAT SERVICE SUPPORT

BEFORE THE

AIR AND LAND FORCES SUBCOMMITTEE
AND

SEAPOWER AND EXPEDITIONARY FORCES SUBCOMMITTEE

HOUSE ARMED SERVICES COMMITTEE

UNITED STATES HOUSE OF REPRESENTATIVES

ON THE ARMY FORCE PROTECTION PROGRAMS

FIRST SESSION, 111TH CONGRESS

February 4th, 2009

NOT FOR PUBLICATION
UNTIL RELEASED BY THE
COMMITTEE ON ARMED SERVICES

Chairman Abercrombie, Chairman Taylor, Congressman Bartlett, Congressman Akin and distinguished members of the committee: On behalf of the Army, thank you for the opportunity to appear before you today to discuss programmatic updates in Army force protection. We recognize that today's dangerous and uncertain strategic environment demands that our units are maintained at a high state of combat readiness, and that deployed forces should have the best capabilities our Nation can offer. As you know, the Army is steadfast in its transformation into one that is best prepared to operate across the full spectrum of conflict, with a focus on asymmetric and irregular warfare. This effort includes Army modernization, modular conversion and implementation of our Army Force Generation (ARFORGEN) process, all designed to rebalance forces across the Active and Reserve Components to provide trained and ready forces for continuous operations. The changed character of warfare has greatly affected our armed services but the Army's top priority remains unchanged, the protection of America's Soldiers. We want to thank the committee for its shared commitment to this goal.

We are in an era of persistent conflict, a long term engagement of high operational demand that makes clear that we must increase our strategic depth, improve readiness and reduce our strategic risk. We are at a critical point in generating Army forces to meet current and future operational requirements. We remain engaged with an adaptive enemy who continuously seeks to develop new methods to attack our Soldiers and exploit our vulnerabilities. As you know, this battlefield has no front lines and poses threats throughout the entire operational area. Aware of this threat, we have adapted our institutional processes to expedite the latest force protection equipment to our deployed forces whether they are combat brigades or sustainment forces. We recognize that this enemy is highly adaptive and we have established systems, enabled by your funding and support, to responsibly procure equipment and promising technologies at an ever increasing pace.

The Army's commitment to implementing our national security strategy and defend our nation is firm with your support. We will continue to provide our Nation, the President, the Secretary of Defense, and the combatant commanders with a unique set of core competencies and capabilities. We remain dedicated to training and equipping our Soldiers and growing leaders. Our Soldiers continue to perform heroically on the

battlefields of Iraq and Afghanistan. We are ever cognizant of the hardships that they endure to safeguard our Nation. Protecting them while they conduct this perilous mission remains our highest priority. We know the importance of each and every Soldier to our Nation, the Army and their Families, and the loss or injury of anyone is a tragedy that we work tirelessly to prevent. Your continued funding and support have enabled dramatic and historic force protection improvements to better safeguard our greatest asset, the American Soldier. Thank you for your ceaseless efforts; they are saving lives every day. We will continue to deliver relevant and ready land power, enabling combatant commanders and the joint force to implement our National Defense Strategy. Simultaneously executing wars in Iraq and Afghanistan, implementing our modularity and transformation initiatives and resetting the force remain a challenge. However, each provides an opportunity to reshape our Army for the future.

Before we delve into specific programs, it is important that you have some understanding of how we view force protection. The Army's framework for force protection is a system-of-systems approach that integrates layers of protection for our Soldiers. The layers begin at the individual level, followed by the vehicle platform, countermeasures (CM), situational awareness (SA), and lethality. Force protection starts with individual equipment, such as the advanced combat helmet, ballistic eyewear, hearing protection, night vision devices, fire resistant uniforms, and Interceptor body armor with enhanced small arms protective inserts, deltoid auxiliary protectors, and side armor plates. The next layer of protection incorporates the use of armored vehicles such as the up-armored HMMWV (UAH) with fragmentation protection kits, the armored security vehicle (ASV), the XM153 Common Remotely Operated Weapon Station (CROWS) and the Mine Resistant Ambush Protected Vehicle (MRAP). Protection is further layered through the use of passive and active counter-measures like Counter Radio Controlled IED Electronic Warfare (CREW) devices and Counter Rocket, Mortar (C-RAM) equipment, and route clearance equipment such as the Buffalo, the Husky, the RG-31, and the Cougar. To provide our Soldiers the ability to maintain enhanced situational awareness on the battlefield, protection is layered even further through the use of tactical unmanned aerial vehicles like the Raven, the Base Expeditionary Targeting and Surveillance System of Systems – Combined (BETSS-C) and innovative solutions such as Task Force ODIN (Observe Detect Identify and

Neutralize). The Army makes use of these intelligence gathering efforts and surveillance systems to enable our Soldiers to have the best understanding of the battlefield to increase lethality and survivability. Finally, these layers of Soldier protection are integrated through the development of appropriate tactics, techniques, and procedures (TTPs), based on lessons learned which are rehearsed through realistic training. Our commanders and Soldiers in theater not only rely on equipment and armor protection, but realize that force protection requires the integration and application of all of these capabilities to reduce vulnerability to attacks in an asymmetric threat environment.

The enemy continually works to identify and exploit our vulnerabilities. Our challenge is to identify and then address these efforts through a combination of TTPs and materiel changes. Since our last update to the committee in January 2007, the Army continues to make substantial progress to stay ahead of this adaptive enemy. We have made major improvements in the system-of-systems we employ to protect the lives of our service members as well as our processes for developing and fielding this equipment. Together with the Marine Corps we have largely fielded an entirely new family of vehicles providing enhanced crew protection, the Mine Resistant Ambush Protection vehicle (MRAP). We have also developed and fielded numerous new or upgraded countermeasure systems and surveillance systems, and we have fully matured the Rapid Fielding Initiative (RFI), providing an increasing array of state-of-the-art small unit and individual protection equipment to over 196,000 deploying Soldiers in FY2008 alone. The current RFI equipment list consists of 73 items to meet the requirements of our Soldiers to fight and win in the dynamic environment of full spectrum operations. Originally scheduled to be completed by the end of FY07, the RFI program has been so successful that it has been extended indefinitely to continue to provide support for ongoing operations. As demonstrated by our use of lessons learned and Operational Needs Statements, we are constantly seeking methods to improve each layer of force protection.

The U.S. Army Rapid Equipping Force (REF) continues to provide timely solutions for commander's operational requirements. The mission of the REF is to rapidly provide capabilities to Army forces employed globally through current and emerging technologies in order to improve operational effectiveness. The REF receives

warfighter requirements for a capability gap through direct communication and feedback from the warfighter. In some cases, projects are generated from requirement documents such as ONS and Joint Urgent Operational Needs Statement (JUONS). The REF reviews each request for supportability and vets potential projects with Army Labs, Program Managers (PMs), and Program Executive Offices (PEOs) to avoid accidental duplication of effort and to maximize partnership opportunities. REF projects can become an Acquisition Program under the Assistant Secretary of the Army for Acquisition, Logistics and Technology (ASA (ALT)) management when substantiated by an approved ONS or JUONS.

We would like to provide you an update on our ongoing efforts to improve Soldier force protection. In addition to advances with combat helmet, night vision goggles, and the M4 carbine, the Army provides every Soldier in theater with Interceptor Body Armor (IBA). IBA remains a centerpiece program for the Army; it saves lives every day. IBA is a modular design that provides protection against fragmentation and small arms ammunition. The current Army body armor (Improved Outer Tactical Vest (IOTV) equipped with Enhanced Small Arms Protective Inserts (ESAPI) plates) provided to Soldiers meets operational requirements and is proven both in rigorous testing and in combat to be the best body armor in the world. Since the inception of the U.S. Army's Body Armor program, the commercial marketplace has been afforded the opportunity, in full and open competition, to demonstrate their body armor products to the U.S. Army. Extensive testing of all body armor products provided to the Army has shown there is nothing more effective on the market today than the Army's Interceptor Body Armor. The Army has continually improved its body armor over time. The current IOTV has three primary improvements: a quick release, less weight and more area coverage than the OTV. The quick release allows removal of the body armor in case of an emergency, to avert drowning or allowing medical personnel quick access to an injured Soldier. In seeking the next generation of body armor, the Army continually collaborates with the industrial base for technology to meet Army requirements. The Army provides industry with the opportunities to show and demonstrate their products. For example, the Army sponsors open industry days and holds Soldier Protection Demonstrations to allow industrial base vendors to demonstrate their body armor products.

The Army will procure 120,000 sets of X-Small Arms Protective Inserts (XSAPI) plates in 2009. These plates will be shipped to Kuwait as a contingency stock, available for use by the theater commander. Although XSAPI provides increased protection, it does not meet the Army standard of providing increased protection at a lighter weight. In fact, it is heavier than the current ESAPI. The vast majority of requests from commanders in the field, especially those in Afghanistan, ask equippers to lighten the Soldier load. Therefore, commanders in the field have the option of drawing the heavier XSAPI plates from Theater-sustained contingency stocks or retaining the lighter, and very capable, ESAPI already fielded.

Another critical component of protection for Soldiers is the Fire Resistant Environmental Ensemble (FREE), a multi-layered versatile, all climate system that allows Combat Vehicle and Air Crew members to adapt to varying mission requirements and environmental conditions. The system consists of: male and female undergarments; base layer; mid-weight under layer; light weather outer layer; intermediate weather outer layer; cold weather gloves; extreme/wet weather layer; rigger belt, and wool socks. FREE is designed to be functional in and out of aircraft and combat vehicles. It will replace legacy aviation and combat vehicle crewman cold-weather clothing. It is designed to increase comfort and ergonomic efficiency for wear in the confines of aircraft and armored vehicles.

Since 2003, every Soldier in OIF and OEF has an Advanced Combat Helmets (ACH) prior to deployment through the Rapid Fielding Initiative. Currently the ACH is in 70% of all units across the Active Army and Reserve Component. The ACH provides our Soldiers with increased bullet and impact protection, better equipment compatibility, greater situational awareness, and weight reduction over the PASGT helmet. The Army is developing the next-generation combat helmet. The objective of this project is to develop a helmet that provides 7.62mm bullet protection with a minimum or no weight increase from the ACH.

The requirements, procurement testing and evaluation communities and the industrial base have done a fantastic job to meet the needs of the war fighter. In the last 15 months the Army has delivered over 10,200 MRAP vehicles to Iraq and Afghanistan of which nearly 9,000 are in operational use by the warfighter. During that

time, we received insightful assessments from Commanders and Soldiers regarding MRAP performance & capabilities and recommended improvements. Our industry partners have challenged the limits of technology, pursuant to our requirements, and evolved MRAPs from providing IED protection, to providing IED and Explosive Formed Projectile (EFP) protection, to becoming a smaller, lighter, more maneuverable IED/EFP protected vehicle. The next evolution of MRAP is the MRAP-All Terrain Vehicle (M-ATV). A Request for Procurement (RFP) was released in Dec 08 and evaluation of vendor proposals is underway. Theater operational requirements have nearly been met and efforts are underway to begin retrograding older/less capable MRAP to CONUS for Pre-Deployment and Home Station Training. We anticipate shipment of retrograded vehicles to begin in March 09. One of the Army's equipping tenets that we constantly strive to achieve is providing our Soldiers with the best available equipment and capabilities that technology will allow. To this end, MRAPs are a resounding success. We recently received a classified report that underscored the effectiveness of the Mine Resistant Ambush Protection vehicle. It was overwhelmingly clear that this family of vehicles has dramatically enhanced survivability for Soldiers involved in IED and EFP engagements. Without question, MRAPs are saving Soldier's lives and in many cases are allowing our Soldiers to walk away unharmed from horrendous explosions. Again I would like to thank this committee for your support for this vital program.

We are continuing to send Up-Armored HMMWV's into theater. This is not only to meet the combatant commander's requirement of 19,645, but also includes replacements for battle losses and worn out vehicles. We have 17,450 on hand or 89% of the operational requirement. Additionally, we are upgrading the vehicles' ability to protect our Soldiers. Initiatives such as Fragmentation Kits 6 and 7 are being procured for installation on UAHs to counter IED and sniper attacks. At the same time we are investing in a myriad of technologies that will increase the platforms capabilities to engage the enemy. Systems such as Acoustic sniper detection systems (Boomerang), Remote Weapons Stations (RWS), Long Range Advanced Scout Surveillance System (LRAS3) are all intended to increase the ability of our Soldiers to identify and engage the enemy.

In other areas of our Tactical Wheeled Vehicle (TWV) fleets, we are also increasing Soldier protection levels. In the next few months, we will be fielding the first of over six thousand medium vehicles built in line with our Long Term Protective Strategy (LTPS). These cabs will be capable of easily accepting armor kits that provide better protection when needed and allow for removal of the kits when the protection is not needed. In coordination with Combined Arms Support Command (CASCOM), the Headquarters, the Department of the Army G-3 is working to finalize the Long Term Protective Strategy in order to ensure that the TWV fleet armoring requirements reflect the latest lessons learned from the current operational environment. Long Term Armoring Strategy (LTAS) trucks are being fielded to next deploying units in order to ensure that soldiers receive the newest trucks, with the most capable armor protection, during their deployment to the CENTCOM Area of Operations (AOR). Older trucks are being moved to repair facilities to be reset for reuse within the force in order to ensure Soldiers are equipped to train as they fight.

To further protect gunners while still enabling them to engage the enemy with their crew-served weapons, the Army is also fielding the XM153 CROWS. CROWS is a remote weapon station capable of mounting either the M2, MK19, M240B or M249 Machine Gun. It provides the operator with the ability to control the system from within the protection of the armored vehicle and to engage targets with a high degree of accuracy during the day and at night while stationary or moving. The system provides increased lethality and survivability and is considered a force multiplier. Fielding is ongoing in Iraq for the RG-31, Buffalo, and RG-33SV (SOCOM), JERRV and M1151A1 UMR. MRAP integration and testing are ongoing on the Dash and RG31A2 MRAP vehicles in support of OEF. The first vehicles for OEF with CROWS are planned to be shipped on or about 7 March 09 with a planned fielding date of May 1, 2009.

