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ARMY FORCE PROTECTION EQUIPMENT FOR OPERATION IRAQI FREEDOM AND OPERATION ENDURING FREEDOM

HEARING

BEFORE THE

AIR AND LAND FORCES SUBCOMMITTEE

OF THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES

ONE HUNDRED TENTH CONGRESS

FIRST SESSION

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ARMY FORCE PROTECTION EQUIPMENT FOR OPERATION IRAQI FREEDOM AND OPERATION ENDURING FREEDOM

HOUSE OF REPRESENTATIVES,
COMMITTEE ON ARMED SERVICES,
AIR AND LAND FORCES SUBCOMMITTEE,
Washington, DC, Thursday, January 18, 2007.

The subcommittee met, pursuant to call, at 2:13 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 very much for coming today and being with us. This is a hearing on the Army force protection programs in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF).

Just by way of introduction, this will be my first time chairing, and I have the privilege of serving with a Ranking Member, Jim Saxton of New Jersey. I hope I handle this all right. I certainly had good lessons from a worthy mentor, a good friend, and a valued colleague in Jim Saxton. As luck and happenstance would have it, I served as Ranking Member to Mr. Saxton, both here on the Armed Services Committee, and in the Natural Resources, the Interior Committee, and in the process learned what I hope will enable me to carry through it at this end on the chairman dais this time. But absent the friendship and encouragement of Mr. Saxton, I don't think I would be quite ready to handle the job, and, Jim, I hope I can only do as good a job as you have done all the way through.

The Air and Land Forces Subcommittee continues on its ongoing review of force protection issues, started under our previous Chairman Curt Weldon, where I had the honor to serve as Ranking Member. And today we are going to address vehicle armor, personnel armor and Active Protection Systems, the APS.

Having said that, I will ask our guests today to—when they get to the infamous acronyms of one kind or another, because not everyone in the audience will be familiar with it or at ease with the acronyms, and because I believe it may be being broadcast as well at some juncture to a wider audience, if when we come up with things like APS, Active Protective Systems, protection systems, that we say what it is that we are talking about on the basis of maximizing our capacity for people to understand us.

We will have testimony from two distinguished panels of witnesses. The first panel will involve our Army vehicle and body

armor program, the second panel the active protective systems. Representing the Army on panel number one will be Lieutenant General Stephen Speakes, who is the Deputy Chief of Staff of the Army G–8; Major General Jeffrey Sorenson, the Deputy for Acquisition and Systems Management, Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology.

Force protection is a top priority for this committee. Nearly 108,000 Army active duty and Reserve component personnel are operating in Iraq and Afghanistan as we speak. An additional 17,500 Army personnel are planned for deployment under the administration's new plan. Regardless of one's point of view on the war, with 70 percent of the casualties resulting from improvised explosive devices, the infamous IEDs, vehicle and personnel armor are critically important.

The subcommittee expects to learn today how vehicle and personnel armoring initiatives are performing in theater, how vehicles and armor are being produced in field and in an expedient manner, how vehicles and armor have been upgraded to address evolving threats, and how well the industrial base is prepared to meet the possible surge in theater troop requirements.

I have come to realize since I first put these words down that the word "surge," at least in some instances of media consumption, has taken on a pejorative connotation or a political connotation. I want to emphasize at this point, utilizing this example, that does not take place in this subcommittee. It never did when Mr. Saxton was Chairman of any committee that I was privileged to serve with him on, and I can assure you it is not going to happen here. I use that word simply because I think it is something the general public understands and has no connotation beyond that.

The military has introduced several iterations of the vehicle and body armor we will address today to address in turn the ever-increasing threat. We understand when I say "ever-increasing," what I mean by that is ever-evolving probably is a more accurate way of saying it.

We understand now that all military and DOD civilians have been issued a complete set of body armor, and no vehicle travels outside a secure area without some form of factory-produced armor. A new program called mine resistant ambush protected vehicles, MRAP, composed of three different categories of vehicles, is the latest effort to protect our personnel.

Just as the Humvee reached a point at which additional armor protection is not possible because of gross weight limitations and change in mission and tactical capacity, personnel can only wear—just as that happens with vehicles, personnel can only wear so much armor beyond which their operational effectiveness is inhibited or perhaps actually increases the risk of their being injured. The challenge for the military then is to seek a balance between increased vehicle and personnel armor protection and operational and personal effectiveness. This will be addressed by the panels.

Vehicle armor is defensive in nature and cannot totally protect against the evolving threats in the theater of war. There are IEDs that have been encountered for which no reasonable level of armor will provide protection. The efforts to inhibit implacement and detection of implaced IEDs have significantly increased, but have not

kept pace with the threat. In addition, mistakes perhaps have been made in the past that delayed timely deployment of critical systems. Hopefully we can avoid these same mistakes in the future. That is one of the reasons for this hearing.

To the degree or extent that bureaucratic or institutional requirements, legislative requirements have had a delaying effect, we need to know whether that is the case and whether there is something that can be done legislatively to expedite the availability of equipment that has been tested and meets the need. We must be able to confidently say to our Armed Forces as well as to the American people that we are doing everything possible to provide our warfighters the protection they need and deserve.

We recognize that no matter how much we spend on protective systems, the reality of war is that the U.S. forces will take casualties in combat. What we want to do is minimize those casualties and maximize our capacity to respond to the necessity of confronting that issue. Obviously we look forward to hearing from all of our witnesses on these important issues.

[The prepared statement of Mr. Abercrombie can be found in the Appendix on page 57.]

Mr. ABERCROMBIE. And with that, I would like to turn to my good friend and valued colleague Representative Saxton.

STATEMENT OF HON. JIM SAXTON, A REPRESENTATIVE FROM NEW JERSEY, RANKING MEMBER, AIR AND LAND FORCES SUBCOMMITTEE

Mr. SAXTON. Mr. Chairman, thank you very much, and thank you for the very kind words at the outset of your remarks. I appreciate that very, very much.

Mr. Abercrombie and I first became associated as Chairman and Ranking Member over 12 years ago, and it was 6 years ago that we took up our second set of subcommittee assignments together as Chairman and Ranking Member of the Military Construction Subcommittee on this committee, and I must say that we have had a great relationship. Not only are we friends, but I believe that we work very well together, have quite a set of accomplishments, I believe, which were made possible by efforts of both of us to make sure that we do the best we can for the American people.

And let me just say this, too: I suspect that outside the Beltway most observers think that we come here to be disagreeable and not get along with each other, and that is really not true. That is not true on the full committee here, on the Armed Services Committee, and certainly not true on the Air and Land Subcommittee. I value the Chairman's friendship, and I value working with you this time for the third time. My only disappointment is that the roles have been reversed, but I guess that is part of democracy.

Mr. Chairman, thank you for having this hearing. This subcommittee has a long tradition of keeping focused on those issues that can most impact our brave men and women in uniform. I am glad to see that under your chairmanship, you are continuing this tradition, making force protection a top priority for the committee.

To our witnesses, thank you for being here. I know that both of you work these issues, these kinds of issues, 24 hours a day, 7 days a week, and that for you it is both professional as well as personal

because you care about the soldiers and other military personnel that you care for. We are very fortunate to have each of you serving our country, and we are very fortunate to have you here today to share information with us.

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 each other, 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.

At the same time, there is only so much protection that we can place on our soldiers before they can't walk. We need to realize that. Or only so much armor we can put on wheeled vehicles before they will roll over. In this regard, I am very interested in learning more about the mine resistant ambush protected vehicle, MRAP.

It is my understanding that the Army and the Marine Corps are going to acquire and field MRAP to partially replace this supplement and supplement the up-armor Humvees in theater in order to meet an urgent work warfighter requirement. These vehicles should mitigate or eliminate the three primary kill mechanisms of mines and IEDs, fragmentation, blast-over pressure and acceleration.

Our witnesses recently gave us a great classified briefing on MRAP, and I know that the source selection process is still underway, and there are certain things our witnesses can't say here today. However, I would like to hear assurance from the witnesses that they are not going to turn this MRAP program into a 10-year or longer acquisition program, and that we are not going to make the same mistakes of the past where the government doesn't own the technical data package.

And finally, not to get into any source selection sensitive issues, but we need to hear from you that the industrial base is positioned to meet this urgent requirement.

I look forward to your testimony, and I again thank you so much for being here. Mr. Chairman, thank you.

Mr. ABERCROMBIE. Thanks very much.

Mr. Saxton, I want to proceed now with the first panel's testimony and then go on to questions for that panel, and then take testimony from the second panel, which will then be followed by questions.

Now, without objection, all witnesses' prepared testimony will be included in the hearing record, and, General, I presume that you were notified ahead of time. We want only a brief summary at this stage, and then we will get right to the questions and/or observations.

I want to indicate to Members you do not necessarily have to have a question. You might have an observation you want to make upon which you would want to have a comment made. So not everything has to be in question form.

And, Lieutenant General Speakes, I will ask you to begin and acknowledge in the process that I know you have two sons currently

serving in the Army with one deployed to Iraq, and I want to thank you for your service to your country.

STATEMENT OF LT. GEN. STEPHEN M. SPEAKES, DEPUTY CHIEF OF STAFF, ARMY G–8; AND MAJ. GEN. JEFFREY A. SORENSON, DEPUTY FOR ACQUISITION AND SYSTEMS MANAGEMENT, ASSISTANT SECRETARY OF THE ARMY, ACQUISITION, LOGISTICS AND TECHNOLOGY; ACCOMPANIED BY SGT. FIRST CLASS CHRISTOPHER JONES AND SPEC. ROBERT VANDERKARR

STATEMENT OF LT. GEN. STEPHEN M. SPEAKES

General SPEAKES. Thank you. Sir, thank you very, very much.

Mr. Chairman, Ranking Member Saxton, members of the committee, it is truly an honor for us to be here today, and we talk the same language, which is how we protect soldiers, which is the number one mission that we have to talk to you about today to assure you that we are first and foremost interested in making the soldiers' protection a serious job for all of us.

As we begin, General Sorenson and I would like to introduce rather than wait to the end two recently redeployed combat veterans from the great Task Force Iron Horse of the 4th Infantry Division. To my right, your left, I would like to first introduce Sergeant First Class Jones. Sergeant First Class Jones redeployed here about 6 weeks ago. He is a member of the 4th Infantry Division. He is a platoon sergeant. Interestingly, he is a veteran of Desert Storm, and now he has had his second opportunity to serve in harm's way as he has just completed his last tour with the 4th Infantry Division.

To his left, another hero, a great specialist, and somebody who really makes the Army go, because for all of us who know the Army, we understand that specialists, the junior noncommissioned officers of our game—and I am talking about Specialist Robert Vanderkarr. He is a two-time veteran of Iraq, and he was a part of the 4th Infantry Division's first mission, stationed in Tikrit back in 2003, and he has seen the evolution of the battle in the fight, and he has seen the evolutions of the systems that you have enabled us to receive.

Mr. ABERCROMBIE. General, that designation as hero hasn't increased the pay rate, has it?

General SPEAKES. I certainly would like that, but I don't think it has.

Mr. ABERCROMBIE. We will look at that.

General SPEAKES. You gentlemen have given us essentially the introductory statements we have needed. You have recognized the importance of this mission. You have recognized the criticality of it in your hearts and minds. We are here to reassure you that we are doing what we ought to for American soldiers.

Let me talk quickly in an update form about what we are doing to make a difference for the soldiers that are deployed in harm's way today. First of all, we use a system-of-systems approach. It is not just about body armor. It is not just about a Humvee. It is about a total concept of protecting and shielding soldiers, and then ensuring that he or she is equipped with the right training before

they go so that they are able to operate confidently and well in a combat zone.

Procedurally, the Army is a part of the joint community and has gone through an enormous revolution. The idea of a 10-year acquisition cycle as was referenced by Mr. Saxton is not something any of us would tolerate today. We can't live that way. We don't. We live right now by operational needs statements. That is the vehicle by which commanders communicate to us. This past year in the Army, for example, we honored 942 operational needs statements from the combat zone. It is soldiers at the soldier level communicated what they needed to deal with the needs of this war, and, thanks to you, we have been able to honor those with quick, efficient solutions that are representative of our need to adapt and grow as we encounter an ever-evolving enemy.

The other thing we have been able to do is field capabilities because we have new concepts. For example, the Rapid Equipping Force is something that has been institutionalized in the Army that enables us to bypass clumsier or outdated systems to get capabilities quickly engineered to meet the needs of soldiers.

We are also members of a joint community. On a biweekly basis Lieutenant General Gardner and I meet at what we call the AMCB, Army-Marine Corps Board, that links the two partners in the ground component together. So we talk from the Department of the Army, the Department of the Navy's perspective about how we are going to bring joint programs together to field the needs for soldiers and marines together. So whether it is body armor or it is an up-armored Humvee or the next vehicle that we are talking about, which is called the MRAP, or the mine resistant ambush protected vehicle, that vehicle is born as an Army and Marine Corps joint vehicle right from the start. It is not something that somebody has to borrow from one another. We have shared the concepts, we have shared the concepts of development, we will share the funding on line, and we will bring it on line to support both forces simultaneously.

We are also a part of joint strategies and solutions that make us move effectively in the joint world just as much as we move within our own service.

Let me quickly highlight we have already heard some testimonies about body armor. Sergeant Jones and his team are over here to talk to you about any of that. They have brought some representative samples of it with them. If you have a particular question, they are ready to address that.

We have also made substantial improvements to up-armored Humvees. Over 14,000 up-armored Humvees now on the ground in the country. People don't travel outside of a forward-operating base without an up-armored Humvee to protect them. That up-armored Humvee has been significantly enhanced in terms of its basic protection with a series of protections we briefed you about in the closed session to give you the assurance that as the battlefield evolves or shapes and changes, we will do the right thing to make sure that existing piece of equipment is modernized and improved to the extent possible.

We have also done a lot to continue to improve the quality of the individual soldier's equipping. We recognize, for example, that the

risk of fire is now greater, so we field that increasing qualities of Nomex to soldiers forward so that they don't get caught in a burn incident to some kind of an explosion on a vehicle.

We also have been concerned about ensuring that we have other systems. Route clearance teams are now a fact of life as we employ highly specialized teams that essentially are a mix of Army engineers and explosive ordinance dispersal teams to ensure that as we go forward on routes every day, we are clearing those routes with equipment that is designed to withstand the blast of a typical IED.

We have made major improvements in command and control. This is a knowledge-based war. If we can't move knowledge, if we can't ensure we are bringing local intelligence to the commander on the ground who is using it, we are wasting our time.

Through your support we have gotten enormous capability improvements to the Army. Joint Network Node, or as it is known as JNN, is an enormous example of that. We used to be an Army that was based upon static wave systems that couldn't move with an operational force. Now with essentially a satellite capability, we moved right to the tactical level with immediate communications capabilities that support commanders who are forward. That is enormously important as we look at moving knowledge to where it matters and where it makes a difference.

Testing is also radically different. Major General Jim Myles, Army Testing Command, now has on a permanent basis testers who are forward in the combat zone, looking and examining what the trends are and seeing the effectiveness of systems, and then coming back to the Army with lessons learned so that we make improvements and we don't wait for somebody to come back and tell us what we missed.

So testing is critical because we don't want to put soldiers in harm's way with systems that aren't ready, but conversely, we can't take years to test and think about things before we field capabilities. So we are making sure that what we are putting in soldiers' hands is the right stuff, and where it needs continued improvement, it gets it.

From the standpoint of the plus-up, I want to assure you we are doing the right thing. We heard reference to the surge or increased flow of forces that has been announced by the National Command Authority. Here is what has happened. The Army met in corporate body on Friday via video teleconferencing (VTC). Each brigade commander briefed General Campbell, who supports his combat commander, and the Army Vice Chief of Staff General Cody, and essentially at the brigade command level each brigade commander told us their status both in terms of training and equipping, what they needed, and then the Army staff came back in collaboration with the Forces Command staff and came back and told each brigade commander what the answers were when we deliver the equipment. And then, importantly from our angle also, we also told those commanders what we have forward in theater that would be theater-provided equipment that would meet their needs.

We will not send soldiers who are improperly protected. Every soldier will get the Army's standard for force protection. They will get it because we have it. And the reason we can do it is because thanks to your support, we have adequate quantities of critical

equipment like up-armored Humvee and jamming devices on hand now so we can meet a surge in requirements and not be desperate. And we will need your continued support.

Obviously this surge will cause us to draw down other stocks. We will need to replenish those. The $17.2 billion that you gave us this last summer for Army reset is fueling the arsenals of democracy. Increased procurement, increased work in America's arsenals and depots is all happening. All that will then enable us to replenish the stocks.

The other thing we are asking, obviously, is immediate help in terms of what we are going to get with Army supplemental requests. We would like to have the supplemental requests honored by April. It will be hard to do, but if we can get it from you, what it will enable us to do is to put money where we need it so we can keep system flows to soldiers. The soldiers here will testify to you that we have done incredible things to take care of them. They know it, they appreciate it, they are here to tell you about it, and we thank you for your support.

Mr. ABERCROMBIE. Thank you, General Speakes.

[The joint prepared statement of General Speakes and General Sorenson can be found in the Appendix on page 59.]

Mr. ABERCROMBIE. General Sorenson, I saw by mental telepathy you were giving General Speakes some of your time. So I know that you are going to move even more quickly.

STATEMENT OF MAJ. GEN. JEFFREY A. SORENSON

General SORENSON. Yes, Chairman. Chairman Abercrombie, Ranking Member Saxton, and distinguished members of the House Armed Services Committee, we would again like to express our appreciation for the opportunity to appear before this committee to discuss the Army's continued effort to improve our soldiers' force protection capabilities.

I would like to state first that the Army is totally committed to making sure our soldiers have the best force protection capability available. However, as acquisition professionals, we are responsible for ensuring the systems we provide our soldiers are operationally suitable, tested and validated to meet the current threat. We will not give our soldiers a false sense of security by fielding systems that are not safety certified nor rigorously tested in an operational environment.

In providing force protection, the Army employs a system-of-systems approach that focuses on incorporating redundant levels of protection through a series of integrated layers of capabilities. One could think of these layers of force protection much like the layers of an onion where the soldier is at the very core, and the various systems comprise the outside succeeding layers.

At the outermost layer are technologies, tactics, techniques and procedures (TTP) designed to avoid enemy attacks. Systems within this layer include improved situational awareness capabilities, such as the Force 21, battle command and below Blue Force Tracking Systems, and improved network capabilities such as the Joint Network Node (JNN), which provide more real-time information to our individual soldiers.

The next layer of protection is detection of ordnance. An example of this type of system would be the Long-Range Scout Surveillance System, which gives our soldiers the ability to detect and identify enemy targets at extended ranges throughout day and night-time conditions. Detection of ordnances has followed them by acquisition avoidance, which includes countermeasure systems that prevent improvised explosive devices from detonating, such as the Warlock family of capabilities.

The next layer is hit avoidance capability, such as our slat, which essentially is a bar armor that we put on the outside of our vehicles and reactive armor tiles in combat vehicles which are designed to defeat Rocket Propelled Grenades (RPG) attacks.

The following layer focuses on avoiding penetration. This would be improved protection such as we have done for our Humvees as we have added additional armor, and this would be that type of capability.

And then the final layer encompasses items for our soldiers. To date the Army has field seven improved versions of the individual body armor suite, each better than the last, and have improved helmets. Our science and technology community currently is working on the next version of individual body armor and is constantly exploring ways to prevent individual casualties.

The Army is closely monitoring the threats too and to the operational requirements of our soldiers in theater. And as I said before, we are completely committed to providing our soldiers the best force protection possible, and the Army will continue to work with our industry partners to pursue research, development and procurement of the most advanced capabilities available. However, as I said before, we will not purchase or field any system not proven, tested or validated to be operationally safe and ready. Deploying these unproven systems simply would not be in the best interest of our fine men and women in uniform.

Thank you for your time today. We look forward to your questions.

Mr. ABERCROMBIE. Thank you very much.

General Speakes, did you want Sergeant Jones or Specialist Vanderkarr to make a presentation at this point or at any point? Or do you intend to have them stand by for questions or commentary from the Members?

General SPEAKES. Sir, we have them standing by. They are available for any questions.

Mr. ABERCROMBIE. Any time you think it would be appropriate for them to answer or comment, please feel free to do so. Okay?

General SPEAKES. Yes, sir.

Mr. ABERCROMBIE. Thank you.

I think I will defer my questions to begin with and to let the Members get started.

I am sorry, Jim, I should have asked you whether you have a question, or you want to get started?

Mr. SAXTON. Let us get started.

Mr. ABERCROMBIE. Okay. Who will be the first Member then? We were going to do this, at least as far as my committee is concerned—it is obviously once I got started, my good deed got immediately complicated. Rather than have Members start with me, I

am going to go by seniority on up, and then the next hearing will be on seniority on down. So it will give everybody a chance.

So first will be Representative Castor from Florida, and this will be her first opportunity as a member, a new member of the committee, to speak. So it is a particular pleasure for me starting my chairmanship for the first time to be able to welcome you personally, and to offer you the opportunity to exercise the franchise that has just been awarded you.

Ms. CASTOR. Well, thank you very much, Mr. Chairman. And I will relay that to the proud men and women that are serving at MacDill Air Force Base in my district in the Tampa Bay area, which includes Central Command (CENTCOM) and Special Operations Command (SOCOM) and Air Refueling Wing.

I wanted to go to the escalation of the war in Iraq and what you have referred to as your survey of the brigade commanders. And first let me say that no matter how anyone feels about the war in Iraq and the President's recent announced escalation, we want our brave men and women to have all of the protective gear and armor they need when they are out in the field.

You asked each brigade commander what they need as the new brigades prepare to deploy to Iraq. Could you go over what they asked for and what you have relayed to them that they will receive? And then what did you—did they ask you for any equipment that you were not able to provide? And then could you elaborate on your mention of the depleted stocks that we are going to have to go back and pay attention to those? Thank you.

General SPEAKES. Yes, ma'am. What we had was a very detailed review in which we went to the unit status report, which is a classified document that is prepared monthly by each commander at the brigade level. So in this case we went to the December report, and what we did was reviewed the status of each brigade commander's concerns. And essentially what we are doing in the Army is we are doing a just-in-time delivery of equipment to commanders to afford them the chance to train before they deploy, and because we are now accelerating the flow of these forces, what we had was a compression of the time available, and so their question essentially was, when am I getting my stuff? Can you pull any of this forward to ensure that when we go to the mission rehearsal exercise, which is the capstone event, that we will have adequate quantities of equipment to train with?

So what we are looking at then is specific concerns from each commander, and they vary greatly. But essentially the basic issues are, first of all, tactical wheeled vehicles. Tactical wheeled vehicles right now are in very short supply in the training Army, and the tactical wheeled vehicles that are of biggest concern is the up-armored Humvee; and then also the medium tactical wheeled vehicle and heavy tactical wheeled vehicle. So we are running those at essentially a level where we can ensure that everybody gets enough to train on and to support that training environment.

So we are able to support those requirements, and then what we are able to do is show them that what they will get is adequate quantities of up-armored Humvees once they get into Arifjan, Kuwait, before they make the trip north.

The other key commodities that they are concerned about is night vision equipment and night sighting equipment. We are talking night vision goggles and other sets of equipment that enable you to see better and operate better with precision from distance. And then finally, command and control equipment; items, for example, like land mobile radios and the Joint Network Node, which is the pivotal synchronization system that holds us together at battalion and brigade level. We are able to tell them the dates that we could achieve in terms of accelerating delivery in getting it to them. The standard that the Army has set is that we want to get that equipment to people before their mission rehearsal exercise wherever possible. Failing that, for example, a final set of equipment might arrive before you deploy, and we are able to, in general terms, meet the requirements that were identified by the brigade commanders in accordance with their training plan.

The other thing that we worked in was a specific planned flow of forces as they arrive in the combat zone to make sure we have the configured sets of theater-provided equipment that will be available for them when they arrive. Essentially the critical item there is centered around the up-armored Humvee and the suite of force protection equipment that travels with it to include machine guns, radios, what we call Blue Force Tracker, which is a satellite-based communications system. And then the other thing they wanted to do is make sure that we have adequate jamming devices to provide us the capability of operating in an IED environment. We are able to do that.

The shortfall that we will have to work on a sharing relationship is medium and tactical wheeled vehicles. They don't sound very glorious or romantic, but they are important because the medium and tactical wheeled vehicle gives you your cargo-carrying capability in the combat zone. All of our medium and tactical wheeled vehicles that are operating right now in Iraq are all up-armored. They have armor applique on the sides and bottoms. We essentially had enough for the existing brigades and a few more brigades that were in the Army preposition sets that were available. So what we are doing then is to take and essentially reallocate from the 7,000 to 8,000 vehicles that are operating in theater that are mediums and about the same number that are heavy trucks. So what we will be doing is having to share those in the near term until we can up-armor additional trucks. So that is an area of shortfall where there will be sharing involved to get us what we want.

So that is a quick summary of a very important question, which is the assurance that we are meeting training requirements here at home, and that we are also able to provide the right equipment to soldiers when they arrive in the combat zone. Our assurance on behalf of the Army is, yes, ma'am, we can do it, that we plan on doing it, and soldiers will not suffer because of a lack of this critical equipment.

Mr. ABERCROMBIE. There is one minute left in your time.

Ms. CASTOR. Yes. Were there any equipment requests from the brigade commanders that were made that you told them, we—in our estimation you won't need that, or did you decline to provide any equipment that were requested by the——

General SPEAKES. None that are available, ma'am. I don't want to portray that we have given everybody everything. If, for example, we had something called a force feasibility review level, which essentially is something that in some cases enables you to have enough to train on but not enough against the existing design, what we do then is we make that up when we get over in the combat zone as we provide it as a part of theater-provided equipment. So it is either in the near term we have a strategy to take care of you in training, or when you arrive in the combat zone, you will get the additional complement of equipment you need. We are able to do that, and we lay that out by the numbers.

Mr. ABERCROMBIE. Thank you.

Ms. CASTOR. Thank you.

Mr. ABERCROMBIE. Next will be Representative Geoff Davis from Kentucky.

Mr. DAVIS OF KENTUCKY. Thank you, Mr. Chairman.

I think back almost just a little over 10 years ago when I presented a tactical paper on countermine operations at the naval postgraduate school's annual mine warfare conference, and many of the casual topics on discussion and technical displays on active and passive measures have come into a great need certainly in the time since then.

You know, I understand as we keep fighting an adaptive enemy, there are three basic issues that we deal with. One is situational awareness that you mentioned earlier; the command and control and informational systems for the troops up front; passive defensive systems, whether it is body armor or vehicle armor. But one area I would like you to make a comment on—and, by the way, congratulations on your promotion also—is in the area about ways that the soldiers or commanders can shape the situation that they are in as it begins to develop or—begins to develop or it is fluid, particularly around the area of active denial systems.