The Army has continued to support both OIF and OEF with Counter Radio Controlled IED Electronic Warfare (CREW) jammers. Current funding and production support the current Joint Urgent Operational Needs Statement (JUONS). 98% of all armored vehicles in OIF have CREW installed. This gives Commanders the flexibility to ensure all vehicles that leave the FOBs have electronic protection.

OEF is currently receiving more jammers to support the deployment of additional units and equipment. Additionally, all MRAPs have had CREW jammers integrated stateside before deployment. The Army has devised strategies to keep their current fleet of jammers relevant against a constantly evolving threat. The Army is fielding an upgrade to the Duke CREW system that will add capability to stay ahead of this evolving threat. The Army firmly believes that the success of the CREW program has led to a drastic reduction in the Radio Controlled IED (RCIED) threat.

Surveillance is vital to commanders' ability to provide Force Protection on the battlefield. Task Force (TF) ODIN (Observe, Detect, Identify, and Neutralize) is an Army Aviation Battalion specifically designed for conducting Reconnaissance, Surveillance, Targeting and Acquisition (RSTA) missions in support of operations in OIF and OEF. TF ODIN is an innovative combination of manned and unmanned aerial platforms, equipped with the latest array of sensing devices and full motion video, which is coupled with a dedicated intelligence support team. This powerful combination can provide direct support to brigade combat teams to enable them to get ahead of the bang on the counter IED fight, which is a great example of a creative combination of integrating existing capabilities to deliver state of the art results.

To improve the force protection posture of our operating bases in Iraq and Afghanistan, the Army is fielding the Base Expeditionary Targeting and Surveillance Systems – Combined (BETTS-C) to improve local surveillance. BETSS-C consists of four major subsystems: Rapid Aerostat Initial Deployment (RAID), Cerberus, Force Protection Suite (FPS), and Rapid Deployment Integrated Surveillance System (RDISS). This combination of surveillance systems greatly improves situational awareness, contributes to better employment of forces, and acts as a deterrent to enemy forces. The currently validated requirements are for support of 472 locations throughout OIF and OEF. Currently, fielding is in progress in both OIF and OEF. To date BETSS-C has been fielded to 34 OIF locations and 65 OEF locations. Fielding continues at rates of 9-12 OIF locations per month and 13 OEF locations per month. OEF has also requested additional trainer/operator personnel to augment some of their smaller operating bases. These personnel are currently being trained and will begin to deploy to the theater in March 09. BETSS-C requirements are currently being

reviewed and re-validated by CENTCOM. There is an expectation that requirements will increase within the OEF Area of Responsibility, and remain stable or decrease within the OIF Area of Responsibility. CENTCOM expects to provide their review in early February 2009.

The enemy continues to evolve their tactics, techniques and procedures. To meet the changing threat the Army has reacted with the Armor technologies discussed earlier, but has also taken aggressive steps to get "Left of the Bang." One area we have focused is in the Route Clearance Packages sent to theater. These packages consist of teams travelling in specialized armored vehicles and are designed to sweep routes to locate and neutralize IEDs before they can engage our Soldiers. As the threat has changed the Army has responded by increasing the force protection levels of the vehicles through the use of spall liners, bar/slat armor. These vehicles have proven to be highly effective due to their V-shaped hulls, high stand-off and armor body provide for excellent protection. Since February 2008, the army procured enough vehicles to field an additional 30 Route Clearance Teams. The success of this strategy is evident in the results. In December alone, over 2,500 miles of road were swept, with only 2 WIA

In June 2007, the Vice Chief of Staff of the Army directed PEO Soldier to field helmet sensors (HS) to two Brigade Combat Teams (BCT). The HS is an unobtrusive data collection system mounted to the Advanced Combat Helmet or Combat Vehicle Crewman helmet. It measures acceleration and pressure on the helmet associated with concussive events (blast and impact attack incidents) that a Soldier may experience in Theater. There are almost 7,000 sensors currently in operation with the 4th BCT of 101st Air Assault Division (OEF) and the 1st BCT of 4th Infantry Division (OIF). The HS data from Theater is uploaded via web site portal(s) to the Anti-Armor Task Force database managed in coordination with the National Ground Intelligence Center and the Joint Trauma Analysis and Prevention of Injury in Combat (JTAPIC). A repository of HS data files is being analyzed and cross referenced with information generated from Anti-Armor Incidents Reports (AAIRs). This information is being provided to the Medical Research and Material Command to support the development of a Mild Traumatic Brain Injury (mTBI) prediction model. The Army plans to procure a quantity of the Next Generation

HS in FY09 sufficient to field to six deployed BCT's. The Next Generation HS will enhance sensor performance and replace manual field operations with automated wireless techniques. These HS will support future protective helmet design efforts.

Force protection has always been in the forefront of Army transformation. The events of September 11th, 2001, refocused our efforts on tougher antiterrorism and force protection measures to insulate infrastructure, provide Soldiers with the best equipment to ensure their safety and mission success and secure homeland defense. Given the National Guard's role as both an operational force and the States' first military responder for homeland defense and civil support, the Army is committed to resource the Army National Guard consistent with those roles. The Army Reserve remains the Nation's First Title 10 responder to provide assistance in serious natural or manmade disasters, accidents, or catastrophes that occur in the United States and its territories. We are committed to ensuring that the Reserve Components are a true "Operational Reserve" -- capable not just of meeting these first responder missions, but also continuing the magnificent work that they have been doing as full partners on today's battlefields. They have proven that they are indispensable partners with the active Army in defending our Nation's interests, at home and abroad.

We must equip all units, Active and Reserve Component, with night vision goggles, crew served weapons, radios, and other critical items to survive in today's asymmetric combat environments. The Army's has institutionalized a process, called the Army Enterprise Equipping and ReUse Conference, or AEERC, that twice a year takes a focused look at all available equipment in the Army inventory, whether new or used, and develops plans to fill equipment requirements in formations from all components of the total force. Today's conferences look at virtually all actively managed Army equipment which greatly improves the early efforts of the AEERCs, which looked only at selected pieces of critically short equipment. Deliveries of equipment to the ARNG and USAR are projected to provide significant increases in both their overall equipping levels and in the percentage of that equipment which is amongst the Army's most modern. The Army is also making extraordinary efforts to ensure transparency in how we acquire, distribute, and manage equipment for the Reserve Components.

As we look to Fiscal Year 2010 and beyond, we must fully resource the Army to modernize and transform to meet the challenges of the future. Our need for continued Congressional support is vital. Soldier survivability has increased dramatically with the provision of force protection solutions. We need your continued help in two areas: the provision of predictable, sufficient and stable funding and the continued support of American industry. Predictable budgets allow us to generate efficiencies when working with industry, to provide stability to our work force, and to save dollars in the procurement process. Sufficient budgets provide the financial resources needed to meet the missions we are being asked to do as well as the resources needed to restructure, reposition, and equip the force for the next mission. Stable budgets allow us to manage our resources within a predictable band as envisioned through our planning and programming processes as well as provide needed flexibility to respond to evolving operational needs, thereby enabling us to rapidly develop and field new equipping solutions.

On behalf of Secretary Geren and General Casey, we thank the Members of the Committee for their continued, outstanding support to the men and women in uniform who make up our great Army. Your concern, resolute action and deep commitment to America's sons and daughters are widely recognized throughout the ranks of our Service. As we operate in the eighth year of this war, the brave men and women who willingly place themselves in harm's way, tour after tour, deserve nothing less than the best our nation has to offer. Our Army is the dominant land campaign force for our combatant commanders transforming to meet present and future threats, resetting to sustain a high operational tempo and leading the most radical change of its institutional and training base since World War II. Today, our All-Volunteer Force, with nearly 700,000 Soldiers on active duty from all components, is providing forces and capabilities for Operation Iraqi Freedom, Operation Enduring Freedom and other global requirements. American Soldiers, adaptive, competent and infused with the Army's values and warrior culture, continue to perform magnificently as they fight and win our Nation's wars. As we move forward, the Soldier remains the Strength of the Nation.

NOT FOR PUBLICATION UNTIL RELEASED BY
THE HOUSE ARMED SERVICES COMMITTEE

STATEMENT

OF

BRIGADIER GENERAL MICHAEL M. BROGAN
COMMANDER
MARINE CORPS SYSTEMS COMMAND

BEFORE THE

SEAPOWER AND EXPEDITIONARY FORCES SUBCOMMITTEE

AND

AIR AND LAND FORCES SUBCOMMITTEE

OF THE

HOUSE ARMED SERVICES COMMITTEE

ON

MARINE CORPS FORCE PROTECTION EFFORTS

4 FEBRUARY 2009

NOT FOR PUBLICATION UNTIL RELEASED BY THE
HOUSE ARMED SERVICES COMMITTEE

Chairman Abercrombie, Chairman Taylor, Congressman Bartlett, Congressman Akin and distinguished members of the Subcommittees, I am honored to appear before you today and for this opportunity to discuss Marine Corps force protection systems. But first, on behalf of all Marines and their families, I want to thank you for your continued support for our Marines.

INTRODUCTION

We know the future will be challenging—not only in the immediate conflict in Iraq and Afghanistan, but in subsequent campaigns. This is a multi-faceted, generational struggle that will not be won in one battle, in one country, or by one method. Many of the underlying causes of the current conflict will persist in the coming decades and may be exacerbated by states and transnational actors who are unwilling or unable to integrate into the global community. In this environment, the Marine Corps must be able to adapt to broad strategic conditions and wide-ranging threats. We remain faithful to our enduring and legislated mission — to be ready wherever, whenever our country needs us and to prevail over whatever challenges we face. We have done this, and will continue to do so, by recruiting and retaining the best of our Nation's sons and daughters, training them in tough, realistic scenarios, educating them broadly to be intellectually prepared, and providing them the best leadership and equipment available. We are confident that with your continued support, your Corps of Marines will remain the Nation's expeditionary force in readiness and continue to fulfill our national security imperative of *being the most ready when the Nation is least ready.*

FORCE PROTECTION SYSTEM PROCUREMENT METHODOLOGY

The Marine Corps is committed to provide force protection equipment to save Marines' lives, reduce Marine casualties, and limit the severity of our casualties. Our goal is to ensure that all of our in-theater force protection requirements are quickly met with the best systems available. To my knowledge, there are no available commercial force protection products more capable of saving our warfighters' lives and reducing injuries in combat than the equipment and systems we will describe for you today.

It is important that we consider the environment in which our fielded systems will operate. Therefore, based upon warfighter input, and drawing on our intelligence resources for the latest information on the most prevalent devices and weapons our enemy is employing, and forecasting his next move, we identify the best systems available that can immediately meet the

tactical and safety needs of our warfighters and get those systems into the hands of our Marines as quickly as possible.

We have positioned ourselves to initiate innovative and rapid modifications to our equipment to meet evolving threats and future challenges by taking a rapid, iterative generational development and fielding approach. After a system is fielded, we continue to look for ways to improve those systems. We work with other government laboratories and agencies too; for example, we collaborate with the Office of Naval Research and the joint Science & Technology community on current and future technologies, and we turn to the medical community for their expertise in making our systems the safest they can be for our warfighters. Academia also plays a significant role in the development and testing of a variety of our force protection products. We have teamed with North Carolina State University, University of Virginia, Massachusetts Institute of Technology and others as we pursue and develop state-of-the-art protective equipment.

The mix of solutions that we provide our warfighters allows them to counter the enemy's ever-changing capabilities.

GROUND MOBILITY

The evolving threat environment requires proactive management of tactical wheeled vehicle programs in order to provide Marine warfighters with the most well protected, safest vehicles possible given technological limitations. Force protection remains a priority for the Marine Corps. We have fielded a Medium Tactical Vehicle Replacement (MTVR) Armor System for the MTVR, Fragmentation Armor Kits for the High Mobility Multipurpose Wheeled Vehicles (HMMWV), Marine Armor Kits (MAK) for the Logistics Vehicle System (LVS), Mine Resistant Ambush Protected (MRAP) vehicles, and starting this fiscal year we will begin fielding Logistics Vehicle System Replacement (LVSR) vehicles that include a removable armor kit. As we face continuous challenges, we strive to stay ahead of the threat. To this end, we have developed increased force protection upgrades to the MRAP vehicles and the Medium Tactical Vehicle Replacement Armor System, developed safety upgrades for the HMMWVs, and developed improved armor for the Logistics Vehicle System. We will continue to work with the Science & Technology community and with our sister Services to develop and apply technology to address force protection requirements. Congressional support for our force protection efforts

has been overwhelming. We thank you and ask that Congress continue their life-saving support in the coming years.

Mine Resistant Ambush Protected (MRAP) Vehicles

Mine Resistant Ambush Protected (MRAP) vehicles are designed to protect vehicle crew and passengers from mine blasts and fragmentary and direct fire weapons. They are designed with a "V" shaped hull and are employed to protect against the three primary kill mechanisms of mines and improvised explosive devices – fragmentation, blast overpressure, and acceleration. The Marine Corps is executing this joint urgent requirement to provide as many highly survivable vehicles to theater as quickly as possible. In November 2008, the Joint Requirements Oversight Council established a new 16,238-vehicle requirement for all Services and Special Operations Command (SOCOM). The current Marine Corps requirement of 2,225 vehicles supports our ongoing theater operations and home station training. As of 27 January 2009, 16,230 vehicles are under contract with over 15,000 accepted by the government and over 11,200 fielded in theater. We will contract for eight additional SOCOM vehicles. Our Marine Corps requirement was satisfied in June 2008.