I know that is not your principal topic right now, but one thing I would like to hear from, since you are only going on on the first panel, I understand CENTCOM has forwarded a joint urgent operational needs statement for nonlethal active denial, and it seems to be a revolutionary approach, harking back to that conference 10–1/2 ago. But I was wondering if you could comment on how the Army plans to support that request, particularly with some of the tabloid news in the press touting one system or another versus what you are working on, but also what you feel your ability to deploy that system is and a timeline required to fill the request.

General SORENSON. Congressman, if I could just ask a clarifying question. You said active denial system. Did you mean Active Protection System, or did you mean active denial system, because they are two separate systems?

Mr. DAVIS OF KENTUCKY. I am interested in the active denial system.

General SORENSON. Active denial system, at this point in time, we are working with a couple contractors. We have developed some prototypes. But as we have found in the past, delivering these type of capabilities into theater has particular consequences that, quite frankly, are at the policy level with respect to making sure that they can be deployed.

As you may know, these particular systems, though they are nonlethal, have an impact with respect to, if you will, being burnt in a microwave that creates a particular image that I am not sure particularly at the policy level we have been given at this point in time the authority to deploy it. So while we are working on the technology, there are other issues that have to be contended with before we can deploy something of this type of capability.

Mr. DAVIS OF KENTUCKY. I understand there is an issue on the back side of this, we are going to say at-risk issues, for soldiers with the APS systems. But coming back to active denial, one thing that—it is your problem—concern over international treaties similar to the challenges that the Army went through using CS or tear gas, and what are essentially law enforcement functions which would be legal here?

General SORENSON. Yes. That is are accurate. Just like years ago, we had developed a particular, if you will, optic, a system called Stingray, which essentially was a laser optic that was put on top of a weapons system basically with a night sight device. That particular capability had an ability to essentially blind temporarily the particular individual who was essentially trying to attack you. Though that system got through the development and even into procurement, as we got to the point of putting into the field and deploying it, it was basically pulled off the shelf because of these international treaty agreements, much like at this point in time we still have to work through active denial systems.

Mr. DAVIS OF KENTUCKY. We went through a similar circumstance with the chemical weapons treaty issue last year for Special Operations Forces, and we would like to help you address any well-meaning attorneys or diplomats to deal with the statutory aspects of this. But given that assumption, if we could sweep the other interests aside, what do you think the timeline would be to actually put that in the hands of our units?

General SORENSON. Sir, I would say at this point in time with where we are in terms of integrate and onto a vehicle, I would say we are probably maybe a year, maybe a year and a half away.

Mr. DAVIS OF KENTUCKY. Would that be an accelerated effort?

General SORENSON. That would be an accelerated effort, yes. We have seen it demonstrated. I cannot say at this point in time we can put it completely integrated into a vehicle, although we have had it demonstrated on vehicles, but in terms of getting it to the point where it has been tested, been operationally evaluated to get the soldiers trained, to basically get it into theater, I would say at least a year and a half.

Mr. DAVIS OF KENTUCKY. Has there been any operational evaluation in theater?

General SORENSON. Negative.

Mr. DAVIS OF KENTUCKY. I yield back, Mr. Chairman.

Mr. ABERCROMBIE. Thank you very much, Representative Davis.

Next, Representative Gillibrand of New York. Again, for everybody's information, I said I can always complicate good deeds. We are going in reverse order of seniority and by when you entered the room.

Mrs. GILLIBRAND. Thank you, sir.

Mr. ABERCROMBIE. This is fairness with a vengeance.

Mrs. GILLIBRAND. Thank you, Chairman.

Thank you, gentlemen, for testifying today. We are very appreciative of your service, your sacrifice and the information you are providing to our committee today.

Could you please address preparation and training for National guard and reserve forces, and to the extent you have the equipment that is necessary to do proper training, and what investments you would need to improve that.

General SPEAKES. Yes, ma'am. The critical requirement for establishing readiness in National Guard or Army Reserve formations that are going to be going to the combat zone, I think, has been helped substantially by a change in policy. What we will now do is essentially mobilize an entire unit at one time, and so instead of mobilizing the flag and then looking for individual augmentees, the unit will now be mobilized at one time, everybody in the unit.

The other thing that has been announced by our senior leadership is that unit will be mobilized for a year. So what we now have is a much more finite and much more compressed time. So what it means to me as the Army's equipper, we have to work very closely with the Director of the Army Guard to ensure, as we develop the timelines for this, that we now focus the flow of equipment to particular brigades that would be on this mobilization timeline so that what they are able to do is achieve a high level of readiness in pre-mobilization training so that when they are then mobilized, they then have a high level of equipment, they have a relatively high level of individual and crew training that enables them to quickly go through the remaining training gates so that they could then deploy as a part of an organized integrated formation.

At the current time, the overall equipping levels of the Army Guard, Army Reserve are substandard, just as they are with the rest of the nondeployed Active force. We are now seeing an increased flow of equipment going into all Army units, Active Guard and Reserve. It will be our challenge as a part of our new force generation cycle to essentially flow or prioritize those items of equipment now, the units that have been announced that they are going to be going through a premobilization training routine incident to deployment.

The other thing we recognize is we had a requirement to provide for the homeland defense of this country, and so we have also identified in collaboration with the Army Guard and Army Reserve the specific items of equipment that have nothing to do with deploying. They are the basics of transportation, night vision and force protection that you would want guardsmen, if they were mobilized in a peacetime scenario here for homeland defense, to be able to use quickly. We are also prioritizing that equipment, and, in fact, thanks to you, we are able to buy a substantial chunk of that to reinvest in the Army Guard based upon part of the money we got in the $17.2 billion reset. We invested $2.2 billion of that directly into buying equipment that is homeland defense stuff for the Army Guard.

Mrs. GILLIBRAND. About a year ago a woman on my staff, her brother was going to be sent to Iraq, and her parents were saving money to buy him better armor than what he was going to be given a year ago. I know we have made vast improvements on our armor

and providing more for more of our soldiers. They also began to put batteries in the care packages to make sure they had the right kind of batteries for their night vision goggles.

What would be the greatest complaints from your soldiers today as to what they are not receiving that they should be receiving and what so many parents are hoping to have their young men and women have when they are in the field?

General SPEAKES. Ma'am, thank you for the question because it goes to the core of confidence that frankly loved ones who look at their soldiers deploying know that he or she is properly protected by the Army and not by some well-meaning family member.

The issue with body armor is there never has been and never will be better body armor than the Army is fielding to its soldiers today. And, in fact, several months and years ago, we were victimized by some very aggressive commercial efforts to essentially instill a lack of confidence in loved ones and instill the false belief that there was better body armor available commercially. That was false, it was proven false, and we stand on our record, which is the stuff we are providing to our soldiers is the best.

Now, we also have supply issues, as you alluded. Things like batteries are, in isolated locations, shortages. We are much more logistically capable today than we were. At this point when you look at the protection of our soldiers, there is nothing better than what we are providing or soldiers. It is state of the art. It is something America ought to be very proud of, and they ought to immediately challenge any reports that there is something better commercially than what we are providing our soldiers.

Mrs. GILLIBRAND. Thank you.

General SPEAKES. Sergeant Jones, do you have a comment? Anything from your standpoint that you saw that you would like to have better or different?

Mr. ABERCROMBIE. Yes, Sergeant Jones, would you like to contradict the general?

Sergeant JONES. No, I would not want to do that, sir.

In regards to the body armor and the batteries, no, we never saw a shortage. Every now and then, you know, supply lines are a little slow, but they still showed up. We can't complain about the body armor because it is definitely saving lives at this time.

Mrs. GILLIBRAND. Is there anything, though, that you would be asking Congress to provide that is not being provided now for your men in the field?

Sergeant JONES. None that would—maybe that I could explain to you right here, right now. There are things out there that everybody has a wish list, but right now the Army is fronting everything it could possibly front to us, and we are working with it.

Mr. ABERCROMBIE. Thank you.

Congresswoman Giffords from Arizona will have the next question period thanks to the friendly and kind and courteous gesture of Representative Johnson.

Ms. GIFFORDS. Thank you, Mr. Chairman.

Thank you, General Speakes and also General Sorenson, for being here.

There has been criticism against the Army for the anti-RPG bid done, the contract given to Raytheon, and I understand that the

system was chosen because of Raytheon's discipline and expertise and knowledge and ability to deliver this system. There has been controversy on this, and I was hoping that you could explain how the contract was awarded and the assurances that we can give to the American people that the contract was done correctly.

General SORENSON. The contract was essentially awarded through what we have with our Future Combat System called the lead system integrator. It was also a combined effort with the government team basically to put this particular contract out as a subsystem of the overall hit avoidance capability that we are providing.

As I mentioned before when we talked about this, the anti-RPG, if you will, is one component of an—essentially what we are doing with force protection in terms of better situational awareness, in terms of improved capabilities, in terms of our ability to detect and identify targets, and then our ability to avoid penetration. The issue has come in with respect to whether or not this particular system was the appropriate system to be chosen.

I can tell you it went through a rigorous evaluation with respect to source selection. The system was chosen based upon the requirement that was put out, which was essentially a 360-degree hemispherical requirement, and it was chosen because it was the one that showed the most capability with respect to other issues as you design a system into a platform with respect to size, weight and power. Okay. This was deemed to be less power, less weight, less volume, provide the 360-degree hemispherical capability, and provide it with an ability to essentially detect, identify and destroy targets.

Now, what you have seen in recent media reports, in my opinion, has been very misleading, very unfair, and very biased. Typically today there is no Active Protection System that could be put on our vehicles. We are in the process of developing those, as is the Trophy system. However, what we have deployed to our forces, which is essentially the slat or the bar armor on our Stryker, our M–113 and our Bradley vehicles, we have also put reactive armor tiles onto our Bradley, our Stryker and soon to be our Abrams, and these systems, quite frankly, are defeating the RPG threat, and as a consequence what we have provided is giving the soldiers that we have today the capability to detect—excuse me—to avoid being killed by some of these RPGs.

Ms. GIFFORDS. Thank you, Mr. Chairman.

Thank you, General.

In terms of the contract, is that an ongoing contract? Or how often is that contract reviewed?

General SORENSON. The contract was awarded basically in two increments. The first increment was to essentially go and attack the short-range problem, which is essentially defined as RPG. Phase two would then go into long range, which essentially is an antitank guided missile (ATGM), and that contract has been awarded for the full development of that capability.

Ms. GIFFORDS. And, Mr. Chairman, if I can use my remaining time to address a question that I earlier started with Sergeant Jones in conjunction with the issue with IEDs and the experience

of once a soldier is hit in a vehicle, the process that he or she will go through.

Sergeant JONES. Ma'am, the process the soldier will go through is after an IED strike, the individuals, if they are not critical and they are not immediately medevaced out of there, they are taken back to their forward operating base. They are seen by a surgeon or the physician's assistant, they are screened, and basically what you are seeing is, depending on the size of the explosion, is those of a boxer; in laymen's terms, civilians' terms, the injuries resulting like a boxer. And they are either screened and cleared for duty, or they are sent for further medical treatment.

Ms. GIFFORDS. And perhaps a better question then for the generals. In terms of long-term effects as far as symptoms that would not appear within the first couple of weeks or couple of months, but perhaps a year or two, is there an ongoing process to make sure that our soldiers don't suffer from long-term effects or can be treated effectively?

General SPEAKES. Ma'am, that is outside of my specific expertise. I can relate as the parent of a son who has been a part of IED strikes that what Sergeant Jones indicated is there is a continuing medical surveillance. It is a part of initially what happens in the immediate post incident period. The analogy, I think, also is like after you have really had your bell rung after a football game in the sense that it is a period of decreased awareness and mission capability, and during that time period the soldier is usually in a limited duty status.

The next thing that happens is a part of our redeployment process. We essentially have a medical evaluation process in which we are trying to identify the basic status of all of our soldiers as they get ready to reenter the civilian population, and that is the next place where screening occurs.

And beyond that, that is the limit of my expertise. And let me take the question for the record to provide you with a more detailed answer.

Ms. GIFFORDS. Thank you.

[The information referred to can be found in the Appendix beginning on page 96.]

Mr. ABERCROMBIE. Are you finished? Very good.

My good friend Dr. Gingrey, Phil Gingrey of Georgia, will forgive me because I did not call him in order.

Dr. GINGREY. Indeed I do forgive you, Mr. Chairman. And thank you for the time.

General Speakes and Sorenson, our brave sergeants and specialists, we appreciate your being with us today. Your last couple of questioners, many of us on this committee even, are not veterans. So you will get questions generated from the folks back home, and that is what we just heard, and very appropriate questions. I had a couple of situations recently—well, one was about 15 months ago, one of our brave soldiers from my district, 48th Brigade Combat Team (BCT), part of our Army National Guard, was on a scout team and a Humvee that rolled down an embankment at night on a night patrol, and took them three hours actually to find this vehicle. It was under water, and all three of our soldiers were lost. More recently on Christmas Day, a soldier from my district was

shot by a sniper. Now, he was not a turret gunner in a Humvee. He was on the roof of a building when this occurred.

But I am concerned, those two particular cases, number one, in regard to the Humvee and the increased armor and protection, and we have reached the limit, as you have said, I think, earlier in your testimony, of what we can do to protect the vehicle, and the weight is such that this risk of rolling over and down an embankment and into a canal or whatever is pretty significant. I would like to know how well we are training maybe before deployment in regard to that as far as being able to maneuver these vehicles. And is there any possibility of having some sort of an automatic flare that would be released when one of these vehicles goes under water, submerged? This three-hour time delay—I think an unmanned aerial vehicle (UAV) finally located it. By that time, of course, it was far too late.

The other issue in regard to the Navy corpsman actually who was protecting a marine unit and was shot by a sniper, do we have any way now to protect turret gunners and people like that from the increased accuracy of sniper fire?