The Marine Corps is supporting the Central Command (CENTCOM) Joint Urgent Operational Need, for a lighter, more agile vehicle better suited to the rugged environment in OPERATION ENDURING FREEDOM. We are aggressively executing an acquisition strategy to quickly procure this MRAP All Terrain Vehicle (M-ATV). Submitted proposals are currently under review and the evaluation will include assessments of production representative vehicles. The Marine Corps is conducting the necessary analysis to establish our specific vehicle requirements for the MRAP-All Terrain Vehicle.

Up-Armored HMMWVs

Life cycle management of HMMWVs will continue to be a focus area due to their ubiquity and expeditionary capability. Safety modification kits (3 point seat belts, automatic fire sensing and suppression systems, gunner's restraints and intercoms) requested by the warfighter have been shipped to theater for installation. Installations were completed in February 2008. Production units of 400 amp alternator kits required to power Counter IED jammers and other electronics are targeted to be installed in the beginning of 2009. We will continue to work with the Army to assess additional upgrades, particularly related to armor and the suspension system. We are currently evaluating the Army's Vehicle Emergency Escape (VEE) Windshield kit,

which allows Marines to quickly exit the HMMWV in the event of a rollover. Every HMMWV that leaves the Forward Operating Base (FOB) is equipped with armor protection per Marine Corps Central Command policy.

Medium Tactical Vehicle Replacement (MTVR) Armor System (MAS)

For our Medium Tactical Vehicle Replacement 7-ton trucks, we developed what is known as the Medium Tactical Vehicle Replacement Armor System (MAS). This armor system is a permanent modification to our Medium Tactical Vehicle Replacement fleet. It is designed for the life of the vehicle (twenty-one years). The Medium Tactical Vehicle Replacement Armor System is capable of withstanding small arms fire, improvised explosive devices, and mines. It provides complete 360 degree protection, as well as overhead and underbody protection for the cab occupants, and includes upgraded suspension, A/C system, removable armored personnel carrier (with ballistic glass), and machine gun mounts.

The Medium Tactical Vehicle Replacement Armor System is installed in all Medium Tactical Vehicle Replacement variants in Iraq and Afghanistan. We have continued to improve the Medium Tactical Vehicle Replacement Armor System in response to Urgent Universal Needs Statements (UUNS) – adding increased underbody blast protection, fuel tank fire protection kits, and 300 amp alternator kits (for powering Counter Improvised Explosive Devices (CIED), etc.). Every Medium Tactical Vehicle Replacement that leaves the FOB is equipped with the Medium Tactical Vehicle Replacement Armor System. The latest upgrade to the Medium Tactical Vehicle Replacement Armor System incorporates a removable cab roof to support Maritime Prepositioned Shipping requirements.

Logistics Vehicle System Replacement (LVSR)

The Logistics Vehicle System Replacement is replacing the Logistics Vehicle System as the Marine Corps heavy transport logistics vehicle. There are three variants of the Logistics Vehicle System Replacement – Cargo, Tractor and Wrecker. All vehicles are designed to accept removable vehicle armor packages that provide 360 degree protection for the vehicle crew. The Logistics Vehicle System Replacement Cargo vehicle will begin fielding in Fiscal Year 2009, including vehicles for Afghanistan. The Wrecker and Tractor variants are targeted to begin fielding in Fiscal Year 2011. The Wrecker will provide the capability to recover all USMC tactical vehicles, including MRAP vehicles.

Expanded Capacity Vehicles

The Expanded Capacity Vehicle (ECV) is the latest configuration for the HMMWV fleet. The Expanded Capacity Vehicle increased the gross vehicle weight to 12,100 pounds, and has a more powerful turbo-charged engine, upgraded suspension and integrated air conditioning system. Additionally the Expanded Capacity Vehicles are designed to accept armor kits, installed either at the factory or at organic maintenance facilities.

All new deliveries of Expanded Capacity Vehicle configurations (M1151, M1152 and M1165) to the Marine Corps are manufactured as armored vehicles and will have FRAG Kits 2 and 5 level capabilities integrated. FRAG Kit 2 is designed to enhance ballistic protection in the front part of the vehicle around the driver and A-driver wheel-wells. FRAG Kit 5 is designed to degrade improvised explosive device effects and reduce armor debris that results from overmatch.

COMBAT ENGINEERING EQUIPMENT

Prior to the start of OPERATION ENDURING FREEDOM and OPERATION IRAQI FREEDOM I, the Marine Corps had no standard armor protection kits for our material handling and construction equipment. Since then, we have developed armor solutions that provide protection from improvised explosive devices, indirect fire, and other small arms fire to an operator conducting engineer missions. A total of 259 armored Combat Engineering kits were procured and fielding was completed in November 2008.

Mine Rollers

We are also fielding mine rollers to our Marines. These systems are designed to protect convoys from the effects of pressure-plate activated mines and victim initiated improvised explosive devices. The Lightweight Mine Roller system can be mounted on a variety of vehicles, including High Mobility Multipurpose Wheeled Vehicles, Medium Tactical Vehicle Replacements, and Light Armored Vehicles. It provides full-width protection coverage for the host vehicle. The "mine roller" system can be used while traveling at tactical convoy speeds.

A total of 685 systems were procured and fielding of 640 more systems was completed in January 2009.

Vehicle Armoring in Closing

We have direct day-to-day communications with our U.S. Army counterparts to coordinate our armoring strategies for our ground vehicles. We are committed to aggressively evolving our equipment to changing threats. Our ability to rapidly modify our vehicle armoring systems is a testament to this commitment. The following chart depicts the current state of our vehicle armoring efforts as of 25 January 2009.

MARCENT Current Vehicle Armoring Posture

as of 25 January 2009

(for official use only)

Since August 2004 all Marine Corps vehicles operating outside the FOBs have been at Level II or better armor protection.

	Vehicle Systems in CENTCOM AOR	OIF O/H	OEF O/H	HOA - Bahrain O/H	Total	Level I	Level II	Level III	Total Unarmored Vehicles not Leaving FOBs
	M1114	1917	158	0	2075	2075			
LTV	HMMWV	544	48	41	633	0	1873	9	10
MTV	5-ton	56	0	0	56	0	56	0	0
	MTVR	976	0	0	976	890	86	0	0
HTV	LVS	226	0	0	226	0	226	0	0

Level I: A wheeled vehicle that is manufactured as an armored vehicle
Level II: HQDA and Marine Corps approved Add-on-Armor (AoA) kits
Level III: Hardening of vehicles through fabricated armor (HQDA) approved steel

LTV: Light Tactical Vehicle
MTV: Medium Tactical Vehicle
HTV: Heavy Tactical Vehicle

PERSONAL PROTECTION

The wartime environment constantly changes and no one is better suited to determine what is the most effective in any given situation than the warfighter. Therefore, we provide solutions that can be configured to meet varying levels of threat. In the case of body armor, we provide every Marine with a modular ballistic body armoring system. Operational commanders

are then able to determine what specific equipment their Marines will wear based upon specific mission requirements and environmental conditions.

Vests and Armor Plates

Evolution of Tactical Vests

The foundation for our modular ballistic body armoring system is the Interceptor Body Armor System. Combat operations over the last few years have highlighted a need for improvements in our protective vest system. Therefore, we have transitioned from the Outer Tactical Vest to a new, more capable Modular Tactical Vest (MTV) and are currently in the design phase for the development of an Improved Modular Tactical Vest (IMTV). The soft and hard armor within the personal protective vests issued by the Marine Corps and the Army are the same and provide the same level of fragmentation and ballistic protection and are similar. The vests are similar, but not identical. The Marine Corps collaborated with the Army throughout the acquisition process to include sharing of test and evaluation data.

The Modular Tactical Vest accommodates use of our existing Enhanced Small Arms Protective Inserts and our Enhanced Side Small Arms Protective Insert plates. These are the same armor plates used by the Army and will continue to be the same as we make improvements to the Modular Tactical Vest.

The United States Marine Corps has teamed with engineers from the U. S. Army's Research, Development and Engineering Center in Natick, Massachusetts to address the areas of concern identified by Marines who wore the Modular Tactical Vest and to design an Improved Modular Tactical Vest that does the following:

- Mobility: Reduce Weight, Maximize torso/shoulder mobility to the greatest extent possible
- Comfort: Reduce soft armor overlap and bunching; and make cummerbund adjustments
- Accessibility: Reduce donning/doffing concerns, improve cummerbund flap closure
- Weapons Employment: Facilitate stock weld
- Modularity/Scalability: Facilitate the commander's discretion/flexibility for determining overall system weight and level of protection based on the prevailing threat and mission requirements

The acquisition objective for the Improved Modular Tactical Vest is 108,000 systems. A Request for Proposal is planned for release sometime this summer, 2009. Deliveries are planned to begin after a competitive award, with anticipated completion of deliveries in 2010. At the same time, we are conducting collaborative planning on the Next Generation personal protective vests with our sister Services.

Scalable Plate Carrier (SPC)

The Scalable Plate Carrier is a lighter vest that provides a body armor capability with greater mobility and reduced thermal stress in high elevations, thick vegetation and tropical environments than that provided by the Modular Tactical Vest. It allows greater mobility and reduced thermal stress while maintaining direct fire protection. Both vests use Enhanced Small Arms Protective Inserts (E-SAPI) and Side SAPI plates and provide the best protection available against a wide variety of small arms threats. We recently fielded approximately 14,000 Scalable Plate Carriers. Coupled with the Modular Tactical Vest, the Scalable Plate Carrier provides commanders options to address various mission/threat requirements.

Scalable Plate Carrier feedback from Marine combat veterans has been clear and positive. Marines have welcomed protective equipment which provides identical ballistic protection at a lower weight, improving mobility in combat. The acquisition objective has been increased to approximately 65,000 plate carriers. Planned improvements to the Improved Scalable Plate Carrier (ISPC) include a cummerbund interoperable with the Modular Tactical Vest/Improved Modular Tactical Vest and enhancements to the shoulder straps to simplify donning/doffing.

Enhanced Small Arms Protective Inserts (E-SAPI)

Every Marine in theater today has the Enhanced Small Arms Protective Insert. These inserts provide more capable protection against a wider variety of small arms threats than its predecessor the Small Arms Protective Insert.

All personnel are issued the Enhanced Small Arms Protective Inserts prior to their deployment.

X-Small Arms Protective Inserts (X-SAPI)

The Marine Corps is participating in the development of X-SAPI ballistic plates and can buy X-SAPI plates from US Army contracts. The limits of technology in this category have yielded a tradeoff for X-SAPI levels of protection. The additional protection brings an additional weight burden on the back of the warfighter. We must balance levels of protection in order to

maintain the agility, mobility and lethality of our Marines. We have worked closely with the Army during the conduct of technical evaluation and testing of X-SAPI plates.

Lightweight Helmet

We are committed to providing the best head protection available to our warfighters. The Lightweight Helmet provides the best performance and combat protection capabilities required by our Marines. The Marine Corps' Lightweight Helmet weighs slightly less than its predecessor and provides a high level of protection against fragmentation threats and 9mm bullets. Study results have demonstrated that the Lightweight Helmet with the pad suspension system provides greater protection against non-ballistic blunt trauma than the Lightweight Helmet with the sling suspension system. Therefore, the Marine Corps requires the use of the pad system in all of our Lightweight Helmets. We have completely replaced the sling suspension with pads. All new Lightweight Helmets produced by the manufacturer are delivered with the approved pad system installed. Independent testing conducted by University of Virginia and the U.S. Army Aeromedical Research Laboratory showed that our pads provide the best blunt trauma protection across the widest possible temperature ranges.

Current collaborative Research and Development efforts with the U.S. Army and industry partners have shown progress towards a potential replacement for the Lightweight Helmet. The Marine Corps' vision for the next Department of Defense helmet provides rifle ballistic protection at the same weight as the Lightweight Helmet. Our goal is to produce the next generation helmet providing that level of protection as quickly as possible.

Flame Resistant Organizational Gear (FROG)

In order to provide additional protection against flame threats, the Marine Corps began fielding Flame Resistant Organizational Gear (FROG) to all Marines in theater. This system consists of an ensemble of clothing items (gloves, balaclava, long sleeved flame retardant shirt, combat shirt, and combat trouser). When worn as a system, this life-saving equipment provides protection against flame exposure and mitigates second and third degree burns. Flame Resistant Organizational Gear provides protection that is comparable to the NOMEX Combat Vehicle Crewman suit/flight suit. At the same time it weighs less and retains less heat by using moisture-wicking material.

Additionally, we have developed and fielded the Marine Corps Cold Weather Layering System (CWLS). The Cold Weather Layering System provides both thermal and personal

protection from flame and the environmental conditions where we expect to operate. These components include under-layer long johns, fleeces and other outer garments designed to provide protection from various climatic and environmental conditions. The various properties we have developed in our cold weather component items are focused against mold and mildew, moisture, thermal, sun, wind, dust and extreme cold weather. We are committed to providing Marines state of the art equipment that improves characteristics such as weight, packing volume, thermal efficiency and flame resistance. By providing flame resistant cold weather components, Marines can employ these protective items in the current theater of operation where we face a significant blast and Improvised Explosive Device threat.

Personal Protection In Closing

It is very importance to the Marine Corps that we provide robust personal protection solutions to our warfighters -- and provide these solutions to them immediately. Working with our nation's dedicated manufacturing base and our sister Services, the Marine Corps continues to be able to provide the best possible levels of personal protection to known and anticipated threats; and we remain committed to aggressively matching our equipment to changing threats. Our Personal Protective Equipment works.

HIGH POWER JAMMERS

During 2005, radio-controlled (RC) devices became the most deadly triggering mechanisms for Improvised Explosive Devices (IED). In recognition of that fact, in June 2005 the Commandant of the Marine Corps directed the Marine Corps Systems Command to find a rapid means to counter this threat. Working with the Joint IED Defeat Task Force (now JIEDDO), we immediately embarked on a world-wide search for a solution. By April 2006, we began fielding into the theater of operations jamming systems to counter the RCIED threat.

Today, we have a significant number of Counter Radio-Controlled Improvised Explosive Device Electronic Warfare (CREW) systems in theater and protecting Marines. Every Marine vehicle in theater that travels outside of operating bases is protected by a CREW system that counters the RCIED threat. To that end, since the fielding of these systems, injuries or deaths that can be attributed to RCIEDs have been all but eliminated.

Our CREW systems will continue to evolve to meet or stay ahead of the threat.

CLOSING

Our enemy is constantly evolving and changing his tactics. We are protecting our Marines' by developing and fielding more capable systems faster and more efficiently. The Marine Corps is not just looking to combat our enemy's current capabilities, but also to prepare ourselves for future adaptations in enemy tactics.

For the time at-hand, we will continue to execute our current force protection requirements. The Marine Corps Systems Command will also execute any new, validated requirements or capability needs that are identified by the warfighter. We will make every effort to consider all available options as we work to find solutions to new threats, regardless of whether the solution can be found here or abroad. We will also look for ways to provide capability enhancements and for opportunities to shorten delivery schedules.

We are doing everything we can to ensure the safety of our Marines by providing them with the best and most effective force protection equipment. The lives of our Marines, Soldiers, Airmen and Sailors are a precious asset and protecting them with better and more capable equipment has been, and will always be, the highest priority of the Marine Corps Systems Command. Your support for continued robust, timely funds will position Acquisition Organizations throughout the Department of Defense to continue with proactive approaches and ensure our warfighters' safety.

With your continued support, we can ensure our Marines are ready for the current fight, as well as any future fights. Thank you.

WITNESS RESPONSES TO QUESTIONS ASKED DURING THE HEARING

FEBRUARY 4, 2009

RESPONSES TO QUESTIONS SUBMITTED BY MR. ABERCROMBIE

General LENNOX. Mr. Chairman, improving MEDEVAC response times requires a systematic approach and the synchronization of aircraft, medical capabilities, communications, infrastructure, training, and security to support these operations. The Secretary of Defense directed a comprehensive bottom-to-top review last fall on how to best synchronize efforts in theater and improve MEDEVAC response times there. Based on detailed analysis and coordination, the Department of Defense is now executing a course of action that achieves parity of MEDEVAC operations in both theaters to the mission completion standard currently used in Iraq. This is to be accomplished through constructive MEDEVAC procedural improvements and by adding 16 more dedicated aircraft and 3 additional forward surgical teams. The medical infrastructure to support operations in Afghanistan is included in the Army's regular budgeting process. The incremental costs of our operations in Afghanistan are budgeted as part of the Overseas Contingency Operations (OCO) request. [See page 24.]

General BROGAN. The Army and the Marine Corps continue to coordinate effectively on the development and fielding of force-protection solutions. The DoD has established a standard system for truck armoring and both the Army and Marine Corps are armoring their vehicles to the same level as we converge on armor solutions. As for individual personal protective equipment, the Marine Corps coordinates closely with PEO Ground Soldier. Both organizations continue to share test data with one another in an effort to continually upgrade and provide the best protective equipment available to our troops. We share all test data and communicate openly with each other. Even when specific products are different as in the case of Medium Tactical Vehicle Replacement and Improved Modular Tactical Vest, the protection levels are the same.

The Army and the Marine Corps do not believe that duplication of effort is counterproductive. There is value in competition and we effectively leverage our scarce resources by challenging industry to come up with the best and most innovative solutions available today. Through these efforts, we ensure that our Services are provided with the most sophisticated and reliable equipment on the market today.

There are no unique force protection challenges in Afghanistan. However, as we shift forces from Iraq to Afghanistan the different terrain, topography and cultural landscape will present challenges. Restrictive roads, and mountainous terrain will restrict the use of MRAPs. Minimizing the weight of personal protective equipment will be more important in the mountainous terrain of Afghanistan than in the flat urbanized landscape in Iraq. We are developing policies and acquisition practices for our future equipment that will make it more modular and scalable to allow us to increase and decrease armor protection and its associated weight according to the commander's assessment of mission requirements and threat. [See page 40.]

General LENNOX. As the Army repositions forces from Iraq to Afghanistan we recognize we may need to address resulting increases in force protection requirements. As movement on existing and future Ground Line of Communications (GLOC) heightens, we may need additional security forces as well as route clearance assets to secure our logistics. Aviation requirements may increase along with ground based radars to ensure integrated networked force protection coverage. Additional Intelligence Surveillance Reconnaissance (ISR) assets will also facilitate heightened threat warning in support of force protection. As we flow additional soldiers into existing bases as well as establish future bases we will plan to increase base force protection operations should OIF conditions warrant the increase in those operations. [See page 40.]

RESPONSES TO QUESTIONS SUBMITTED BY MR. TAYLOR

General BROGAN. We cannot respond at this time due to SS sensitivities. In the transcript, Gen Brogan states that he would take the question for the record and respond after the contracts have been awarded. The estimated award date will be in the month of May. [See page 26.]

General LENNOX. The Army has identified that a total of 702 MRAP vehicles are currently needed to support pre-deployment training. The Army expects to have that

many vehicles at approximately twenty different training locations by the end of December 2009. There are already 26 vehicles supporting training in the United States, and another 25 have been identified in Kuwait for shipment back to support training by April 2009. As the Army receives the newest and most capable MRAP vehicles in theater, older and less capable vehicles are being replaced and returned for use in training Soldiers before they deploy. The Army will adjust the schedule for the return of these older vehicles based on a number of factors, including how much maintenance is required on the vehicles before they are shipped, and when shipping is available. Changes in the operational situation could also cause the Army to adjust the schedule or numbers. [See page 27.]

RESPONSES TO QUESTIONS SUBMITTED BY MR. MASSA

General LENNOX. The Army's current inventory of personal body armor with Enhanced Small Arms Protective Insert (ESAPI) plates is generally not worn during airborne operations with the T–10 parachute, as the T–10 harness is not large enough to accommodate the increased size of the jumper wearing the body armor with plates inserted. Additionally, the Modified Improved Reserve Parachute Systems (MIRPS) is limited in the weight it will safely support—the weight of the body armor severely limits the amount of other equipment a parachutist can carry. The new T–11 parachute, which replaces the T–10, is specifically designed to support greater weights to include the additional weight of all body armor. The additional size of the T–11 harness allows parachutists to jump with the Improved Outer Tactical Vest (IOTV) including mounting the front and rear ESAPI plates. The IOTV in this configuration is certified for T–11 airborne operations. Parachutists no longer have to jump without protective plates in their body armor. [See page 28.]

RESPONSES TO QUESTIONS SUBMITTED BY MR. WITTMAN AND MR. ABERCROMBIE

General LENNOX. Mr. Wittman, I'll address the carbine first. In the same Center for Naval Analysis (CNA) study you cited, approximately 90% of the Soldiers surveyed were satisfied with the performance of the M4 Carbine. Additionally, in another recent survey of 917 Soldiers with recent combat experience with the M4 in Iraq or Afghanistan, 89% of Soldiers reported overall satisfaction with the M4 and only 1% of these Soldiers recommended that the M4 be replaced. Although the weapons are performing well, the Army continually seeks ways to improve their performance as well as provide Soldiers with enhanced capabilities. The Individual Carbine Capabilities Development Document (CDD) is currently in the staffing and approval process. The goal for the CDD to complete all staffing is September 2009. As directed by Secretary Geren, we plan to conduct a full and open competition utilizing the new requirement beginning in late 2009. The new requirement is not caliber specific and will allow different calibers to compete.

Addressing the dissatisfaction for the handgun, the Army's Small Arms Capability Based Assessment confirmed the shortfall in the area of close engagements which includes both the pistol and the sub-compact personal defense weapon. The Army has prioritized the development of a sub-compact or "miniature carbine" capability ahead of the pistol at this time. However, the Air Force (AF) has completed a new joint requirement for a handgun that can be adopted by any service. The Army is looking closely at adopting this requirement in the near future. The AF wrote the Modular Handgun System Capabilities Production Document with significant input from the Army and joint participation from all services. This new requirement addresses an improvement in stopping power along with improvements in ergonomics and other areas. The CNA study reveals that only ½ of 1% of Soldiers surveyed had a stoppage with their M9 that made a significant impact on their ability to engage the enemy. Even so, by adopting the AF pistol requirement, we can address all of the issues with the M9. However, I need to state again, the priority for the Army in this area is currently the carbine and the sub-compact personal defense weapon. [See pages 16 and 18.]

QUESTIONS SUBMITTED BY MEMBERS POST HEARING

FEBRUARY 4, 2009

QUESTIONS SUBMITTED BY MR. ABERCROMBIE AND MR. TAYLOR

Mr. ABERCROMBIE and Mr. TAYLOR. Many force-protection items, such as body armor, vehicle armor, and counter-IED equipment have been developed by both the Army and Marine Corps to address similar requirements. In 2006, GAO reported that a lack of a synchronized approach between the Marine Corps and the Army on addressing truck armor requirements and solutions resulted in the Marine Corps identifying its truck armor requirements and seeking armor solutions months after the Army, potentially delaying the availability of armored vehicles to deployed Marines.- How do the Army and Marine Corps coordinate on the development and fielding of force-protection solutions that address similar urgent needs requirements of both services?- How does each of the services ensure that they are preventing duplication of efforts and effectively leveraging their scarce resources when developing solutions that might address both Army and Marine Corps needs?

General LENNOX. In the area of Tactical Wheeled Vehicles, the Army and Marine Corps coordinate on force-protection solutions through the Joint Program Office for MRAP vehicles, Protection issues for other vehicles used by both services are coordinated at the Army and Marine Corps Board (AMCB). For future programs, such as the Joint Light Tactical Vehicle, the vehicle is being developed jointly to ensure that they have inter-service commonality and economical as possible.

The Army and Marine Corps constantly coordinate with each other through the AMCB and the "Army-Marine Corps Staff Talks". These forums help ensure that the services are aware of each others on-going initiatives, and are able to take advantage of the other service's efforts when possible.

Mr. ABERCROMBIE and Mr. TAYLOR. What are your primary force protection challenges that you will face should we shift forces from Iraq to Afghanistan? What does the Army need? What does the Marine Corps need?

General LENNOX. As the Army repositions forces from Iraq to Afghanistan we recognize we may need to address resulting increases in force protection requirements. As movement on existing and future Ground Line of Communications (GLOC) heightens, we may need additional security forces as well as route clearance assets to secure our logistics. Aviation requirements may increase along with ground based radars to ensure integrated networked force protection coverage. Additional Intelligence Surveillance Reconnaissance (ISR) assets will also facilitate heightened threat warning in support of force protection. As we flow additional soldiers into existing bases as well as establish future bases we will plan to increase base force protection operations should OIF conditions warrant the increase in those operations.

Mr. ABERCROMBIE and Mr. TAYLOR. Do you consider the X–SAPI requirement to be an urgent and compelling need? If not, why?

General LENNOX. Chairman Abercrombie and Chairman Taylor, the Army does not consider the XSAPI requirement to be urgent and compelling. The approval of the XSAPI requirement is a prudent, precautionary measure to ensure the combatant commander in theater has the ability to counter potential emerging threats.

Mr. ABERCROMBIE and Mr. TAYLOR. Are you aware of an operational need statement, universal urgent need statement or joint urgent operational need statement for a next generation body armor plate that provides for a higher level of ballistic protection?

General LENNOX. Chairman Abercrombie and Chairman Taylor, I am not aware of an Operational Need Statement within the Army or a Joint Urgent Operational Need Statement being submitted for a next generation body armor plate. I will defer to BG Brogan regarding the status of any United States Marine Corp urgent need statement.

Mr. ABERCROMBIE and Mr. TAYLOR. Explosively formed projectiles (EFPs) are a primary killer on the battlefield. What force protection measures and TTPs are we using to defeat this threat? How are we staying ahead of this adaptive enemy?

General LENNOX. The Army acknowledges that Explosively Formed Projectiles (EFPs) are a significant enemy threat and as a result has taken extensive measures to protect Soldiers. The Mine Resistant Ambush Protected (MRAP) vehicle was initially developed to protect Soldiers against the Improvised Explosive Device (IED) threat. As the threat has changed to include EFPs, the MRAP design underwent

several changes to defend against them. The Army has also developed systems that target EFP initiators. Additionally, the Army has continued to develop tactics, techniques and procedures (TTPs) designed to counter the threat. We have included individual and team training of EFP awareness into Counter Improvised Explosive Device (IED) training across the Army. Organizations designed specifically to defeat IEDs have been established and serve a vital role in providing EFP awareness and measures to counter the threat. Highly trained post attack analysis teams and route clearance packages are examples of these types of organizations.

Timely and relevant intelligence is the primary method we stay ahead of new threats and an adaptive enemy. Continuous identification of emerging EFP technology and enemy TTPs is key to the identification of new requirements for equipment and training. The Army's Attack the Network IED targeting methodology is intelligence driven and has been highly effective in defeating EFP networks.

Mr. ABERCROMBIE and Mr. TAYLOR. How do you encourage the development of next generation body armor by the industrial and R&D communities and what is the Army and Marine Corps's process for evaluating these potential advances? Is this process standardized? What is the extent of the R&D effort to reduce the weight of body armor systems?