General SPEAKES. I guess the first thing I would like to do is—let me ask if it would be possible, sir, to ask Sergeant Jones particularly on the issue at the unit level, between you and Specialist Vanderkarr. How about talking about what you had in the way of safety protection equipment that we would put in the Humvee, and then what you are able to do in terms of training to try to help address it. We can take on the issue then of what we try to do with the vehicle itself to make it safer, because it is a major concern.

Dr. GINGREY. Obviously, General, very difficult to get out of one of these vehicles when they are under water at night, and the heavy doors, et cetera.

General SPEAKES. Absolutely. The first major tool that we have come up with, sir, we have taken essentially the cab of an up-armor Humvee and put it in a trainer that enables us to essentially do a rollover drill with the crew inside the vehicle, strapped into their vehicle, so they essentially learn what it is like to be upside down; and then how to escape the vehicle, admittedly in a benign environment. It is not at night, it is not under water in what would be a terribly disorienting environment.

The other part that we have been able to do is take a look at the issue, which is you are accessing a vehicle. It was designed because it was initially going to be an Military Police (MP)-type vehicle to deny access from outside. So it made it—our first incidence with this we had a real problem with just getting the doors open. So what we have tried to do is to design what you essentially think of as a tire iron, which enables us to much more quickly lever the door open and to take a look at the doors from the standpoint you could open them more easily from the outside. We have also worked very, very hard.

My own son was seriously injured in a Humvee rollover, no enemy contact, and the issue there was the seat belt that the original Humvee has come with is grossly inadequate. It is very hard to put on over your body armor. It is very, very hard to secure when you are in a combat environment. We have completely changed the seat belt of the up-armor Humvee and then retrofitted

as many of the Humvees as we can. I think we have outfitted about 7,000 of our Humvees with this new seat belt, all in an effort to try to change the safety within the vehicle and your ability to egress the vehicle in case of an emergency.

Let me ask Sergeant Jones to comment further.

Sergeant JONES. Sir, what we did is we modified the Humvees as we were over there. They also installed cutters for your seat belt. Say your seat belt jammed up and froze up. You had a cutter inside the vehicle so you can actually cut yourself free.

In regards to the vehicle that flipped over and was under water and it took three hours, at unit levels and risk assessments are done, but we never traveled alone. So with our unit, we were going down a road, we lost control, and we went into a canal system, there would be two other vehicles or three in the same vicinity that would have seen it and would have been able to respond appropriately. The vehicles have the winches to get them out.

We do rollover drills. We make sure our load plans are correct so that the individuals aren't smacked in the head with loose equipment. And that is about all I can say on it, sir.

Mr. ABERCROMBIE. Thank you, Sergeant.

Thank you, Phil.

Dr. GINGREY. Thank you, Mr. Chairman. I see my time has expired. Thank you very much.

Mr. ABERCROMBIE. Mr. Johnson, thank you for your courtesy.

Mr. JOHNSON. Thank you, Mr. Chairman.

It is indeed a humble pleasure that I have in serving on this subcommittee and in serving on this full committee, and I am pretty much—goose pimples start to break out as I think of those who leave the safety of their homes and leave their loved ones to go into combat at the order of the authorities, civilian authorities, many of whom have never served in a war themselves, but yet they have the responsibility to commit our men and women to war. And that is what has happened in this Iraq war, and in this situation I believe we had some politicians who had gained authority to commit us to a war. They did it; many disagreed with it. I was among them. And men and women have served, served courageously and honorably, and for that I think all of us owe you all a debt of gratitude that we can never repay or that we can never fully show you, and so I just want to make that known right now.

I have been kind of hard on those who have committed us to this war in Iraq during my service here on this committee over the last two weeks, but I definitely don't want anyone to think that that would have any influence on my responsibility to make sure that we have a first-rate military, second to none, fully equipped, that provides for the protection of our soldiers when they are called to serve. And so I look forward to fulfilling that obligation.

And I want to ask some questions. I know that a lot of people watch the TV, and they see things on TV about the Active Protection System, and I am sure, Mr. Chairman, that you will probably ask some questions about this in much greater detail than I could ask.

Mr. ABERCROMBIE. Mr. Johnson, I assure you that if you have more detailed questions, we will submit them, and we will see not

only an answer comes back to the committee, but to you personally in writing.

Mr. JOHNSON. Thank you, sir.

What I would like to do is if you can simply explain what an Active Protection System is, or what APS is, and what it is supposed to do. Either one of you.

Mr. ABERCROMBIE. Just before you answer, I do want to indicate to the Members and to the audience that we do have a second panel coming, as I indicated, and I think a lot of these questions will be more fully explained and explored during that panel.

Go ahead.

General SORENSON. Congressman, just to be short about it, essentially an Active Protection System is a capability that within a half a second is able to identify a particular threat, detect that threat, basically arm a weapon to intercept that threat, track it, and destroy it. And this type of technology, though it is almost like, if you will, Star Wars-type technology, because essentially you will have a bullet plus—basically being destroyed by another type bullet, it is an extraordinarily useful capability, but at this point in time with all systems that we have evaluated, they are typically at a state with respect to development that they have passed developmental testing in terms of showing some promise, but have not got to the point that they are able to be fielded, nor are they able to be integrated into platforms, which, quite frankly, is the next step.

Mr. JOHNSON. Well, I would suppose if that were prematurely done, then a lot of innocent life could be lost as a result.

General SORENSON. That is correct, and quite frankly, I will tell you, based upon the data that we have and the evaluations that have been done, the equipment that we have currently deployed, which essentially is the slat armor on the Stryker, as an example, the reactive armor tiles we are putting on the Bradley and the reactive armor tiles we are also putting on the Stryker and soon to be the Abrams, those particular Active, if you will, Protection Systems—because they are kind of an active protection because they are reactive armor—are capable of defeating the RPG threat and have shown to be extraordinarily valuable to the soldiers who have used them to date. In fact, I can tell you without any equivocation that the responses that we have received from our soldiers of the fact that we have deployed these types of capabilities—we received very good and very complimentary compliments from the soldiers because they have saved lives because they are effective, and as the result of over 1,000-type RPG attacks, we have only had but a few soldiers killed because of that.

Mr. ABERCROMBIE. Thank you very much, General.

Thank you, Mr. Johnson.

Again, anybody who has further questions, submit them. We will get them to this panel or to the next and get detailed answers.

Next, I am pleased to recognize Congressman Bishop from Utah.

Mr. BISHOP. Thank you, Mr. Chairman. I appreciate that. Mr. Chairman, I have realized, in my former life when I was here, that you always operated from back in this part of the panel, and in three terms, I never got past the front row in this room, and I just want to know how did you ever see down there. Did you have binoculars? opera glasses? How did you see that far from back here?

Mr. ABERCROMBIE. I used to have to warn Representative Larsen to watch his head in case the C-SPAN camera hit him on its way to swing up here.

Mr. BISHOP. I will not even touch that, but I do feel like I am in a different ZIP code.

I do appreciate, Generals, both of you, what you do, not only your presentations, but what you do for this country and especially to Sergeant Jones and Specialist Vanderkarr, for what you do on a daily basis for all of us here and for the military, and I appreciate your being here. I do not really have specific questions for you, but I just wanted you to know that you are, indeed, the heroes, as is everybody who is in the military service who protects this country.

I would like to ask a couple of questions simply about the relationship to the National Guard and to the equipment that they have and that may be with you, and I appreciate a couple of things you have done.

In your discussions, already you have detailed, I think, and put to rest some of the idle chatter and idle comments that have gone around, and I appreciate the kind of emphasis you have on the new technology and efforts not only to secure vehicles, but also personal servicemen and their safety. I also realize and appreciate that you have said that there is a difficulty in, obviously, the amount of material you have for the Guard to prepare the equipment, that you are working on that, and I think you have made the appropriate choice as to where to put the emphasis.

My question would be a couple of them as far as vehicles for the Guard to use, to be prepared, especially with the new deployment and the night vision that you have mentioned as well as the radio communication.

If you had the money that was necessary to do the purchasing, what would be the time frame to actually produce and allocate this equipment to the Guards so they would be fully functional for training purposes?

General SPEAKES. Sir, let me answer the question this way. At the current time, the Army Guard averages about 40 percent of equipment on hand against their tables of organization. They started this war at about 60 percent, so they have gone down. Why have they gone down? Two reasons.

Number one, we changed the measuring stick. We used to hide unreadiness with something called the "Authorized Level of Organization." what that was was a way to say we do not plan on using it any time soon, so where you should have 50 of these pieces of equipment, we are going to give you 10 and then call that enough, and so, on a readiness report, the fact that you had 10, that was good, and you showed as being fully ready. That was actually wrong, and it was collective risk-taking that we undertook as a part of the Cold War when we thought that the National Guard formed our deep faith and deep reserve at the strategic level.

Now we recognize that the Army Guard and Army Reserve were part of our operational force, that they are going to go through a cycle of readiness and force generation along with the rest of the force. They are going to do it on a different timeline, but they are going to do it, and what we have got to do now is get the Army in step with that, and so, based upon the recent decisions that have

been announced, what we are looking at now in collaboration with the Director of the Army Guard and the Chief of the Army Reserve is a process by which we identify the forces that are going to be called forward, and then we prioritize them for equipment issues.

Now the great news is, unlike where we were a year or a year and a half ago, we are now starting to see equipment in substantial quantity that will be available to take care of this problem. Specifically, we just had an equipping conference in December, and this is an Army event that we do every six months. The Army is moving so fast now that what we are doing is taking and managing the flow of equipment.

So, in this Army equipment conference, what did we do for the Army Guard? We planned a distribution in the next 18 months of $10.6 billion of equipment to the Guard. That is 180 tanks, 505 Bradleys, 38,000 night vision goggles, 34,000 M4 machine guns, and 17,000 trucks, and so my answer would be this:

We now have the assets that will be able to flow to the Guard and to flow to the Army Reserve to support them at a level of readiness consistent with the rest of the Army as we bring them along in this force generation. Over time then will flow this goodness across the entire force. Right now, we have a general trajectory that says that we are going to get to minimum levels of equipping probably by about fiscal year 2013. That relies on continued support for the Army, which, frankly, has been strong in the Congress, and with that continued support, we will be able to do the right thing by the Army Guard and the Army Reserve.

Mr. BISHOP. All right. In 2013. I appreciate that.

You also mentioned the M4. I appreciate that one as well. I know, in a lot of Guards, they are still using the M16. Maybe you could just comment.

From somebody who does not really know what I am talking about, it would seem that the M4 would be the weapon of choice to be using in these areas, and I realize my time just went off. Maybe just a quick comment.

Mr. ABERCROMBIE. Thirty seconds, General, please.

General SPEAKES. Yes, sir.

The bottom line is the M4 is the vehicle of choice for everybody here. They love that weapon. It has got great curbing. We are now peer-plating active component brigade combat teams in reserve component brigade combat teams that are going into the combat zone. We will continue to spread that goodness.

Mr. BISHOP. Thank you, sir.

Mr. ABERCROMBIE. Thank you.

Representative Tauscher is next, who will be also chairing a committee.

Ms. TAUSCHER. Thank you, Mr. Chairman, General Speakes and General Sorenson. Thank you so much for being here, and thank you for your service to the military, to the Army and to all of the joint operations that we have, especially to our deployed forces, and to the Sergeant and to the Specialist, thank you for your service and your great example to all Americans.

You know, I think that we have a lot to be pleased about, Generals. We are long since the days in 2004 or in 2005 where we were slapping refrigerator doors on the side of trucks and hoping that

that would help us a lot. We are now into a much more mechanized, a much more, I think, beyond test bed status where we actually know what we have to do to protect ourselves. We have a better sense of the adaptiveness of our enemy. We cannot quite meet them right at the same time with what they are doing, but we certainly are very quick to adapt ourselves, and we are very—I think much more of a technology-driven military in the sense that we are really aiding ourselves, in the kind of R&D that we are doing, to have other applications for the kinds of protection systems that you are putting together for our military. I just have two quick questions.

General Speakes, in your testimony, you talked about developing an interim modification for the current body armor system because we have some mobility issues; we have some medical access issues, but I understand that the Marines are also just finishing procuring a new body armor system.

Do we need two? Isn't theirs good enough? Can we, perhaps, piggyback on what they have done and just go right into the procurement phase of that?

And the second question is really about this idea of Rapid Fielding Initiative (RFI), talking about how we quickly get ourselves through R&D and into deployment.

Can you talk about that, too?

General SORENSON. Let me address the first question.

We do work collaboratively with the Marines, and though they have made some improvements and changes to their, if you will, vests and body armor, we are doing in many cases the same thing. Now, I will tell you that we have had our particular soldiers down at the soldier center down at Fort Benning do the evaluation, and they have evaluated various sets of body armor, and we are right now postured to—as it is, as we have developed what we have, as I said, we have gone through seven improvements of our particular suite, both the outer tactical vests, the plates—the side plates—the deltoid protectors, and as a consequence, what we are into now is, because that was a, if you will—not altogether a slap-together—but essentially, we add a vest; we put in pockets; we put in this; we add this. It was not integrated.

Ms. TAUSCHER. Right.

General SORENSON. So we have gone back to working with the science and technology and working with human engineering to get to a point where we have an integrated capability that satisfies, in many cases, some of the issues that they had with respect to just getting out of the body armor—quick releases—the ability for that particular body armor to almost be a load-bearing capability so that maybe it is 30 pounds, but because of the way it is structured and because of the way it is built, they do not essentially feel that they are walking around with 30 pounds.