General FULLER. The Army and Marine Corps both work extensively on a continual basis with representatives from industry to address material requirements. Both participate, along with the other Services and SOCOM, in forums such as the Cross Service Warfighter Equipment Board (CSWEB) and the annual Advanced Planning Brief to Industry (APBI). The CSWEB is an opportunity for DoD to exchange ideas on future improvements of Personal Protective Equipment (PPE). The APBI is an opportunity for the Services to present briefings to industry on current and future requirements with respect to body armor and other PPE and for industry to provide immediate feedback and to ask questions on those stated requirements. APBI provides an annual launch point for continued collaboration between the Services and industry throughout the year to ensure effective and efficient communications and results. Another key venue to encourage innovation from the industrial base is periodic "Request for Information" postings on Federal Business Opportunities (FEDBIZOPPS) in support of the Soldier Protection Demonstrations (SPD). The SPD provides a setting for the Army and USMC requirements community to assess current technology to support the development of operational requirements and for vendors to demonstrate creative solutions to specific capabilities; such as low profile lighter weight body armor plate carrier. The effort will include an assessment using Soldiers with previous combat experience conducting various activities while wearing the various candidate systems. The baseline for comparison will be the current Army Improved Outer Tactical Vest (IOTV). The United States Marine Corps (USMC) Scalable Plate Carrier will also be assessed. The Army will defer to the USMC on their specific programs to evaluate potential body armor solutions. The Army has several on-going R&D programs to reduce the weight of body armor systems. The focus is to reduce the weight of X–SAPI by 10% in the near term (FY10–13) with a long-term goal of 30–40% reduction of the entire system by FY 14–15.

Mr. ABERCROMBIE and Mr. TAYLOR. What quality control measures are used to ensure that all body armor fielded to troops meets specifications?

General FULLER. The Army uses a comprehensive and holistic approach to ensure the body armor fielded to Soldiers meets stringent standards. The Army conducts multiple levels of continuous testing throughout the life cycle of body armor. The first level of continuous testing is the rigorous First Article Test (FAT). The second level of testing is Lot Acceptance Tests (LAT). LATs are conducted with the same ballistic test criteria of the FATs and provide statistical confidence the body armor accepted is of the highest quality and will meet the Soldiers' needs for protection. The third level of testing is the continuous surveillance testing of plates and environmental surveillance of soft armor. The Army has a Non-Destructive Test Equipment (NDTE) facility to scan plates in Theater and return plates for additional testing. The Army conducts ballistic testing on plates with cracks as determined by the NDTE. To date 100% of the plates passed testing with the most prevalent round. The fourth level of quality control is user inspection of the body armor. Additionally, the Army upgraded all body armor contracts to surveillance criticality level designator A, which requires increased DCMA surveillance. The increased surveillance of contractor manufacturing processes is identified in Quality Assurance Letters of Instruction (QALIs) for each contract.

Mr. ABERCROMBIE and Mr. TAYLOR. Why are the Army and Marine Corps procuring different outer tactical vests that provide the same level of protection? Please explain why one design would not be appropriate for both services.

General FULLER. The Army and Marine Corps collaborated in the development of the Outer Tactical Vest (OTV), which provides the same level of protection. How-

ever, different mission requirements required the Services to field a different OTV. In an effort to reduce weight and integrate components that had been fielded during the overseas contingency operation to counter emerging threats, the Army developed the Improved Outer Tactical Vest (IOTV). The IOTV reduces weight of Interceptor Body Armor (IBA) by 3 lbs, increases area of coverage, is compatible with other Army Organizational Clothing and Individual Equipment (OCIE) and weapons, has a quick release and medical access. The Army is in the process of transitioning all OTVs to IOTVs. Additionally, the Army is currently evaluating the Marine Corps plate carrier to determine if it will meet specific Army mission requirements.

Mr. ABERCROMBIE and Mr. TAYLOR. Do you consider flame resistance to be a key performance specification requirement for combat helmet pad suspension systems? If not, why not? Are you seeing any burn injuries as a direct result from pad suspension systems igniting?

General FULLER. Flame resistance (FR) is not a requirement for the combat helmet suspension system in the ACH. The complete helmet system is inherently flame resistant due to the para aramid fiber (Kevlar/Twaron) material used in the rigidly constructed helmet shell. The ACH protects against ballistic and blast effects; to include flash flame incendiary events. The Brooks Army Medical Center, the Defense Department's premier burn center with responsibility for treating all DoD burn casualties and the Joint Trauma Analysis and Prevention of Injury in Combat (***JTAPIC***) Program Office has no recorded burn injuries associated with helmet pads igniting or melting. The Army will continue to analyze injury data and seek improvements to helmet pads.

Mr. ABERCROMBIE and Mr. TAYLOR. What metrics do you use to evaluate and procure pad suspension systems? Do you consider comfort and feedback from the warfighter?

General FULLER. Impact protection is the key metric in the selection of a combat helmet pad suspension system. Comfort is also a key consideration and warfighter feedback is actively sought. The Army proactively pursues Soldier feedback via Web-based surveys, exhibits of equipment, post-combat surveys, Army Materiel Command Forward Support Brigades, and Logistics Assistance Representatives. Additionally, trained and experienced Soldiers are used for Human Factors testing in operationally relevant (and controlled) environments to assess the pad systems. Soldier acceptance is considered an important criteria to determine the best overall performing pad, however the pad system must meet or exceed threshold impact resistance requirements.

Mr. ABERCROMBIE and Mr. TAYLOR. Where will the Army and Marine Corps conduct future body armor testing and how did you select your approach?

General FULLER. The Army plans to conduct all body armor testing at a government test facility. The Army Acquisition Executive directed on February 9, 2009 that the Army Test and Evaluation Command (ATEC) will conduct all Body Armor First Article and Lot Acceptance Testing. The Army will defer to the Marine Corps on their testing requirements. If the testing requirement exceeds the capacity of ATEC, ATEC will contract the work to independent certified testing facilities to include the National Institute of Justice.

Mr. ABERCROMBIE and Mr. TAYLOR. What is the status of the Army's current source selection for next generation and current armor plates? When is it expected that new plates will be fielded under the latest solicitation?

General FULLER. Source Selection for the next generation armor plates (XSAPI) was completed in 1Q09. Notice of Fair Opportunity to Compete for Delivery Orders under Contract W91CRB–09–D–001, -002 and -003 was issued in March 2009 for Theater contingency stock.

Mr. ABERCROMBIE and Mr. TAYLOR. The Army has just issued a return order for some 16,000 sets of armor plates as a result of an audit by the DOD Inspector General. What were the problems found with this armor and were there any adverse impacts on warfighters in the theater due to the return? Have any of these or any other armor plate designs shown performance problems in the theater? Will any additional testing performed on these plates? And if so, what is the status of this testing?

General FULLER. The Army maintains that the armor plates in question continue to meet or exceed ballistic requirements. The decision to return the 16,000 plates was not the result of any defects in the plates. The Secretary of the Army non-concurred with the DoD IG findings that the plates in question failed First Article Testing. The DOT&E concurred with the Army and concluded in their evaluation, "the DoD Inspector General has identified significant issues with the documentation of the test process and analysis (scoring). However, the three designs meet the performance specification in place at the time of each test." Out of an abundance of caution, the Secretary of the Army directed; "To ensure there can be no question

concerning the effectiveness of every Soldier's body armor, I have ordered that the plates at issue be identified and collected until such time as the findings by the DoD IG are adjudicated by the Deputy Secretary of Defense." The Army is collecting the plates in question from Theater and is currently performing additional ballistic testing. All the plates tested met the Army's ballistic standards. Testing is ongoing.

Mr. ABERCROMBIE and Mr. TAYLOR. Do you plan to conduct all body armor test and evaluation (to include first article tests and lot acceptance tests) at a government laboratory? If yes, why?

General FULLER. The Army plans to conduct all body armor testing at a government test facility. The Army Acquisition Executive directed on February 9, 2009 that the Army Test and Evaluation Command (ATEC) will conduct all Body Armor First Article and Lot Acceptance Testing.

A January 29, 2009 Department of Defense Inspector General (DoDIG) report on testing requirements for body armor underscored the need for internal controls to ensure adequate oversight of the First Article Test (FAT) process and proper review and approval of FAT results. The DoD Director of Operational Test and Evaluation, who has oversight of body armor testing, reiterated this finding, stating that FATs conducted at a government facility with government oversight would significantly reduce the risk of recurrence of the types of issues DoDIG cited in its report.

The Army policy on Personal Protective Equipment testing adopts this recommendation for FAT and extends it to Lot Acceptance Testing (LAT). The Army policy is based on the belief that the same benefits of conducting testing at a government facility equally apply for both FAT and LAT.

If the testing requirement exceeds the capacity of ATEC, ATEC will contract the work to independent certified testing facilities to include the National Institute of Justice.

Mr. ABERCROMBIE and Mr. TAYLOR. Many force-protection items, such as body armor, vehicle armor, and counter-IED equipment have been developed by both the Army and Marine Corps to address similar requirements. In 2006, GAO reported that a lack of a synchronized approach between the Marine Corps and the Army on addressing truck armor requirements and solutions resulted in the Marine Corps identifying its truck armor requirements and seeking armor solutions months after the Army, potentially delaying the availability of armored vehicles to deployed Marines. How do the Army and Marine Corps coordinate on the development and fielding of force-protection solutions that address similar urgent needs requirements of both services? How does each of the services ensure that they are preventing duplication of efforts and effectively leveraging their scarce resources when developing solutions that might address both Army and Marine Corps needs?

General BROGAN. The Army and the Marine Corps continue to coordinate effectively on the development and fielding of force-protection solutions. The DoD has established a standard system for truck armoring and both the Army and Marine Corps are armoring their vehicles to the same level as we converge on armor solutions. As for individual personal protective equipment, the Marine Corps coordinates closely with PEO Ground Soldier. Both organizations continue to share test data with one another in an effort to continually upgrade and provide the best protective equipment available to our troops. We share all test data and communicate openly with each other. Even when specific products are different as in the case of Medium Tactical Vehicle Replacement and Improved Modular Tactical Vest, the protection levels are the same.

The Army and the Marine Corps do not believe that duplication of effort is counterproductive. There is value in competition and we effectively leverage our scarce resources by challenging industry to come up with the best and most innovative solutions available today. Through these efforts, we ensure that our Services are provided with the most sophisticated and reliable equipment on the market today.

Mr. ABERCROMBIE and Mr. TAYLOR. What are your primary force protection challenges that you will face should we shift forces from Iraq to Afghanistan? What does the Army need? What does the Marine Corps need?

General BROGAN. There are no unique force protection challenges in Afghanistan. However, as we shift forces from Iraq to Afghanistan the different terrain, topography and cultural landscape will present challenges. Restrictive roads, and mountainous terrain will restrict the use of MRAPs. Minimizing the weight of personal protective equipment will be more important in the mountainous terrain of Afghanistan than in the flat urbanized landscape in Iraq. We are developing policies and acquisition practices for our future equipment that will make it more modular and scalable to allow us to increase and decrease armor protection and its associated weight according to the commander's assessment of mission requirements and threat.

Mr. ABERCROMBIE and Mr. TAYLOR. Do you consider the X–SAPI requirement to be an urgent and compelling need? If not, why?

General BROGAN. [The information referred to is classified and retained in the committee files.]

Mr. ABERCROMBIE and Mr. TAYLOR. Are you aware of an operational need statement, universal urgent need statement or joint urgent operational need statement for a next generation body armor plate that provides for a higher level of ballistic protection?

General BROGAN. No, the Marine Corps is not aware of an operational need statement, universal urgent need statement or joint urgent operational need statement for a next generation body armor plate.

Mr. ABERCROMBIE and Mr. TAYLOR. Explosively formed projectiles (EFPs) are a primary killer on the battlefield. What force protection measures and TTPs are we using to defeat this threat? How are we staying ahead of this adaptive enemy?

General BROGAN. [The information referred to is classified and retained in the committee files.]

Mr. ABERCROMBIE and Mr. TAYLOR. How do you encourage the development of next generation body armor by the industrial and R&D communities and what is the Army and Marine Corps's process for evaluating these potential advances? Is this process standardized? What is the extent of the R&D effort to reduce the weight of body armor systems?

General BROGAN. The load carried by the individual Marine in combat is based upon the mission, the enemy threat, and the environment and terrain in which they will be operating. The Marine Corps has fielded PPE items that enhance our commanders' ability to scale loads to best suit the situation. The Marine Corps continues to actively challenge industry to design equipment that can perform at least as effectively as today's gear but with reduced weight and volume.

Dialogue with our vendors and potential vendors continues to involve discussions about ways to decrease the burden on the individual Marine. The Marine Corps uses continuous strategic market research, Quarterly Industry Days, and the Small Business Innovation Research (SBIR) program to enhance links with industry. We have engaged industry at events such as Modern Day Marine Exposition, Executive Workshop, Expeditionary Warfare Conference, Navy League Sea, Air & Space Exposition, Advanced Planning Brief to Industry, and Acquisition Excellence Day. As it relates to body armor, the Marine Corps is currently pursuing SBIR efforts in the areas of developing a lighter weight Enhanced-SAPI (E–SAPI) plate and the development of an objective-weight (same weight as E–SAPI with performance characteristics of X–SAPI) X–SAPI plate.

The Marine Corps is involved with the science and technology communities and is funding research efforts designed to yield material solutions that can reduce the weight, and volume of equipment being used today while also increasing performance. Inclusive in these studies are projects being sponsored under the Department of Defense's Small Business Innovative Research (SBIR) program, as well as Marine Corps funded projects through the Naval Research Labs (NRL), and the Office of Naval Research (ONR).

Mr. ABERCROMBIE and Mr. TAYLOR. What quality control measures are used to ensure that all body armor fielded to troops meets specifications?