So, as a consequence, we basically respond with our particular user down at Fort Benning, and to date, they have found exactly—with the capability that we have provided, it is better than what anybody else has.

Ms. TAUSCHER. One of the complaints I hear from soldiers in the field—not a complaint, by the way—is that they are hoping that

the next generation of body armor adds value other than just being a protective device.

Is this what you are alluding to?

General SORENSON. Yes. I mean, as well, there will be communication suites. Part of it—I mean, we are developing, if you will, the next version that will be almost a shell that will be for communications, for protection. It will also have, if you will, biometric capabilities.

Ms. TAUSCHER. So it is one-stop shopping, and basically, you put it on, and you basically can then go out the door, and you have got virtually everything you need to protect yourself, to have calm, to be identified, the whole nine yards.

General SORENSON. Right, but again, I just want to caution, this is still in the development stage. It is not, if you will, something they are ready to deploy right now. What we have given them is the best capability that exists in the world today.

Ms. TAUSCHER. And, the Rapid Fielding Initiative, is part of this very kind of shortened R&D onto the field type of operation?

General SORENSON. The Rapid Fielding Initiative is essentially the ability at this point in time to equip our soldiers with types of systems and types of capabilities they have never had before in terms of need protection capability, in terms of particular undergarments, night vision-type systems, different helmets, et cetera. That is essentially a composite type of capability that the soldiers, quite frankly, have voted on. This was done by taking teams into Afghanistan, teams into Iraq, doing surveys of what type of capability would they like to have—you know, carrying shovels, carrying daggers, carrying a bunch of other types of capabilities that we have talked to as well as RFI.

Now, there is another system which we call the "Rapid Equipment Force," which essentially goes out and looks at types of systems that we could take off the shelf because the soldiers have basically said, "We think we can use some of these things," and we began to deploy that, and that is another aspect where are trying to get capability rapidly to the force.

Ms. TAUSCHER. Mr. Chairman, if I could just indulge you for a second, in a little interaction with you for a second.

Mr. ABERCROMBIE. Certainly.

Ms. TAUSCHER. Mr. Chairman, I think what the generals are talking about is proving to be very effective on the ground. My only concern is that procurement on the run, as you are trying to do the best you can for our forces in the field, is hard to manage, and I just want to be sure that you have the kind of management systems and procurement systems that, once you find the Sergeant and the Specialist actually saying, "This is our suite that we want. This is what is going to work for us now"—considering that we have different soldiers with different missions on the ground that need different things, I just hope, Mr. Chairman, that you will use your great office to make sure that we are backing up to have the kind of correct and proper systems on procurement and that we are doing the things we are meant to do in the bidding process and that we get the right stuff.

Mr. ABERCROMBIE. That is a good point. We have already been discussing language that we can provide, if it is necessary, that will

give both the Army and the Marine Corps flexibility to move to the procurement stage with more dispatch, I think is the best way to put it.

General SORENSON. And I will tell you that this is basically under one person in the Army, so he has complete management authority of all of these protective systems, and there is a core set that is essentially given to every soldier, and then depending upon whether you are an air warrior, a ground warrior, a mountain warrior, you get extra systems because of what type of capability you are going to be functioning within.

Ms. TAUSCHER. Mr. Chairman, I think we are all for a rapid, flexible system, but we need one that has transparency, too.

Mr. ABERCROMBIE. Oh, yes. Do not worry, and I cannot imagine this getting past Mr. Murtha without it, so——

Ms. TAUSCHER. Thank you, Mr. Chairman.

Mr. ABERCROMBIE. That is a fair statement, again for the record, right? Because we have had discussions off the record and under classified auspices, but we are working precisely the question and in the context that Representative Tauscher raised, right? Working to see that that gets accomplished. Now, some of it may not need legislative activity at all. It may merely be an administrative situation. Some of it is reprogramming authority. Some of it may entail legislation, itself, but we are on that issue.

Ms. TAUSCHER. Thank you.

Mr. ABERCROMBIE. Is that a fair statement?

General SORENSON. Mr. Chairman, that is a fair statement.

Mr. ABERCROMBIE. Okay. Mr. LoBiondo, I thank you for your patience and your courtesy also in experimenting with this new format.

Mr. LOBIONDO. You are in charge, Mr. Chairman. Thank you very much.

Thank you very much for being here. You have shed a lot of light on the body armor issue, which is a topic very important to many of us. I have a constituent, a dad, a couple of months ago who contacted me, and he has two sons that are in the Army infantry. They are very proud to serve their country. They are in theater. He is very proud of them. He had a concern about body armor, and General, you suggested that there was a lot of misinformation about, I guess, the Dragon Skin body armor and its capability relating to the interceptor, but this dad came to me convinced that he had fully researched on his own and in conjunction with information that his sons had fed back to him—excuse me—with some of their colleagues, that they talked amongst themselves, some soldiers that were talking amongst themselves, that there was some thought that the Dragon Skin might have been better safety protection.

Now, you have addressed that, but I do not know what we can do for this dad to be able to convince him that the Army was correct in providing the best possible product of safety, because his next question to me was he wanted to buy the Dragon Skin and provide it for his sons because they felt it was the best out there.

How do we deal with something like that? How do I convince this dad that we are taking all of the steps to ensure what you have said? How does that get communicated that they are satisfied that

the process we go through in identifying the most effective body armor is a sound process and that his sons are being protected to the best of technological abilities?

General SORENSON. Sir, if I could answer that question.

I can tell you unequivocally that the armor that the soldiers are wearing today is the best available in the world. Now, having spent some time working with the dragon skin in the Pinnacle Company with respect to what their allegations were, with respect to what their capabilities were, I would be happy to come back to you and give you a more detailed presentation of the test results that we did with an independent lab that demonstrated that those systems were not nearly as capable or functional as the body armor that the soldiers are given today, and I can only tell that father that he has to understand that there are going to be many companies that are going to come and make allegations of a capability that is out there that is better than what the Army has basically given our soldiers, but every time we have taken them to task and put them into the test environment, they have not been able to prove what their allegations are.

Mr. LOBIONDO. I thank you. So I am on safe ground if I contact the dad, relate the conversation that we have had and offer, if he wants, a detailed, technical backup to what you are saying and that that can be provided?

General SORENSON. Sir, we can give him a technical backup to a certain extent. I was, again, offering the opportunity to give you a more detailed classified briefing, but we can certainly present to him with the information in some unclassified manner to demonstrate to the fact that the soldiers today who are wearing the body armor we have provided is the best capable in the world.

Mr. LOBIONDO. Okay. I appreciate the offer to better help me understand it, but I am really interested in communicating with the dad so that he is satisfied. I do not want to put you through any hoops unless there is a specific request for it, but I thank you very much.

General SORENSON. Sir, we can do that without any problem.

Mr. LOBIONDO. Okay. Thank you very much.

Mr. ABERCROMBIE. Mr. Saxton.

Now, may I say that Mr. Saxton has some questions and observations. I have a couple, and then we will go right to our second panel.

Mr. SAXTON. Very quickly, when we started to realize that the equipment that we had did not offer the kind of protection that our soldiers needed and deserved, I think we moved fairly quickly to put in place a process to correct the situation. I can remember being in Tikrit, and General Odierno took us out and showed us a 5-ton truck which had 2x4 sides built on it in such a way that you could slide sandbags in between the racks created by the 2x4 structure, and next to it sat a Humvee where General Odierno's people had gone to downtown Tikrit and found some steel in a welding shop and welded the steel on the side of the door, and we started from there, and Mr. Abercrombie and I and others, particularly the chairman of the committee at the time, Mr. Hunter, spent a lot of time here trying to figure out how we could help you put

in place the process that has emerged from all of this, and I think it has, by and large, been a fairly successful process.

My question is this: We did most of that, from our point of view, with supplemental funding, which meant that we gave you the latitude to use the money for refit and for other things the way you needed to use it. There has been some talk more recently about doing this through the regular authorization and budget and appropriations process.

Give us an idea about how you think that would work or whether it would impede the process that we are currently using. What are your thoughts about the supplemental process and the budget process that we use under normal order?

General SPEAKES. Sir, let me try a quick answer, and then I will turn it over to General Sorenson.

In the initial stages of this war, the only choice we had is supplemental funding. The base program was grossly inadequate for the needs of war. We needed immediate help. You gave it to us. Increasingly now, we look at supplemental funding as not the desirable way to manage the Army's fiscal requirements. We see this as a long-term commitment that we have to produce an army that is ready to do what you want it to do, what American citizens expect.

What that means then is that we are increasingly committed to putting ourselves in a more predictable environment where we can plan for the long-term and ensure that we have good economic processes, good systems in place to continue to grow the Army and heal the Army.

So we are now of the mind that the base program has to reflect the needs of an army that is now larger and has a higher operating tempo than anything we could have envisioned five or six or seven years ago. We believe that the Army and the Department of Defense is moving in that direction. We think that is good.

General SORENSON. Representative Saxton, I guess I would say—and this has clearly been an issue that I have struggled with as an acquisition professional for a number of years. The problem becomes in terms of the cycle, itself. Now, most recently, we have just basically provided to you what we think to be our fiscal year 2008 budget. Now, there is no clairvoyance here in terms of what is going to be in fiscal year 2008, but we have done the best plan for what we think is going to be in fiscal year 2008.

The difficulty becomes, in terms of the budget process and the time afforded to that particular lengthy process, that, by the time we put in our particular proposal—it gets evaluated; it gets approved; it gets signed—the entire world has changed by the time that becomes something we go off and execute, and so I have continued to advocate, in terms of the budget process, itself, for some type of flexibility account that provides the ability to make these adjustments in terms of "unknown unknowns," which today we do not have any idea what fiscal year 2008 is going to be, and as a consequence, providing that particular adjustment would give us additional flexibility, and we are going to do our best to take what we know to be our requirements and put those into the base budget, but I, again, come back to you with respect to saying that we do not know everything, and we do not have the clairvoyance, and so, without that flexibility, we are going to have to continue to go

through hoops to get reprogramming actions and all of these other efforts basically funded because these soldiers, in many cases, have needs that appear in fiscal year 2008 that we cannot forecast at the present time.

Mr. SAXTON. I thank you both for the very clear response, and I would just conclude with this, Mr. Chairman.

You mentioned "flexibility" language. I am for that. Absent that, I suspect that we will continue to see a request for supplemental appropriations bills, and I would think that we would all like to, as the generals would, see an account with some flexibility to permit the kinds of changes that may be necessary as we go forward. Thank you.

Mr. ABERCROMBIE. Thank you very much, Mr. Saxton.

A couple of questions with regard to, first, the body armor. If you would prefer to answer this in writing later to explicate a little more, that would be fine, but just, if you could give a brief overview, or just a response.

What is the status of the body armor industrial base? It is all well and good for us to get involved in "flexibility" language and to try to move to procurement and get reprogramming, et cetera, but if the industrial base is not there, if the capacity to actually produce it is not there, all of that goes for not. So I am interested in that, the status of the body armor industrial base.

Also, how many vendors are you currently using to produce vests and plates? This is not like producing potato chips, you know, that we can make more kind of thing. This is highly specialized. I also use in another context the industrial base to be able to build a modern submarine. It is not the same thing as turning out a bicycle, and you cannot put the specialized personnel required to build a submarine in a deep freeze and then bring them out when you feel it is necessary.

So I am interested in who are the vendors. What is the status of the industrial base, and are there any material constraints literally that would disenable you from being able to respond to a surge in requirements, an increase in requirements?

As the general points out, we do not know for sure what is going to happen, even in the rest of 2007, let alone in 2008. We can make educated guesses and try and anticipate, but are there any constraints in terms of the kind of materials that are available? of the logistical problems associated either with the industrial base or with the number of vendors or with the quality of the vendors that are available?

General SORENSON. Chairman, let me try to answer that question. To date, we basically have about two vendors that essentially do the Outer Tactical Vest (OTV), who basically can produce that, and about six vendors who can produce the, if you will, small arms protective insert (SAPI) plates, side plates, and things of that nature. I would say, at this point in time, we have built that industrial base from, essentially, almost one mom-and-pop company to what we have today. We are trying to maintain that particular industrial base by ensuring that we have, if you will, a fixed quantity of capability being delivered such that we can sustain them in some sort of operation so they——

Mr. ABERCROMBIE. That is why it is good to get this stuff into a regular budget process, right?

General SORENSON. That is correct.

Mr. ABERCROMBIE [continuing]. And the right kind of spending language in there for you so that we do not have to go, as Mr. Saxton has indicated, into a supplemental budget so often, which has its own limitations.

General SORENSON. Correct. Correct.

But I would say, at this point in time, suffice it to say, we have a robust industrial base with respect to developing this body armor, and we also have the capability to surge.

Mr. ABERCROMBIE. Okay. Fine.

Then having to do with the resistant ambush protected vehicles, I will ask two or three things here, if that is okay, that I think are related.

I want to know, as to the quantity requirements that we are talking about with regard to the mine resistant vehicles, the quantity, the operational need statement that you have, has the quantity been validated?

General SORENSON. The requirement, as we are working on right now that we essentially put out an RFP on, is essentially——

Mr. ABERCROMBIE. Can you explain what "validated" mean for those who——

General SORENSON. Yes.

Mr. ABERCROMBIE [continuing]. Might think it is quality control or something like that?

General SORENSON. Right. Yes, Chairman.

"Validated" means that the request has come in from theater. It has gone through the headquarters, through the Joint Staff. It has essentially been identified as a requirement that everybody understands what needs to be done. Funding has basically been set and in terms of identified for what is going to be required to develop that, and so the requirement has been validated from an operational statement, both at the commanders in the field as well as the headquarters both for the Marine Corps as well as the Army and the Joint Staff.