General BROGAN. Our body armor test protocols are constantly evaluated to ensure that they thoroughly and properly test the plates in all potential operational environments. The Marine Corps uses International Organization for Standardization (ISO) 9000 family vendors that make use of best industry practices to maintain optimal quality control. Ballistic performance of the armor is initially verified by First Article Testing (FAT) and is complemented by Lot Acceptance Testing (LAT) of a pre-determined quantity of random samples gathered by the Defense Contract Management Agency (DCMA). The PPE that is issued by the Marine Corps has met government test standards by National Institutes of Justice certified labs.

Mr. ABERCROMBIE and Mr. TAYLOR. Why are the Army and Marine Corps procuring different outer tactical vests that provide the same level of protection? Please explain why one design would not be appropriate for both services.

General BROGAN. The physical dimensions, missions, and operational approach of the two services differ, therefore, the desired form, fit, and function of the soft armor carriers are developed by each service to satisfy these dissimilar needs. Body armor requirements are based on protection from ballistic projectiles, blast, and fire, balanced against the need to keep the equipment light enough to permit Marines to carry out their missions. The Marine Corps incorporates the feedback of its user community on the desired attributes and features that they would like to see included in the design of body armor.

The Commandant of the Marine Corps (CMC) has approved the way ahead for the next generation vest, including the parallel development of improvements to the MTV and SPC as a bridge to development of the next generation vest. The objective of the next generation vest will be to incorporate all of the modular and scalable aspects of the "improved" MTV and "improved" SPC into one "Joint" vest. The Marine Corps is committed to the development of the Next generation vest in close coordination with the Army and the other Armed Services.

Mr. ABERCROMBIE and Mr. TAYLOR. Do you consider flame resistance to be a key performance specification requirement for combat helmet pad suspension systems? If not, why not? Are you seeing any burn injuries as a direct result from pad suspension systems igniting?

General BROGAN. No, flame resistance is not a key performance specification requirement for combat helmet pad suspension systems. The USMC Lightweight Helmet (LWH) is composed of a para-aramid fiber that exhibits natural flame resistance properties, and protects against ballistic threats and flash flame incendiary events. Any flame in contact with a pad long enough to ignite would have already seriously injured the individual wearing the helmet.

The Brooks Army Medical Center, the Department of Defense's burn center responsible for treating all DOD burn casualties, has no record of burn injuries associated with helmet pads igniting or melting. The Naval Health Research Center reports that out of 192 burn patients, there are no injuries associated with helmet pads melting or dripping.

Mr. ABERCROMBIE and Mr. TAYLOR. What metrics do you use to evaluate and procure pad suspension systems? Do you consider comfort and feedback from the warfighter?

General BROGAN. *Blunt Impact:* Blunt impact testing was performed in 2006 by the US Army Aeromedical Research Laboratory, with oversight from the Office of the Secretary of Defense, Director of Test and Evaluation (DOT&E). This helmet pad testing evaluated the performance of the helmet padding material (in ambient, cold and hot temperatures) by impacting the helmet in different locations and tested impact attenuation of the material in large and small contact areas. The testing methodology was chosen to compare the test results across the previously fielded suspension systems.

Flame Resistance: The USMC Lightweight Helmet (LWH) is composed of a para-aramid fiber that exhibits natural flame resistance properties, and protects against ballistic threats and flash flame incendiary events. The flame resistance of the helmet is tested as part of a modified FED–STD–191 test method 5903.1 and the Marine Corps tests the helmet pads as part of a system within the USMC Lightweight Helmet and other associated gear. The helmet pad flame resistance testing was performed according to the Pyroman test method, a commercial standard which simulates flash fires of up to 4 seconds in duration, and correlates to a Burn Injury Prediction (BIP) scale, similar to what occurs in an IED event.

Comfort: The Marine Corps completed three user surveys on the LWH in 2007. A Limited User Evaluation (LUE) was performed assessing the fit, form, and function of the helmet pads in 2008.

Mr. ABERCROMBIE and Mr. TAYLOR. Where will the Army and Marine Corps conduct future body armor testing and how did you select your approach?

General BROGAN. The Marine Corps looks forward to fully participating in the DOT&E's Integrated Process Team for the development of standard protocols and processes for the testing of body armor. In the interim, the Marine Corps' approach to body armor testing will continue to rely upon government-approved independent test labs, with periodic inspections, to test its body armor. First Article Testing will be conducted at government owned labs and Lot Acceptance Testing will be permitted at National Institutes of Justice certified labs with appropriate government on-site for oversight testing. When the revised standard protocols and processes are implemented, the Marine Corps envisions using a combination of government-owned and government-approved independent lab facilities to conduct future body armor testing.

Mr. ABERCROMBIE and Mr. TAYLOR. If modifying MRAP design proves to be a significant mitigating factor in MRAP rollovers, is it possible to modify the thousands of deployed MRAPs and those already manufactured and in the MRAP pipeline? If these MRAPs can be modified, what are the associated funding issues?

General BROGAN. If there are modifications that can mitigate rollovers, we are capable of making them in theater. We do not have to transport vehicles back to the United States.

It is unlikely that a design modification is going to significantly affect rollover – this is a high center of gravity vehicle. Of the 116 rollovers recorded during the (17 month) period, 72 were attributed to the road failing, (e.g. poor infrastructure).

Twenty-two were due to driver maneuverability, which is best addressed in the training pipeline. The better trained the driver, the less likely they are to conduct a maneuver that will hazard the vehicle.

The JPO currently has some funding in hand and some included in future budget requests to procure and install various modifications into MRAP vehicles. If a modification is designed or becomes available to prevent vehicle rollovers, we will either realign on-hand/requested funds or seek additional funds.

Mr. ABERCROMBIE and Mr. TAYLOR. DOD is currently "catching up" in terms of acquiring and stockpiling MRAP repair parts. Is this shortage a function of funding, the ability of the respective MRAP manufacturers to produce sufficient stocks of repair parts, of programmatic priorities, or a combination of factors?

General BROGAN. We are no longer catching up; repair parts generally available. We have effectively balanced production and sustainment. We have maintained higher than 90 percent operational readiness availability while producing vehicles and building operating stocks.

In a little over a year, the Program began provisioning vehicles from five different manufacturers. We based our initial Stockage levels on our limited experience with route-clearance vehicles, and used analogies from heavy trucks and Stryker. We also learned the specifics of our MRAP fleet and determined which parts were going to become high demand and needed to be stocked. Overall, we have been effective in our parts supply and resupply efforts and have maintained the vehicles so they are operational and available to the user.

Mr. ABERCROMBIE and Mr. TAYLOR. DOTE has recommended "the MRAP JPO in conjunction with the Army Test and Evaluation Command conduct a detailed operational assessment of all variants of MRAP vehicles based upon data gathered from deployed MRAP-equipped units. This operational assessment would provide information for further vehicle improvements." Do you plan to implement this recommendation from DOTE? If not, why not?

General BROGAN. JPO MRAP is gathering data from forces in theater. There are at least five formal operational unit feedback mechanisms in place for capturing what the warfighter states as their requirement for MRAP capability improvements: the deployment of JPO Forward personnel, a Joint User Working Group-Monthly meeting of all Services and SOCOM representatives, user surveys conducted by deployed personnel from the testing community, weekly video teleconferences to review current issues, and user conferences. Some engineering change proposals are the result of field feedback, and the MRAP Operations Cell has developed a process that requests all information required for appropriate analysis. As a result, capability improvements to both safety and survivability include a gunner's restraint system, fuel tank fire suppression, and overhead wire mitigation kits.

Mr. ABERCROMBIE and Mr. TAYLOR. What is the difference between the M–ATV and Joint Light Tactical Vehicle (JLTV)?

General BROGAN. M–ATV is designed to meet an urgent near term need. It is not a development effort. The JLTV is designed to meet a critical long term need, and with the concomitant insight and influence on life cycle cost and effectiveness within the future force available through the CJCSI 3170/DOD 5000 paired processes. A major difference between the two vehicles is weight. An M–ATV weighs approximately 25,000 pounds, whereas a JLTV is expected to weigh about 13,500 pounds. The JLTV is needed to preserve the MAGTF's expeditionary nature. Therefore, JLTV sets rotary wing transport as a boundary condition of the system, whereas M–ATV does not. The JLTV is also intended to have modular scalable survivability. As the threat increases, additional protection in the form of kits may be added to the vehicle.

Mr. ABERCROMBIE and Mr. TAYLOR. Are there sufficient contractors in Iraq and Afghanistan to support the ever-growing MRAP fleets?

General BROGAN. Yes, there are currently sufficient Field Support Representatives (FSRs) in Iraq and Afghanistan to support the MRAP fleet. We are adding additional FSRs as the fleet grows.

Mr. ABERCROMBIE and Mr. TAYLOR. When do you plan to transition the life-cycle management of MRAP vehicles from the Marine Corps to the Army?

General BROGAN. The transition will be event driven. The agreement between the two Service Acquisition Executives is that we will begin the transition when production and fielding are complete. Since we are yet to begin producing M–ATV vehicles, transition is far in the future.

Mr. ABERCROMBIE and Mr. TAYLOR. How many M–ATVs do you expect to procure? Will the M–ATV program have the same priority rating as the MRAP vehicle program? If not? Why not?

General BROGAN. The approved Joint Urgent Operation Needs Statement (JUONS) is for 2,080 vehicles. We will also have to procure some overhead vehicles

for testing, but we currently plan to field 2,080 vehicles to Commander, Joint Task Force 101. They will be used to compliment the other tactical vehicles that are already in the theater of operations. Yes, the M–ATV will be produced and fielded using the DX rating and an Urgent Material Release (UMR).

QUESTION SUBMITTED BY MR. BARTLETT

Mr. BARTLETT. Describe the Army's program of record for a counter sniper system to include the funding profile, schedule, and acquisition strategy.

General LENNOX. The Army currently does not have a program of record for a counter sniper system. However, of the two potential acquisition programs that are related to ongoing sniper defeat initiatives, the following is the status:

The Gunshot Detection System (GSD) vehicle borne system:

The GSD requirement document was approved by HQDA on 13 Feb 09 and HQDA G3 issued the requirement document CARDS number 02077. The program will compete for funding in the FY12–17 Program Objective Memorandum (POM). Should the GSD program be funded, the Army plans to conduct a full and open competition to identify the best materiel solution to procure. As far as the urgency based procurement of vehicle borne gunshot detection systems is concerned, the Army has fielded 607 Boomerang III Gunshot Detection Systems in Iraq/Afghanistan to date and plans to field over 2000 more systems throughout the year.

The Individual Gunshot Detector (IGD) soldier worn system:

The IGD requirement document is currently being staffed at the Army Requirements Oversight Council for approval. The Rapid Equipping Force (REF), Asymmetric Warfare Group (AWG), and Army Test and Evaluation Command (ATEC) are conducting an evaluation in OEF and OIF on an IGD representative system called the Soldier Wearable Acoustic Targeting System (SWATS). The test report is expected by early April 2009 and will be used to inform Army decision makers regarding the approval of the IGD requirement. Should the requirement be approved, the program will compete for funding in the FY12–17 POM. If the program is funded, the Army plans to conduct a full and open competition to identify the best materiel solution. To date, the REF has fielded over 1000 SWATS to units in Iraq/Afghanistan that have requested individual gunshot detection capability.

QUESTIONS SUBMITTED BY MR. WILSON

Mr. WILSON. General, the Center for Naval Analysis conducted a survey on small arms for the Army in 2006. This survey questioned Soldiers recently returned from combat who had used their weapon to engage the enemy. The study found for example that 38% of the Soldiers who experienced a stoppage with the M9 reported an inability to engage the enemy with the weapon even after performing immediate action to clear the stoppage during a significant portion of or all of the firefight. I also note that Special Operations Command is replacing their M4 rifles with a new weapon. Given the level of dissatisfaction with small arms found by the Center for Naval Analysis is the Army doing anything to generate a new requirement for a pistol or rifle?

General LENNOX. Mr. Wilson, in the same Center for Naval Analysis (CNA) study you cited, approximately 90% of the Soldiers surveyed were satisfied with the performance of the M4 Carbine. Additionally, in another recent survey of 917 Soldiers with recent combat experience with the M4 in Iraq or Afghanistan, 89% of Soldiers reported overall satisfaction with the M4 and only 1% of these Soldiers recommended that the M4 be replaced. Although the weapons are performing well, the Army continually seeks ways to improve their performance as well as provide Soldiers with enhanced capabilities. To that purpose we conducted an Industry Technology Day on November 13th that was designed to gather information from our industry partners as to what is achievable in terms of small arms technology. This is an important step in the effort to ensure that our Soldiers always have the best industry has to offer. The Individual Carbine Capabilities Development Document (CDD) is currently in the staffing and approval process. The goal for the CDD to complete all staffing is September 2009. As directed by Secretary Geren, we plan to conduct a full and open competition utilizing the new requirement beginning in late 2009. We will look at the industry's best innovations and proposed solutions for a possible new individual weapon.

For the handgun, the 38% you refer to is actually a percentage of another percentage which translates to ½% of the Soldiers surveyed. That said, the Army's Small Arms Capability Based Assessment (CBA) confirmed the shortfall in the area of the personal defense weapon, and the Army has prioritized the development of a sub-

compact or "miniature carbine" capability ahead of the pistol at this time. However, currently the Army plans to wait until the completion of the carbine competition to see what industry provides as solutions to better inform the writing of a sub-compact requirement. The Air Force (AF) has completed a new joint requirement for a handgun that can be adopted by any service. The Army is looking closely at adopting this requirement in the near future. The AF wrote the Modular Handgun System (MHS) Capabilities Production Document (CPD) with significant input from the Army and joint participation from all services.

Mr. WILSON. Is the Army and Marine Corps working to equip every military vehicle, including light, medium and heavy tactical vehicles, with fuel tank fire suppression kits?

General LENNOX. No. The vehicles most vulnerable to fuel tank fire hazards have been those with external side saddle fuel tanks: the Army Line Haul tractors, Heavy Equipment Transport (HET) tractors, Heavy Expanded Mobility Tactical Truck (HEMTT) and the Marine Corps Medium Tactical Vehicle Replacement Vehicle (MTVR). In Iraq insurgents have specifically targeted these side saddle tanks during IED attacks. Only vehicles destined for, or in, Theater are equipped with a Fire Suppression Kit (FSK); either a Kevlar "quilt" made of 6-inch stitched pouches of fire suppression powder or a molded, hollow plastic shell filled with fire suppression powder, wrapped around the saddle tanks. When activated by an IED event, the powder disperses in the shot line and the surrounding area suppressing the fire. Pooling fuel that comes in contact with the powder becomes inert, reducing the likelihood of secondary fires caused by penetrated fuel lines or secondary ignition.

The Army has a validated ONS, and is equipping all armored Line Haul, HETS tractor, and HEMTT vehicles in Theater with FSKs. The Marine Corps plans to equip every MTVR with fuel tank protection kits, with initial priority on armored vehicles. All MTVRs in theater have been retrofitted with fuel tank protection kits. The USMC is looking at adapting the MTVR (Firetrace) fuel tank protection kit to Logistics Vehicle System Replacement, but there is no current requirement to add these kits to the vehicles.

Mr. WILSON. Is fuel tank fire suppression viewed differently depending on the category of vehicle?

General LENNOX. Yes, the Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel and Facility (DOTMLPF) analysis for Tactical Wheeled Vehicle Fires completed in April 2008 concluded that no one solution will fill the capability gap to prevent and then quickly eliminate/extinguish vehicle fires. Solutions are dependent on vehicle type, age, design and specific mission. First priority is crew safety, survivability, escape and rescue. Second priority is to minimize vehicle and cargo damage.

Many vehicles in theater (included all Tactical Vehicles) are equipped with portable, vehicle-mounted and back-pack foam systems as Basic Issue Items. Stryker systems have integrated a foam distribution system into the design of the vehicle, focusing on extinguishing tire fires. Foam agents are one effective solution for extinguishing petroleum based fires in tactical vehicles. Automatic foam systems, however, may not be possible in every tactical vehicle because of design strictures, integration structures, crew areas. Some MRAP vehicles also employ dry powder fuel zone fire suppression systems which can be manually or are automatically activated.

Saddle tank, dry-powder Fire Suppression Panels or Kevlar quilts are very effective for external fuel tanks on tactical trucks. These solutions have been installed on HEMTT, HET, Line Haul and MTVR vehicles in theater. M978, HEMTT, 2,500 gallon Fuel Tankers also have additional protection that incorporate Fuel Tank Self-Sealing spray, which closes small-arms and splinter punctures in the fuel tanks thus mitigating fire hazards from fuel leaks, and armor grade steel over hoses and pumping components to protect critical equipment from small arms fire and IED fragments.

Mr. WILSON. When does the Army expect to have the MRAP home station training requirement at 100%?

General LENNOX. The Army has identified that a total of 702 MRAP vehicles are currently needed to support pre-deployment training. The Army expects to have that many vehicles at approximately twenty different training locations by the end of December 2009. There are already 26 vehicles supporting training in the United States, and another 25 have been identified in Kuwait for shipment back to support training by April 2009. As the Army receives the newest and most capable MRAP vehicles in theater, older and less capable vehicles are being replaced and returned for use in training Soldiers before they deploy. The Army will adjust the schedule for the return of these older vehicles based on a number of factors, including how much maintenance is required on the vehicles before they are shipped, and when

shipping is available. Changes in the operational situation could also cause the Army to adjust the schedule or numbers.

QUESTION SUBMITTED BY MS. SHEA-PORTER

Ms. SHEA-PORTER. General, the Center for Naval Analysis conducted a survey on small arms for the Army in 2006. This survey questioned Soldiers recently returned from combat who had used their weapon to engage the enemy. The study found for example that 38% of the Soldiers who experienced a stoppage with the M9 reported an inability to engage the enemy with the weapon even after performing immediate action to clear the stoppage during a significant portion of or all of the firefight. I also note that Special Operations Command is replacing their M4 rifles with a new weapon. Given the level of dissatisfaction with small arms found by the Center for Naval Analysis can you tell us why the Army has not been able to generate a new requirement for a pistol or rifle?

General LENNOX. Ms. Shea-Porter, in the same Center for Naval Analysis (CNA) study you cited, approximately 90% of the Soldiers surveyed were satisfied with the performance of the M4 Carbine. Additionally, in another recent survey of 917 Soldiers with recent combat experience with the M4 in Iraq or Afghanistan, 89% of Soldiers reported overall satisfaction with the M4 and only 1% of these Soldiers recommended that the M4 be replaced. Although the weapons are performing well, the Army continually seeks ways to improve their performance as well as provide Soldiers with enhanced capabilities. To that purpose we conducted an Industry Technology Day on November 13th that was designed to gather information from our industry partners as to what is achievable in terms of small arms technology. This is an important step in the effort to ensure that our Soldiers always have the best industry has to offer. The Individual Carbine Capabilities Development Document (CDD) is currently in the staffing and approval process. The goal for the CDD to complete all staffing is September 2009. As directed by Secretary Geren, we plan to conduct a full and open competition utilizing the new requirement beginning in late 2009. We will look at the industry's best innovations and proposed solutions for a possible new individual weapon.

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QUESTIONS SUBMITTED BY MS. GIFFORDS

Ms. GIFFORDS. Given the weight of individual body armor systems and associated equipment, what is being done to treat muscular or skeletal injuries associated with carrying these loads for extended periods?

General LENNOX. Soldiers complain of pain in the spine (neck, mid, and lower back), shoulders, and lower extremities after wearing the gear for an extended period of time. One study queried the Soldiers who had these complaints and found that those who wore the gear for four hours or longer had more complaints than those wearing the gear for shorter periods. The immediate treatment is to allow for frequent periods of "unloading" or taking the gear off if it is safe to do so. The Army recognizes physical therapists (PTs) as the primary care providers for prevention, identification, treatment, and rehabilitation of musculoskeletal injuries. These PTs use a sports medicine approach to identify, treat, and rehabilitate musculoskeletal injuries expeditiously which is critical in a wartime environment as Soldiers are able to stay healthy and "in the fight". Treatments for Soldiers with musculoskeletal injuries include joint manipulation, specific therapeutic exercises, soft tissue manipulation as well as a variety of modalities to mitigate pain, promote healing, and prevent reoccurrence. PTs also assist Commanders with unit exercise programs that strengthen the shoulders, lower extremities, and muscles surrounding the spine in order to prevent injuries from occurring when wearing the gear. Programs focusing on injury prevention and performance enhancement emphasize core strengthening,

plyometrics (used to train explosiveness and power in muscles i.e., jumping on/off boxes of varying heights simulates jumping on/off vehicles in combat), and cardiorespiratory endurance. The programs also emphasize muscular strength, muscular endurance (anaerobic endurance), power, and movement proficiency (incorporates balance, flexibility, coordination, speed, and agility) to better prepare Soldiers to physically withstand the rigors of combat. In conclusion, by making sure Soldiers receive early identification and treatment of their musculoskeletal injuries and improving Soldiers' physical strength and conditioning, we also improve the overall medical readiness of our Force.

Ms. GIFFORDS. What changes have you made to your fitness and nutrition programs to better train servicemembers for carrying their current combat loads? Are your current fitness tests and weight standards sufficient? What type of fitness trainers do you have at company and battalion levels to train your servicemembers for the rigors of combat?

General LENNOX. The Army Physical Fitness School at Fort Jackson, South Carolina has researched our physical fitness doctrine and found our current model that emphasizes aerobic and muscular endurance does not correlate well with the physical fitness requirements of current combat operations. To fill this gap, the Physical Fitness School drafted a new doctrine called Army Physical Readiness Training (Field Manual 3–22.20) that aligns with our current operations and training doctrine. Army Physical Readiness Training focuses on improving Soldiers' aerobic endurance, muscular strength, muscular endurance (anaerobic endurance), power, and movement proficiency which physically prepares Soldiers and units to meet the physical demands of full spectrum operations. As this new doctrine is inculcated throughout the Army, we will adjust our physical fitness test to reflect this change. In the meantime, units across the Army, with the assistance of subject matter experts, have adopted a variety of injury prevention and performance enhancement programs. For example, Special Forces and several Brigade Combat Teams have implemented programs that, in addition to traditional aerobic exercise, emphasize core strengthening, short term bursts of power, and speed and agility drills. Army training policy continues to highlight that commanders are the primary training managers and trainers for their organization. Although the Army no longer designates a unit fitness trainer, unit commanders delegate authority to non-commissioned officers (NCOs) as the primary trainers of enlisted Soldiers, crews, and small teams. This new doctrine designates the NCOs as the primary trainers for Physical Readiness Training in units.

With regard to nutrition, the US Army Research Institute of Environmental Medicine has developed a new, light-weight, small volume ration that can be eaten on-the-move without any preparation. Their Military Nutrition Division worked with the ration developer to define the optimal amounts of different nutrients needed to sustain physical performance and prevent excess loss of lean mass during extended combat missions. The result of this collaborative effort is the "Nutritionally Optimized" First Strike Ration that is currently available for use in Theater.

Finally, the Army considers our weight standards as outlined in Army Weight Program policy (Army Regulation 600–9, 27 November 2006) to be sufficient. The weight table and measurement techniques outlined in this regulation were carefully evaluated by the US Army Research Institute for Environmental Medicine and a team of nutritionists, healthcare professionals and fitness experts.

Ms. GIFFORDS. The MRAPs that we have rushed to the field in Iraq are too large and too heavy for Afghanistan and are not ideal for domestic missions at the National Guard level. What will be done with MRAPs once our forces leave Iraq?

General LENNOX. The Army is committed to keeping MRAP in the Force Structure. There are plans to integrate up to 1,400 MRAP into Explosive Ordnance Disposal and Route Clearance organizations. Additionally, the Army is exploring the operational feasibility of placing them in other organizations, including Sustainment Brigades, Maneuver Enhancement Brigades, Army Prepositioned Stocks and Training Sets.

Ms. GIFFORDS. What plans are in place or being developed to transition our Up-Armored Humvees back to the United States or directly to Afghanistan as forces drawdown in Iraq?

General LENNOX. The Army's current validated Theater operational requirement for UAH is 19,645. This requirement is currently being re-evaluated based on possible reductions of forces in Iraq and the pending force structure decisions for Afghanistan. The Army will not be able to finalize its requirements until these decisions are made.

As requirements in Iraq are reduced, Theater will fill all requirements in Afghanistan first, and then begin moving UAH back to the United States to fill MTOE requirements and training sets, thereby supporting readiness for future operations.

Ms. GIFFORDS. Given the substantially improved survivability of MRAP-like vehicles and the potential for future enemies to utilize similar asymmetric means, how are you incorporating successes of these vehicle designs into FCS?

General LENNOX. Operational feedback and lessons learned inform our design process. While FCS Manned Ground Vehicles (MGV) are designed to provide protection against a broader range of direct-fire threats than MRAP-like vehicles, the FCS program is exploring concepts for protecting MGVs based on the same principles that enable MRAP-like vehicles to protect our Soldiers against Improvised Explosive Devices (IED). FCS is assessing the feasibility of incorporating principles such as increased ground clearance to reduce the effects of evolving threats. Other exploratory efforts include potentially developing a Mine Kit similar to the MRAP-like "V"-shaped hull.

FCS MGVs will use advanced armor technologies to achieve significant ballistic protection for hemispherical and under-vehicle threats. Lightweight, ceramic-based composites provide performance protection up to medium caliber for hemispherical threats. Additional under-vehicle protection is gained through an anti-tank (AT) mine kit that provides significant capability against AT mines.

FCS MGVs are designed to accept future upgrades of ballistic armor to take advantage of increased performance at lower weights. The common modular approach to all MGV designs allows for easy removal and replacement of the armor skin as future armor technologies evolve to meet the changing threat. The Army, through the Army Research and Development Command (RDECOM), continues to develop, mature and provide improved armor solutions to the FCS program that not only provide increased performance but will continue to target reducing weight.

Ms. GIFFORDS. Are the Army and Marine Corps closely coordinating efforts to design future combat vehicles? If not, why not?

General LENNOX. Yes, the Program Executive Officer Land Systems (PEO LS) USMC is working closely with the Army on two future combat vehicle programs – Joint Light Tactical Vehicle (JLTV) and Marine Personnel Carrier (MPC). With respect to JLTV, the U.S. Army is the lead service with a Joint Program Office at TACOM (Michigan) under the leadership of the Program Executive Office for Combat Support/Combat Service Support (PEO CSS) and has an additional Program Office under the leadership of the PEO LS USMC at Quantico, Virginia. The MPC Program Office is pursuing a joint effort with the Army to include Stryker in the revised MPC Analysis of Alternatives (AoA).

Due to the cancellation of the Marine Air-Ground Task Force (MAGTF) Expeditionary Family of Fighting Vehicles (MEFFV) program and the decision(s) to continue use of USMC Tanks and Light Armored Vehicles (LAVs) for the foreseeable future, the Marine Corps is no longer an active participant in the Army's FCS MGV development program. However, the Marine Corps continues to closely monitor the FCS program. Recent areas of focus include MGV armor capabilities geared toward IED mitigation/survivability for the Expeditionary Fighting Vehicle (EFV) and the Active Protection System for use in the USMC LAV and EFV. USMC coordinates future vehicle S&T with the Army RDECOM and Office of Naval Research (ONR). PEO LS has also established a Marine Corps Integration Capability Cell with the Army's FCS program at Fort Bliss, Texas.