Mr. ABERCROMBIE. That takes me to the next question.

How do you plan to resource that requirement then?

General SORENSON. At the present time, we are resourcing that through our supplemental funds both in the Army as well as in the Marines.

Mr. ABERCROMBIE. At the present time?

General SORENSON. At the present time.

Mr. ABERCROMBIE. When that is done, will that enable you to get into a regular budget cycle as you project toward 2008?

General SORENSON. Sir, it depends at this point in time on, I would say, the quantity of vehicles we decide to go back and procure. We are looking at this as a very limited——

Mr. ABERCROMBIE. Can you let us know that as we try to make our recommendations for this budget cycle?

General SORENSON. Correct.

Mr. ABERCROMBIE. Because I do not want to deal with supplementals to the degree and extent I can avoid it.

Do you agree that that is a rational and a reasonable way to think?

General SORENSON. I would think that is rational and reasonable, but I would say at this point——

Mr. ABERCROMBIE. We want to work with you, in other words.

General SORENSON. I appreciate that.

Mr. ABERCROMBIE. Okay. What do you think is the biggest challenge then in quickly fielding it? I realize I have, in a sense, asked this question already, but is it the flexibility question and the language question or not?

What is the biggest challenge that this subcommittee should look at as it moves toward recommending to the full committee and on to the appropriators and on to the floor of the House?

General SORENSON. I think there will be two challenges.

First of all, we need to make sure that we do have all of the appropriate funding to go buy these vehicles, is point one. Point two would be that we will be looking at an industrial base that will probably include more than one vendor, and the reason we are going to do more than one vendor is because there is particular production schedules right now that we are demanding in terms of the "ability to deploy" capability that we are not sure, in many cases, they will be able to satisfy the requirements, so we will have to go on to maybe two, three, maybe four vendors depending upon the types of systems we decide to go procure. So ramping that production line up will probably be the next challenge.

Mr. ABERCROMBIE. Is that something that you would have to handle yourself or is that something you would just observe? I should have been more specific.

What do you see as the biggest challenge in fielding that this subcommittee can deal with?

General SORENSON. I think the biggest challenge where you can help——

Mr. ABERCROMBIE. It sounded a little bit, when you said that, like I should stand on the side and cheerlead.

General SORENSON [continuing]. Is in the funding. The biggest challenge will be the funding.

Mr. ABERCROMBIE. Is the funding adequately asked for either in the present budget request that will be made and/or any supplemental request that you are familiar with?

General SORENSON. To the best of my knowledge, with respect to what we have asked for in increment one, we have put in what we requested and what we need.

Mr. ABERCROMBIE. And what you need. Okay.

General SORENSON. There will also be some reprogramming actions that will be coming forward, specifically from the Army, in order to meet the requirement to fund this particular capability.

Mr. ABERCROMBIE. Time out.

Do I understand you correctly that you think you have the funds now?

General SORENSON. No, I didn't say that. I said we have—we will—we have programmed what we think we are going to need.

Mr. ABERCROMBIE. Yes.

General SORENSON. We are going to be basically putting in a reprogramming action for first increment, and we will be laying out

a budget in terms of what we think we are going to require for this particular capability. So we do not have the funds available at this time, no.

Mr. ABERCROMBIE. So what are you going to reprogram? I am a little confused now. I thought the reprogramming was existing funds that would move you, as General Speakes indicated, into what might be a difficult situation but, nonetheless, one you are able to keep up with with the new brigades going into Baghdad, et cetera. So I think I am misunderstanding you then.

General SORENSON. On the schedule as we have it right now—on the schedule we have right now, we are attempting to make an award of a contract for any number of particular vendors at the end of the month. That particular contract will then basically allow each vendor to provide two vehicles—one to go through a performance evaluation, one to go through, if you will, a destruct evaluation.

Based upon those evaluations that will take place over the next few months, we will then make contract awards in about the April-May time frame with expected deliveries in July.

The Marine Corps basically put in their request money to do this initially. The Army, at this point in time, is going to have to go through a reprogramming action to essentially find those funds and then ultimately alter some other plans down the road to provide the funds necessary to procure these systems, and I will let General Speakes add to that, if he will.

General SPEAKES. Sir, what General Sorenson said is exactly right. We, right now, are planning the reprogramming of about $70 million that we will need for this initial increment.

Mr. ABERCROMBIE. Okay. And you can do that in July?

General SORENSON. We will need those funds prior to July. We will probably need those in March, but at this point in time, we are waiting to find out whether or not we get our main supplemental. If we get that in time, we will use those funds. If we do not get those funds in time, we will have to reprogram the funds right now.

Mr. ABERCROMBIE. Okay. I understand now because I want to differentiate what needs to be done——

General SORENSON. Correct.

Mr. ABERCROMBIE [continuing]. There from what we are going to be recommending in terms of the 2008 budget; is that clear?

General SPEAKES. Yes, sir, that is correct, and I think the tortuous explanation that General Sorenson and I gave you illustrates the challenge that he was outlining earlier, which is the base program, and that system works very well for a simple mechanical process—buying more night vision goggles.

Mr. ABERCROMBIE. Right.

General SPEAKES. When we are talking about evolving needs of war, this identification of the requirement, then finding the bill payer, the money——

Mr. ABERCROMBIE. Got it.

General SPEAKES [continuing]. And then getting the authority to reprogram, working through the Army, working through——

Mr. ABERCROMBIE. That is why we need to anticipate as much as we can in the regular budget process so that you do not have

to go into this elliptical process. Let me put it that way, okay? Thank you.

Now, the last thing. Yesterday—you folks were at the—you had folks at the Seapower hearing. The Army was there. I think General Kelly was there and some others, but when we asked them about it, they indicated the Mine Resistant Ambush Protected Vehicle, the total for the Marines, the Army and the Navy was 4,060, and if I have your testimony right, General Speakes, we are talking close to 6,500—6,400, 6.500. That is a difference of 2,400 vehicles. Are we talking different kinds of vehicles or am I mixed up on the numbers?

General SPEAKES. Sir, I think the requirement from the standpoint of the Army is very clear. 2,500 is its initial increment that we are going after. I think, as we take a look at how the program is evolving, it is going to have Part one and Part two, and I think that what my statement does is allude to what is referred to as Part two of the total Army-Marine Corps program.

Mr. ABERCROMBIE. So those numbers probably can be reconciled?

General SPEAKES. Yes, sir, they can.

Mr. ABERCROMBIE. Okay, and you folks are staying in close touch with the Marine Corps?

General SORENSON. Absolutely.

Mr. ABERCROMBIE. Okay. Mr. Reyes just came in, and I want to give him an opportunity to ask a question, and then we will go to the second panel that I want to thank in advance for being so patient.

Mr. REYES. Thank you, Mr. Chairman, and I apologize, but I just finished up with my own hearing in Intelligence.

I wanted to try and get an update because I understand that you have addressed some of the issues of crew protection within the vehicles, and I was wanting to find out where we are on procurement of suspension seats because of the threat of concussions that have been hurting and injuring our military personnel, both in Iraq and Afghanistan.

General SPEAKES. Sir, the first point we make is you have identified one of the key discoveries that we have made, which is that the existing seats in most of our combat vehicles are suspended from the floor of the vehicle, and obviously then, when you are subjected to a blast and concussion from the bottom of the vehicle, what you are doing is directly transmitting to the human being who is seated on that seat all of the blast that we are getting out of this explosion.

So the evolution now—and we are seeing a lot of technology—is to go ahead and suspend the seat essentially in the same way as you would a hammock, from the top and sides of the vehicle, so that you are able to absorb the recoil and not have it all come into the human being directly through the seat. That is the basic issue here, and now what we are in the process of essentially doing is trying to identify new vehicles that have that, as part of their basic operating requirements and then, where we can, back-fitting existing platforms with this capability.

Mr. REYES. And exactly where are we in that process in terms of giving our military personnel that survivability in both theaters?

Where are we on that? Is it an R&D issue or is it a Procurement issue? Where exactly are we with that?

General SORENSON. It not really an R&D issue. We have done some testing. We do have some seats that we have identified, and we are going to begin to procure those.

Mr. REYES. And so is there a time frame that you could give the committee?

General SORENSON. Representative Reyes, if I could take that for the record, I will come back and give you a more specific answer. I am looking here at some data, but I think I could come back and give you a more definitive answer in terms of time frame, and we will have those completed for the systems that we are basically putting them on.

Mr. REYES. Okay. That is acceptable so that we have a good understanding of where we are with that.

The other issue is the one that I have raised with both of you gentlemen before, and that is the danger of carrying extra fuel primarily in Afghanistan. That has been one of the big issues that, when convoys get attacked or vehicles get attacked, they run the risk of an explosion because of the necessity to carry extra fuel in order to complete their patrols.

Have you looked at this, and what have we determined on that?

General SORENSON. Yes. Excuse me, Congressman.

Yes, we have. We have actually developed a capability. We have tested it. We have basically got it approved, and we are in the process again of procuring it.

At this present time, we have identified a need for some additional funds. We basically put out 1,000 of these systems, and so we are looking right now. Within the Army, we need about another $3 million to essentially procure some additional systems, and we are pursuing that currently inside the Army to essentially find those funds to go out and buy this.

Mr. REYES. If the committee can be of assistance, please let us know, because that is vital. I have visited way too many that have been burned because of the necessity to carry extra fuel.

General SORENSON. And, again, we appreciate that, but right now, I think we are working it within the Army.

Mr. REYES. Very good. Thank you both for being here.

Thank you, Mr. Chairman.

Mr. ABERCROMBIE. Thanks, Mr. Reyes.

Thank you very much to both of you. I appreciate it. I do not think there was a wasted word in there, and I thank Sergeant Jones and Specialist Vanderkarr, too.

If there is anything you two can think of that you would like to communicate to us by way of a note or an observation or two after listening to the whole hearing, I would be very appreciative of receiving it, and I will see that the members get it as well, and we thank you for your service.

Next, I will ask then Dr. Buhrkuhl, Robert Buhrkuhl, who is the Director of the Joint Rapid Acquisition Cell in the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics; Captain Joseph McGettigan, Commanding Officer of the Naval Surface Warfare Design Center in Dahlgren; Mr. Philip Coyle, who is a Senior Advisor to the Center for Defense Information and the

former Director of the Operational Test and Development, Office of the Secretary of Defense; and an old friend of this committee—this subcommittee and the committees of old—Mr. Ray DuBois, Junior, who now is the Senior Advisor for the Center for Strategic and International Studies, but we first got to know him as the former Acting Under Secretary of the Army, and I am very pleased to see you again, Ray.

If we went to presentations, Gentlemen, we could take anywhere from, you know, 16 minutes to 20 minutes just to get to that, and we have already abused your patience sufficiently, and there are not a whole lot of members here. Maybe I could get—just outline a couple of things, and maybe you could get—I will go to the members right away, and maybe we could just get very succinct summaries from you as to what you would like to present today because you have probably all talked to one another in various contexts already, so it will give us an opportunity to move forward.

I also invited today, for your information, NBC News to come, but they declined to appear before the committee and really declined to respond, which I found unfortunate. I was not trying to skewer the media. It is generally not a good idea to fight with people with ink by the barrel or who have cable subscribers by the thousands, but the plain fact is that people get their news or their views or their perspective in many instances from catching reports on the fly.

I see Mr. DuBois especially understands what it is to have to deal with that, and so it then becomes difficult for us to get the actual information out.

The point here is that Active Protection Systems are designed to protect ground combat vehicles from an array of threats, and in particular, the Trophy System was mentioned, at least briefly, in the previous panel. It is currently designed for protection of a particular kind of tank against a rocket-propelled grenade and anti-tank-guided missiles and because of the short timelines that are required to counter these threats with an Active Protection System and the human factor that is involved in that. Once armed until disarmed, they operate automatically to detect and fire at incoming rockets, missiles and other threats. That is the idea any way, and as of now, there are no operational U.S. Active Protection Systems.

So we addressed this Active Protection System question last September in this subcommittee in part because of the NBC News segments on the issue, and unfortunately, we determined then that NBC, in several instances, misrepresented the facts through implication or the misuse of quotes of others. That is not hard to do—we have all experienced that kind of situation—but last September, NBC used a quote to say that the Active Protection System called "Trophy" was operationally ready for deployment and implied that the United States was not acting in a manner commensurate with the abilities of this Trophy system to provide that kind of protection.

The first operational system we determined would not be available until January of next year, 15 months after they implied it, and they stated as well that 132 lives have been lost in Iraq and implied that, if the Trophy had been employed in the combat vehicles there, those lives might have been saved. It is easy to see why

we would become or why it was likely to see a defensive attitude, because no one likes to be in a situation where constituents or citizens would feel that we have been negligent or derelict in our duty with respect to providing the necessary equipment.

Early this month, NBC stated the Army's own engineers, when evaluating the Active Protection System, gave Trophy high marks, citing analysis that they had acquired from the Army. Yet, when we reviewed that same Army analysis, we noted that those same Army engineers rated, as General Sorenson indicated in the previous panel, that the slat armor protection, the system currently deployed in Iraq, rated higher than the Trophy. It was very disconcerting for me to see a—well, not just the misrepresentation but a chart, to see a chart that listed all of the test scores, and NBC left out the one with the highest test score, which is what the Army was using. It reminded me of Watergate when Bernstein and Woodward were dumbfounded when they came up to somebody and said, "But you did not tell us that," and he said, "Well, you never asked the question. You know, I didn't lie to you." it is like Jake and Elwood Blues in the Blues Brothers. He said, "You lied to me." he said, "I never lied to you. I BS'd you a little bit, but I never lied to you." well, NBC apparently has taken after the Blues Brothers.