Ms. GIFFORDS. Given that we entered this war with little to no armored vehicles for our servicemembers who perform vital support and logistics functions, what are your plans for hardening future logistics and combat support vehicles?

General LENNOX. TRADOC and PEO CS&CSS developed the Long Term Armor Strategy (LTAS) that was approved by the Army Requirements and Resourcing Board (AR2B) to enhance current Tactical Vehicle Platforms with an integrated armor capability through an A-cab, B-kit format. This concept allows peacetime operation in a lighter A-cab solution, with a capability to rapidly apply armor protection (B-kit) when required. To date, PM Tactical Vehicles has integrated this capability in the Up-armored HMMWV (UAH), Family of Medium Tactical Vehicles (FMTV) and Heavy Expanded Mobility Tactical Truck (HEMTT). The PM is currently developing solutions for the Palletized Loading System (PLS), Line Haul Tractor and Heavy Equipment Transporter.

TRADOC is currently developing the Long Term Protection Strategy (LTPS) for Tactical Vehicles which includes updating the Army's LTAS. The objective of the LTPS is to enhance the survivability of TWV occupants by synchronizing a variety of complementary Force protection and Survivability initiatives in support of current operations, Army Transformation and future modernization capabilities by optimizing strategies for procurement, deployment, recapitalization and sustainment. This strategy will provide recommended quantities of B-kits that should be maintained to ensure the Army has sufficient armor capabilities on-hand to support Tactical Vehicles deployment.

Ms. GIFFORDS. What help does the Army need to expedite the update of the Counter-IED Jamming systems in theater?

General LENNOX. The Army is executing a strategy to keep their current fleet of jammers relevant to meet a constantly evolving threat. The current upgrade is the Duke V3. It is the most advanced Counter Remote Improvised Explosive Device Electronic Warfare (CREW) system available and provides increased protection against current threats and is software programmable to defeat future threats. Continued Congressional support for Counter-IED funding will allow the Army to adequately meet the OIF requirement and lean forward in supporting OEF. For the future, the Army will invest in long term Electronic Warfare capability that incorporates the counter IED (CREW) mission as a subset of a much more comprehensive and integrated Electronic Warfare system addressing the totality of Army Electronic Warfare requirements.

Ms. GIFFORDS. Given the weight of individual body armor systems and associated equipment, what is being done to treat muscular or skeletal injuries associated with carrying these loads for extended periods?

General BROGAN. The Marine Corps has not experienced a significant increase in musculoskeletal injuries. The average tour length for Marines deployed to a combat zone is seven months, versus the Army's average tour length of 12–15 months. Our units form prior to beginning the Pre-Deployment Training Program (PTP). With very few exceptions, the entire unit completes PTP together. During PTP the Marines are conditioned, hardened and prepared for the rigors of the combat environment. Combined with our culture of high physical conditioning, we are not experiencing a significant increase in musculoskeletal injuries.

Hospital Corpsmen attached to Marine units provide the first echelon of care for an injured Marine. Corpsmen are trained to rapidly respond and treat front-line casualties, and the treatment and management of musculoskeletal injuries makes up a large portion of their curriculum.

Ms. GIFFORDS. What changes have you made to your fitness and nutrition programs to better train servicemembers for carrying their current combat loads? Are your current fitness tests and weight standards sufficient? What type of fitness trainers do you have at company and battalion levels to train your servicemembers for the rigors of combat?

General BROGAN. A comprehensive review of USMC fitness programs began in Nov 2006. Key outputs of this review resulted in the following changes to Physical Training (PT) programs in Entry Level Training (ELT) and in guidelines for commanders in designing unit PT programs: Greater emphasis on anaerobic (short burst) capacity, de-emphasis of long distance running, increase in body movement skills (agility) and increase in progressive load bearing capacity. These changes are reflected in PT application, testing, and also in education of Marine leaders in the Training and Education continuum. Nutrition education begins in boot camp conducted by Semper Fit and continues in the T&E continuum as well.

Pre-deployment physical training is sufficient to meet the demands of combat. Improvements to fitness programs have enhanced the already high physical fitness readiness of Marines.

In May 2008, the Command of the Marine Corps (CMC) approved the Combat Fitness Test (CFT) which was implemented in Oct 2008. Designed to be a complement to the semi-annual Physical Fitness Test (PFT), CFT events are: Movement to Contact (880 yd run), Ammo Lift (repetitive overhead lift of a 30 lb ammo can for two minutes), and Maneuver Under Fire. The last event is a 300 yard shuttle run which includes sprints, numerous changes of direction, a fireman's carry, buddy drag, ammo can carries and a simulated grenade throw. The CFT has helped shape USMC fitness programs, which will serve to enhance combat-related conditioning.

USMC Height/Weight standards are in accordance with DoD guidelines. Maximum body fat allowances graduate slightly by age and are the lowest within DoD guidelines.

There are no dedicated fitness trainers at the company and battalion levels. However, the Marine Corps has recently implemented a Combat Conditioning Specialist (CCS) program to assist commanders in designing and implementing their unit PT programs. Included in the CCS curriculum are classes on basic exercise physiology, injury prevention, etc. and contemporary strength and conditioning methods. In addition, commander's also have access to Semper Fit personal trainers at major bases who also provide detailed expertise in designing effective PT programs.

Ms. GIFFORDS. The MRAPs that we have rushed to the field in Iraq are too large and too heavy for Afghanistan. What will be done with MRAPs once our forces leave Iraq?

General BROGAN. There are more than 1,800 MRAP vehicles in Afghanistan, at the request of operational commanders. Certain variants, such as the RG–31

MaxxPro Dash and Cougar variant have performed well. As the focus shifted from Iraq to Afghanistan, the Joint Program Office has procured more than 2,000 vehicles to meet theater-specific requirements in Operation Enduring Freedom (OEF).

Speaking only for the Marine Corps, a portion of the fleet will go to operational forces: route clearing teams, explosive ordnance disposal (EOD) teams, and combat engineering organizations; a portion will go to geographic pre-positioning, and a portion will likely be made available for our maritime pre-positioning force. Currently, the Marine Corps does not intend to leave vehicles in Iraq.

Ms. GIFFORDS. What plans are in place or being developed to transition our Up-Armored Humvees back to the United States or directly to Afghanistan as forces drawdown in Iraq?

General BROGAN. Transition of up armored HMMWVs back to CONUS will depend upon the state of the individual vehicle and will be made on a case-by-case basis prior to re-embarkation. Equipment determined to be cost-effective to repair will be returned to CONUS and reset at government depot facilities. Equipment determined not cost effective to repair will be made available for foreign military sales or the Defense Reutilization and Marketing Service (DRMS).

Ms. GIFFORDS. Given the substantially improved survivability of MRAP-like vehicles and the potential for future enemies to utilize similar asymmetric means, how are you incorporating successes of these vehicle designs into the Marine Expeditionary Family of Fighting Vehicles?

General BROGAN. There is no Marine Expeditionary Family of Fighting Vehicles program. The Marine Corps' HMMWV and MTVR fleet has already been up-armored. Armor kits are available for our heavy tactical vehicle fleet, which consists of the LVS/LVSR. The Marine Corps has ongoing programs to upgrade the LAV and Tank fleets to address current and projected mission requirements.

Ms. GIFFORDS. Are the Army and Marine Corps closely coordinating efforts to design future combat vehicles? If not, why not?

General BROGAN. Yes, the Marine Corps is working closely with the Army on future combat vehicle programs—JLTV. The JLTV program is Army lead with Marine Corps participation.

Ms. GIFFORDS. Given that we entered this war with little to no armored vehicles for our servicemembers who perform vital support and logistics functions, what are your plans for hardening future logistics and combat support vehicles?

General BROGAN. The Marine Corps is currently engaged in a study to determine future armoring requirements as well as a proposed strategy to meet the required capabilities of the future tactical wheeled vehicle fleet. The study will address issues including protection scalability, vehicle weight, square and cube, and expeditionary deployability.

QUESTIONS SUBMITTED BY MS. TSONGAS

Ms. TSONGAS. Please provide budgetary details since 2004 for all funding for body armor S&T, R&D and where (program element) it resides.

General FULLER. The budgetary details for R&D are provided, by Fiscal Year (FY): FY 2004, Program Element 0603747A (Soldier Support and Survivability) with a Program Amount of $1,029,639; FY 2005, Program Element 0603747A (Soldier Support and Survivability), with Program Amount of $1,869,509; FY 2005, Program Element 0604713A (Combat Feeding, Clothing and Equipment), with a Program Amount of $1,588,935; FY 2006, Program Element 0603827A (Soldier Systems—Advanced Development), with a Program Amount of $791,000.00; FY 2006, Program Element 0604601A (Infantry Support Weapons), with a Program Amount of $3,472,410; FY 2007, Program Element 0604601A (Infantry Support Weapons), with a Program Amount of $4,381,345; FY 2007, Program Element 0603827A (Soldier Systems—Advanced Development), with Program Amount of $530,000; FY 2008, Program Element 0603827A (Soldier Systems—Advanced Development), with a Program Amount of $1,562,019; FY 2008, Program Element 0604601A (Infantry Support Weapons), with a Program Amount of $2,185,499; FY 2009, Program Element 0603827A (Soldier Systems—Advanced Development), with a Program Amount of $1,505,000 and FY 2009 to date, Program Element 0604601A (Infantry Support Weapons), with a Program Amount of $2,659,163.

Ms. TSONGAS. Please provide budgetary details since 2004 for all funding for body armor S&T, R&D and where (program element) it resides.

General BROGAN. The body armor R&D is funded by PE 0206623M Marine Corps Ground Combat/Supporting Arms Systems in the Research, Development, Test & Evaluation, Navy budget. The funding contained in the President's Budget for R&D in support of body armor is as follows:

FY04: 1.0M
FY05: 1.0M
FY06: 2.7M
FY07: 4.4M
FY08: 5.6M
FY09: 7.0M

This funding was requested for the exploration of new commercial technologies that can be inserted into current body armor to reduce weight, increase survivability, lethality, and mobility. Both torso and head/neck ballistic studies will be conducted to assess blunt trauma/shock forces on the body and how ballistic materials/designs can afford the most protection while reducing weight. Modeling and simulation initiatives will baseline current equipment and enable configuration/compatibility management of new equipment. Specific R&D efforts for body armor include but are not limited to the following efforts:

- Next generation equipment design
- Combat casualty trend analysis and headborne integration efforts
- Headborne injury trend and analysis, helmet sensor data collection and analysis
- Prototyping skills, Computer Aided Design (CAD) pattern development, and sizing/fit standardization for body armor components

Additionally, the following federal/government entities provide S&T support via funding, program management, or program execution:

- Office of Naval Research (ONR)
- Naval Research Lab (NRL)
- USMC Small Business Innovative Research Office (SBIR)
- U.S. Army Natick Soldier Research, Development & Engineering (NSRDE)
- Marine Corps Warfighting Lab (MCWL)

Ms. TSONGAS. Snipers pose a serious threat to our armed forces because of their precision and elusiveness. NATO's International Security Assistance Force, which leads coalition forces in Afghanistan, said last month that coalition deaths have risen sharply over the last several months, mainly due to the increase in the Taliban's marksmen. There are proven technologies that can detect a threat's location, and allow our soldiers and Marines to take preventive action that would undoubtedly save American lives. Last year's Supplemental included $400 million for items such as Vanguards vehicles, Boomerangs, Decoy Boomerangs, and Sniper Defeat Fixed Site systems. Could you discuss the Army's plans for spending these funds and its overall intentions for fully funding sniper detection and protection systems? Will the Army's budget include additional funding for sniper defeat systems?

General LENNOX and General FULLER. The Army has invested nearly $447M in FY08 Other Procurement, Army (OPA) funding to purchase various Sniper Defeat equipment in response to an urgent need from units deployed to Iraq/Afghanistan ($400M was appropriated in the December 2007 Supplemental and nearly $47M in the July 2008 Supplemental). In addition to Vanguards, Boomerangs, and Decoy Boomerangs, the Army is in the process of fielding the Soldier Wearable Acoustic Targeting Systems (SWATS), Handheld Thermal Imagers, Binoculars, Nets/Veils, and 3x magnifiers for the Close Combat Optic. This year, the Army has allocated over $52 million in Operations and Maintenance, Army (OMA) funding for the sustainment of the aforementioned equipment and will continue sustaining these items for the foreseeable future.

The Army has responded to every validated urgent need for Sniper Defeat equipment from deployed units and will continue to do so through the Senior Budget Requirements and Program Board (BRP). Furthermore, the Army has decided to transition two Sniper Defeat technologies into formal acquisition programs. The Army recently approved a requirement for a Gunshot Detection System (GSD) and approval for an Individual Gunshot Detector (IGD) is pending. These Army plans to compete these programs for funding during the development of the FY12–17 Program Objective Memorandum (POM).

The Army's Sniper Defeat Integrated Capabilities Development Team (ICDT) continues to monitor the enemy sniper threat and emerging technologies to counter that threat. The Army's Asymmetric Warfare Group (AWG) and the Rapid Equipping Force (REF) are members of the Sniper Defeat ICDT and assist in developing and bringing promising new Sniper Defeat technology into the Army. Should new Sniper Defeat technology prove viable, deployed units may document the capability required with an Operational Needs Statement (ONS) and request the equipment through the BRP process. Once fielded, the Army continues to assess select Sniper

Defeat technology via the Capabilities Development for Rapid Transition (CDRT) process. Based on user feedback from operational assessments, the CDRT council makes recommendations to senior Army leadership on whether the technology should remain in theater as a niche item, terminate, or transition into a formal acquisition program of record.

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