The obvious question is that the existing combination of slat armor and reactive armor provide greater protection than Trophy. This is my understanding, and I am hoping to get something more from you folks today. There remains, obviously, what CENTCOM validated. We talked about what "validation" was before in the last panel and the requirement to get an Active Protection System.

So the objective of this discussion of Active Protection Systems is to get the facts. I do not want to have—and I think Mr. Saxton agrees with me. We do not want to have the general public with a misunderstanding or a misapprehension of what the Active Protection Systems are all about or to think that by knowing something or hearing something in part from an NBC excerpt that they have the full story, and so what this panel can do today, I think, is a big service in terms of providing a perspective, providing an analysis, providing an understanding for Members of the Congress and for the public at large as to what we are talking about, why we are talking about it and what the implications are for our fighting men and women and, further, what the implications are in terms of the requirement of the republic to support those men and women.

We want to go on the record so Congress can properly judge the decisions made by the Army and properly judge as to what our decisions should be in support of the Army.

Mr. Saxton, you will pass? Okay.

Then why don't we go for brief, let us say, reactions to that and anything you think you need to add with regard to the Active Protection Systems from your point of view, and state why you have that point of view given your professional responsibility as you sit at the table.

And I will start with you, General.

General SORENSON. Thank you, Chairman Abercrombie, Ranking Member Saxton and distinguished members of the House Armed Services Committee.

I would like to express my appreciation for the opportunity to appear before this committee to discuss the Army's continuing efforts to improve the force protection capabilities of our soldiers, specifically Combat Vehicle Active Protection Systems known as "APS."

I want to be sure that you know that the Army is absolutely committed to making sure our soldiers have the best force protection capability and Active Protection Systems available. However, the systems we provide the soldiers must meet the current threat and must be proven, tested and validated. We will not give our soldiers a false sense of security by fielding systems not vigorously tested in an operational environment.

Every soldier is important, and each loss of life is tragic. Over the past several years, the Army has taken several steps to counter the rocket-propelled grenade, otherwise known as RPG, threat, and we will continue to modernize our force protection capabilities for future threats. As shown in detail in the classified session of which we have some unclassified documents that we can talk to, the RPG threat to our combat systems is considerably less than what has been reported in the press. In fact, the major threat to our forces is improved explosive devices, otherwise known as "IEDs," especially for our wheeled vehicle fleets.

To date, the Army has fielded 983 sets of gravity reactive Army tiles, 1,097 sets of M–113 slat armor kits, and the first brigade set of Stryker reactive armor kits are now available for immediate deployment. These reactive armor and slat armor protection systems contribute greatly to protecting our combat systems to defeat RPG threats without the use of Active Protection Systems.

The Army, through the Future Combat Systems (FCS) Program, is diligently proceeding on a path to obtain a hemispherical bubble of active protection for current forces against short-range threats while developing in parallel a common full-spectrum-capable APS as part of the hit and avoid subsystem for the Future Combat System, man-ground vehicles. The full-spectrum solution will counter both short- and long-range targets, and it will continue to provide the required 360-degree hemispherical bubble of protection. The Army's solution will be common to the current force and upgradable over time to counter these evolving threats.

There are a number of U.S.- and foreign-based Active Protection Systems under development. However, none of these systems can be immediately integrated into our combat systems today, including the Trophy system. Additionally, challenges exist in developing, integrating and fielding APS systems that minimize collateral damage to soldiers and noncombatants while ensuring the right to self-defense.

The Army considers Trophy a prototype that has not been operationally validated nor has it been proven in an operational environment as proclaimed. In the summer of 2005, the FCS lead system integrator issued a solicitation for a common, full-spectrum APS system as part of the hit avoidance subsystem for the man-ground vehicles. The U.S. sponsor for the Trophy system was one of three offers who submitted a proposal for the full and open best value source selection process. After a thorough source selection evaluation, Trophy was not selected. The Active Protection System selected by the Army to address the short-range threat was the

only APS system that could address the 360-degree hemispherical protection requirement.

Additionally, there have been no challenges or protests of this subcontract award followed by the unsuccessful offers, including the sponsor of the Trophy system.

I would like to reiterate that the Army is absolutely committed to providing our soldiers the best protection available, including APS. However, the Army will not procure or field any system not proven, tested or validated to be operationally safe or ready. Our currently fielded countermeasuring systems, including slat and reactive armor tiles provide deployed soldiers excellent RPG protection, and we are intent on incorporating as soon as possible a full-spectrum APS capability into both our current and our Future Combat Systems, a capability that not only defeats RPGs initially but can be upgraded, over time, to defeat a much larger threat.

I look forward to your questions and the opportunity to clarify and address any concerns you may have.

Mr. ABERCROMBIE. Thank you.

[The information referred to can be found in the Appendix beginning on page 87.]

Mr. ABERCROMBIE. I am going to ask Mr. Coyle to speak next because he has done us the great service of coming a long distance. I know what it like to commute 5,000 miles one way to work, Mr. Coyle. I understand you have come 2,500 miles to be here today, and you have to leave shortly, so I will ask you to speak next, and perhaps we will even move to questions a little quicker.

STATEMENT OF DR. ROBERT L. BUHRKUHL, DIRECTOR, JOINT RAPID ACQUISITION CELL, OFFICE OF THE UNDER SECRETARY OF DEFENSE (ACQUISITION, TECHNOLOGY AND LOGISTICS); CAPT. JOSEPH McGETTIGAN, COMMANDING OFFICER NAVAL SURFACE WARFARE DESIGN CENTER; PHILIP E. COYLE, III, SENIOR ADVISOR, CENTER FOR DEFENSE INFORMATION, FORMER DIRECTOR, OPERATIONAL TEST AND DEVELOPMENT, OFFICE OF THE SECRETARY OF DEFENSE; AND RAY DUBOIS, JR., SENIOR ADVISOR, CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES

STATEMENT OF PHILIP E. COYLE, III

Mr. COYLE. That would be fine, and I very much appreciate the courtesy, Mr. Chairman, and it was my pleasure to meet and work with a number of members of this committee and their staff when I was serving last year on the 2005 Base Realignment and Closure Commission (BRAC), and it is a pleasure to be here again, and I appreciate——

Mr. ABERCROMBIE. We all have our burdens to bear.

Mr. COYLE. I appreciate the invitation. I have just a very short statement. It is just about a page, and I will not read even all of it.

I am currently employed as a Senior Advisor to the nonprofit Center for Defense Information, which is a division of the World Security Institute here in Washington, D.C., and neither the World Security Institute nor the Center for Defense Information accept

any funding from the Federal Government or from defense contractors.

As you know, I served in the Pentagon from 1994 to 2001 as Assistant Secretary of Defense and Director of Operational Test and Evaluation (DOT&E), and in this capacity, I had OSD and OT&E oversight responsibility for over 200 major defense acquisition systems.

In my current capacity at the Center for Defense Information, I am sometimes called upon to provide independent expertise to the media on various defense matters. I have over 30 years of experience in tests and evaluation related to U.S. defense systems and equipment, and knowing this, NBC asked me to review DOD and Army documents that NBC had acquired. NBC also knew that, in the course of my 6 1/2-years at the Pentagon, I would probably be familiar with all sorts of briefing documents and correspondence, perhaps not unlike those that NBC had acquired.

However, with respect to those documents, which by the way are on the NBC Web site, while I have, indeed, seen many Department of Defense (DOD) and service briefing documents and other related correspondence related to the development of U.S. military systems, I have never before seen documents which purported to threaten members of the DOD test and evaluation community or officials in OSD for doing their job as the NBC documents show. Also, I had never before seen documents that sought to delay or to avoid a proposed military system in the face of positive test and evaluation results.

NBC aired four programs on the Trophy-Raytheon controversy, and I appeared briefly in two of those programs. On September 6, 2006, with respect to the makeup of a technical review panel assembled to evaluate competing RPG defense systems, I said, quote, "That sure doesn't look like an objective panel to me. It just doesn't pass the ho-ho test when you have that many people from one company (Raytheon) on the selection panel and then that company is chosen," and I still stand by that comment, and then earlier this month in another NBC program on the same controversy, I was asked why the U.S. Army would refuse to allow Trophy to be tested on an Army Stryker vehicle, forcing the Pentagon to borrow a Stryker from Israel and then fly it to Virginia at an extra cost to taxpayers of around $300,000, and I said on that program "What this says to me is that the Army doesn't want to get results that would show that Trophy was the best system, and all that does is hurt the very soldiers that need these new types of protection." later, in that same recent program, I also said, "The whole idea is to get new equipment that can really make a difference to U.S. soldiers and to Marines in Iraq, so I just don't understand the reluctance."

Mr. Chairman, I stand by those remarks also, and this concludes my prepared statement. I would be pleased to take any questions you might have.

[The prepared statement of Mr. Coyle can be found in the Appendix on page 78.]

Mr. ABERCROMBIE. Before I do, I understand Mr. Johnson had—did you have questions you wanted to address to Mr. Coyle specifically?

Mr. JOHNSON. Yes, I do, sir.

Mr. ABERCROMBIE. Why don't you go ahead then.

Mr. JOHNSON. Thank you.

Mr. Coyle, I have read your statement today, and I feel compelled to ask you some questions.

This firm Center for Defense Information, which is a division of World Security Institute, how long have you been employed there, sir?

Mr. COYLE. I have been employed there for six years.

Mr. JOHNSON. And are you a principal in the firm?

Mr. COYLE. No, I am not our principal in the firm. I am called a Senior Advisor to the President.

Mr. JOHNSON. You are not a stockholder?

Mr. COYLE. There is not any stockholder.

Mr. JOHNSON. It is a nonprofit?

Mr. COYLE. It is a nonprofit.

Mr. JOHNSON. Okay.

Mr. COYLE. It is a think tank like Brookings, which is next-door.

Mr. JOHNSON. Were you one of the founders of the firm?

Mr. COYLE. Not at all. The Center for Defense Information has existed for over 30 years.

Mr. JOHNSON. I see, and that firm is pretty much a consultant, is it not, to the——

Mr. COYLE. Well, it really not a firm; it is a think tank, and we do independent research on various national security matters.

Mr. JOHNSON. How does it obtain its funding?

Mr. COYLE. We depend on grants from various foundations—the Ford Foundation, the Foundation, things like that—and from private donations from individual citizens.

Mr. JOHNSON. Have you, yourself, ever been paid to be a consultant to any media outlet?

Mr. COYLE. No, I have not.

Mr. JOHNSON. How about the firm that you work for?

Mr. COYLE. I do not believe so, but I do not know for sure, but I do not think so.

Mr. JOHNSON. Was there any remuneration involved in connection with your services in evaluating these documents for NBC as you stated in your——

Mr. COYLE. No, there was not. No, there was not.

Mr. JOHNSON. So you did that purposely for gratis, if you will?

Mr. COYLE. I did it as part of my responsibility for the Center for Defense Information.

Mr. JOHNSON. And in connection with that review of these documents which you said are on the NBC Web site, you indicate that the documents purport to threaten members of the Department of Defense test and evaluation community?

Mr. COYLE. Yes, sir.

Mr. JOHNSON. Threaten them, how so?

Mr. COYLE. What I am referring to, Representative Johnson, is what was revealed in the January 10th program where NBC reported that after Pentagon tests found Trophy 98 percent effective. An Army colonel called the Navy engineer overseeing the testing of that system, and according to accounts of the conversation obtained by NBC News, the Army colonel vowed to, quote, take down

Trophy's key Pentagon supporter, and warned the Navy engineer to be careful also. That is what I am referring to.

Mr. JOHNSON. Uh-huh. Can I get someone from the Army to comment on that? That is something in a document. It is an official document?

Mr. COYLE. Yes. It is an official document that NBC has, yes.

Mr. JOHNSON. Where did it come from?

Mr. COYLE. I couldn't tell you.

Mr. JOHNSON. You don't know of the veracity of the document?

Mr. COYLE. Well, I have seen the document, and it looks believable to me. It is an account of this conversation. And I might add that that engineer stood his ground and stated that such a system would provide warfighters better protection than is currently available. But I don't recall at this moment who the e-mail was from and all of that.

Mr. JOHNSON. Before I ask the other members of the panel for any comment that they might have on that specific issue, I do want to ask you whether or not you have been involved in the testing and evaluation of any APS system.

Mr. COYLE. I have not.

Mr. JOHNSON. So you are not here to vouch for the credibility, if you will, of any particular APS?

Mr. COYLE. No, sir. I am not here to defend the Trophy system. I am not here to defend NBC. They can take care of themselves.

Mr. JOHNSON. All right. Thank you. Anyone else?

Mr. ABERCROMBIE. Thank you, Mr. Johnson.

I will ask General Sorenson if you can respond to Representative Johnson's inquiry with regard to that context of the question asked of Mr. Coyle.

General SORENSON. I guess in that context I would say two things. First of all, I am not sure with respect to the document that Mr. Coyle is referring to who exactly sent it, nor do I understand exactly why it was sent or the context. I have no knowledge of this particular document. I can verify and attest to the fact that I didn't send it. So, you know, not seeing the document, I can't really comment on it.

I guess the second thing I would like to comment on, though, is that while this testing was in some context said that the DOD testers had determined to be 98 percent effective, we need to clarify for the committee the types of testing we are talking about. This was clearly not operational tests. And I think, Mr. Coyle, being the previous director of DOT&E, would basically agree with me that this particular system, as it went through whatever testing it went through, was not suitable to be fielded today. It still is in the developmental stage, and these were interim results that essentially showed some positive capability of this system to be used to defeat RPGs, to which there is no argument to. But it was developmental testing, not operational testing for fielding.

Mr. ABERCROMBIE. Okay. Thank you.

Mr. Coyle, what I indicated before about part of the difficulty here is getting questions to which an answer can be given in good faith, but because the question then didn't really cover all of the territory or all of the ground, that a different answer might have

been given or a different evaluation might have taken place had there been another perspective.

I always love the word "document," by the way. It sounds so official and so wholesome that it covers everything, but what you are really talking about is a piece of paper which purports to have a conversation on it of some nature in some kind of context. But in that, then, the reference NBC, when they gave you the series of documents related to Active Protection Systems, they said they got it from Pentagon sources, and you gave the conclusion you did, given the question raised for you from those documents.

Now, the Army documents that we looked at were on the NBC Web site so I didn't obtain this—Greg DuBois did not show up at my apartment late at night and brought a pizza and the documents. This was on the Web site and included a slide entitled "Analysis of Alternatives."

[The information referred to can be found in the Appendix on page 83.]

Mr. ABERCROMBIE. So this is not a classified document. It is not—it is available to anybody who cares to see. In fact, I think the Army would be delighted if this was reprinted everywhere in the country.

Did the staff get you a copy of the "Analysis of Alternatives"?

Mr. COYLE. They did, Mr. Chairman.

Mr. ABERCROMBIE. Okay. Now, I presume this wasn't shown to you along with the document you were asked to evaluate.

Mr. COYLE. No, sir. That is not correct. I had seen this document, this slide before. It comes from an August 25, 2005 briefing that was given by Army and Navy technical representatives, the purpose of which was to gain concurrence to integrate the Trophy APS system into Army equipment. So it came from a larger briefing.

Mr. ABERCROMBIE. Yes.

Mr. COYLE. And I might add that the slide on the evaluation results in that briefing says that Trophy is the most technically mature system; that it is the only system that can provide near 360-degree active protection, something that General Sorenson has spoken to, and that it is recommending procuring and integrating one Trophy APS into increment zero of the so-called FSEP.

In conclusion, this briefing recommends concurrence with the selection of the Trophy APS and approval to use an existing contract to do that procurement and integration.

Mr. ABERCROMBIE. When you look at the document, the slat designation has the highest rated score, does it not?

Mr. COYLE. Yes, it does.

Mr. ABERCROMBIE. Now, General Sorenson, when you take a look at these various scores, each of these systems has something to recommend it depending on the use for which the system is going to be implemented, right? In other words, if you are involved in Baghdad in close quarters of crowded neighborhoods, it is different than being in the desert with hundreds of meters on either side of you with respect to the terrain you are traversing; is that correct? So when you have various evaluations as to what this protective system could do, it depends on what you are using it for with regard to what will be utilized in what particular vehicle. Am I getting too convoluted with this?

General SORENSON. No. You are exactly on target. It depends upon what is the requirement. And the Army feels that it has defined that the requirement is for not only the current force but also the manned ground vehicles for the Future Combat System and is basically used, some of these criteria such as size, weight, power, et cetera, to determine whether or not and what the Army should go off and pursue. And based upon that, that was the type of evaluation that was done in the source selection. And as a result of it was the award of the contract to the Raytheon system.

Mr. ABERCROMBIE. Okay. That is established as our base then.

Let me go very quickly to Dr. Buhrkuhl, and then, Captain McGettigan and then Mr. DuBois, and then we will get to the rest of the members.

Would you like to go now?

Mr. SAXTON. If Mr. Coyle is going to stay, I would wait.

Mr. COYLE. Well, I would like to get out of here in the next six or seven minutes.

Mr. ABERCROMBIE. Okay. I will go to—I beg your pardon. Mr. Saxton, and Mr. Wilson, if you want.

Mr. SAXTON. It is good to see you again. The last time I saw you was in a different forum, and everything worked out fine there. So thank you for that.

It seems to me, Mr. Chairman, that there are four important issues here related to Trophy and the APS systems and whether they should have been employed and whether Trophy should have been the choice.

The first issue is the threat posed by RPGs and a decision about the level of investment that we should have made against that threat, particularly considering other threats like IEDs.

The second is the capability of the APS systems, Trophy or others, against the RPG threat in the field.

The third is other systems. If there was a significant threat of RPGs, were other systems available that would have been as effective or perhaps more effective than the APS systems or Trophy?

And, finally, could Trophy have been installed—if all of the answers to the above questions were in the affirmative, could Trophy have been installed on a variety of vehicles, including Humvees, Strykers, tanks, or Bradleys, without affecting the capability significantly of those vehicles?

So if I may, Mr. Chairman, just start with the first.

Did you consider, Mr. Coyle, the threat posed by RPGs as compared to other threats in the field?

Mr. COYLE. With respect to this chart that shows the analysis of alternatives data, I dare say that if a slat armor were adequate, the Army would not be trying to develop Active Protection Systems. That is not to say that these protection systems are operationally ready today. That is not my point at all. But the whole reason that the Army is developing Active Protection Systems is because for the future threats, that they see slat armor is not adequate.

Mr. SAXTON. I agree with you that the future threats could include RPG threats, but in Iraq, at the time this decision was made, was the RPG the threat, or were there other threats, such as IEDs, which were much greater?

Mr. COYLE. Yes, indeed. Yes, Representative Saxton. There were many other threats. And RPGs were just one of many.

Mr. SAXTON. And they were relatively minor as compared to the IED threat, for example?

Mr. COYLE. Well, I don't know what the "minor" means. It is a—it is a danger to our troops.

Mr. SAXTON. Let me stop now and ask Major General Sorenson to respond to that question.

In our consideration of whether or not to make an investment on protection against RPGs or IEDs, was there a difference in the threat, and if so, did that play a difference in the decision?

General SORENSON. We have, I think in front of you, hopefully some of these pie charts.

If you would refer to it, it says vehicle RPG attacks 2006 calendar to date. You will see at the bottom that the total number of RPG attacks is seven percent. So it is in context of the other threats that we are trying to develop, and field capability to defeat is a small piece of a threat we are going after.

Mr. SAXTON. And what was the percent of IED?

General SORENSON. Ninety-three percent. The rest of it was basically IEDs.

Mr. SAXTON. So at least most prudent people would say if we are getting 93 percent of the threat from IEDs, we might want to make most of our investment there.

General SORENSON. Correct.

Mr. SAXTON. The second question, Mr. Coyle, the capability of the APS systems in the field against RPGs, do you have knowledge of the capabilities of the Trophy system in the field?

Mr. COYLE. I have not seen the test results for the Trophy system or for the Raytheon system or other competing systems, and NBC didn't ask me about that.

Mr. SAXTON. Okay. Thank you. General Sorenson, would you comment on the timing issues?

General SORENSON. With respect to putting the equipment on?

Mr. SAXTON. With respect to whether or not the APS system, Trophy, would be effective in the field against the RPG threat.

General SORENSON. At the present time, the answer is no. Even the developer of this capability, which is in a foreign country right now, their particular country right now is looking at trying to develop this system, integrate it, and essentially deploy it almost another year and a half from now.

Mr. SAXTON. Thank you.

Mr. Coyle, let me ask the third question. There are other protection systems, as we all know, against RPGs. Are you familiar with them?

Mr. COYLE. To some extent, yes.

Mr. SAXTON. You mentioned slat armors, so obviously you are familiar with it and reactive armor and other types of protective systems that are already in place or, in the case of Stryker, being applied at the time.

Mr. COYLE. Yes, sir.

Mr. SAXTON. So did you take any of that into consideration, or did NBC ask you about that?

Mr. COYLE. NBC did not ask me about that. And as I said before, I have not seen the test results for these various APS systems.

Mr. SAXTON. Can you in a general way explain the capabilities that exist just in a short period of time?

General SORENSON. Yes, sir.

Mr. ABERCROMBIE. Excuse me. Just before he answers, Jim, can you ask Mr. Coyle the last question, because I am afraid he is going to have to go. And then, General Sorenson, if you would keep notes on what—I think he had one more question. Mr. Coyle, I know you are under a real time constraint.

Mr. SAXTON. The last question is, could Trophy systems effectively be installed and deployed on the Humvee, on Strykers, on Bradleys, or on heavy tanks?

Mr. COYLE. In the course of reviewing the documents that NBC obtained, I saw various Army documents and briefings, ones we have already alluded to that are on the Web site that purport that Trophy is being integrated on a variety of different vehicles of the sort that you mention. But I don't have any first-hand knowledge other than what is in those briefings.

Mr. SAXTON. Thank you very much.

Mr. ABERCROMBIE. Thank you, Mr. Coyle.

Mr. COYLE. Mr. Chairman, I really appreciate the courtesy, and I would be happy to take any questions for the record.

Mr. ABERCROMBIE. I was going to ask you if it was okay if we could send some things on to you, if you would be kind enough to send something back on it. I would be very, very grateful.

General, were you able to get Mr. Saxton's questions to Mr. Coyle, and then do you have a response or a perspective then in the context that Mr. Saxton asked?

General SORENSON. Yes. I think with respect to the Trophy system, clearly at this point in time it is a rather heavy system. It is predominantly being employed and being designed right now for the combat systems, specifically in our case it would be for our manned ground vehicles that we are putting on Future Combat Systems. At some point in time we would hope to provide this capability to Humvees, but because of power, size, and weight constraints, that is not exactly feasible. And I think you will also find essentially where this system is—again, it is foreign built and the type of capability they are putting on it is an armored system. They are not at this point in time designing it to be put on something other than an armored system.

Mr. SAXTON. The Israelis are putting it on a heavy tank?

General SORENSON. That's correct.

Mr. SAXTON. And it weighs 1,700 pounds. And so unless it is modified significantly, I wouldn't think it would be practical to do Humvee or even Stryker. Stryker is supposed to go 60 miles an hour or thereabouts, and it seems to me it would affect its capability and so——

Mr. ABERCROMBIE. That gets to the question, does it not, Jim, of context in and of itself; it might seem to be just the right thing, but once you put it in another context, it might not be the right thing. Is that a fair——

General SORENSON. I would say that is fair and that is correct.

Mr. ABERCROMBIE. You can see why I value Mr. Saxton's mentorship over the years. He zeroes right in on the issues.

I have driven Mr. Bishop out of the room on this. I am sorry.

Mr. SAXTON. The last point I wanted to make is that we, in terms of protecting against RPGs, have at least six other types of systems that are employed. And it would be nice in the future when we face a significant threat from RPGs to have a new, even more capable system, such as the ones we are talking about. But in terms of the investment that it would make, it was determined by the Army to make that investment against other threats, given all of the factors that I have talked about here in the last few minutes.

Mr. ABERCROMBIE. Thank you very much.

Mr. Wilson, would you like to proceed, or should we go to the other members of the panel for their short commentary?

Mr. WILSON. Mr. Chairman, I would like to hear from the panel and then certainly would like my chance to say something.

Mr. ABERCROMBIE. You will be first.

Mr. WILSON. Thank you.

Mr. ABERCROMBIE. You are first in our hearts, you know that.

Mr. WILSON. Thank you very much.

Mr. ABERCROMBIE. Dr. Buhrkuhl, I think I will go with you because you come before everybody else.

STATEMENT OF DR. ROBERT L. BUHRKUHL

Dr. BUHRKUHL. Distinguished members of the subcommittee, thank you for the opportunity to appear before your subcommittee to discuss the questions raised regarding the integration of the Israeli Active Protection System named Trophy onto the full spectrum effects platform, commonly called FSEP.

As the director of the Department's Joint Rapid Acquisition Cell (JRAC), I am responsible for facilitating the Department's responses to the immediate warfighter needs submitted to the Department from the combatant commanders that are not improvised explosive defeat requirements.

The Joint Rapid Acquisition Cell provides a single point of contact in the Department for facilitating solutions to these immediate warfighter needs. To address these urgent needs, we focus on near-term material solutions typically involving off-the-shelf capabilities that can satisfy, to some degree, the urgent needs of the combatant commanders.

On April 19, 2005, the United States Central Command's chief of staff submitted a joint urgent operational needs statement for a capability that included a suite of scalable nonlethal weapons, combined with a set of lethal weapons, mounted onto an existing military vehicle such as the Stryker infantry carrier vehicle. The suite of weapons would provide the warfighter with a full spectrum of components to conduct force protection missions, route reconnaissance, crowd control, raids, and point defense, all in an effort to save lives and reduce collateral damage.

The Central Command's concept included a component for a fully automated Active Protection System to counter rocket-propelled grenades and anti-tank missiles. This component subsystem was the Trophy Active Protection System. It was to be used on the

Stryker vehicles in lieu of slat armor. As you already know, slat armor forms a metal cage around the vehicle that detonates the rocket-propelled grenade before it can penetrate the vehicle itself.

On April 28, 2005, after evaluating the Central Command's request, the Joint Staff supported the need but stated that the proposed FSEP solution with all of its subsystems was unachievable in the near term, which is a requirement for us to take immediate action on an immediate warfighting need.

Subsequently, however, the Office of Force Transformation (OFT), working with Army officials and Naval Surface Warfare Center engineers at Dahlgren, Virginia, planned a more thorough and accelerated schedule for integrating the subsystems onto the FSEP vehicle and presented their new proposal to the Joint Rapid Acquisition Cell on September 19, 2005. Based on the JRAC's recommendation, in January 2006, the Deputy Secretary of Defense approved the use of $31.3 million for the Army to proceed with Spiral 1 development of the FSEP.

Mr. ABERCROMBIE. Can you tell us what Spiral 1 development means? Again, we have an audience that doesn't necessarily understand all of the terminology.

Dr. BUHRKUHL. The Office of Force Transformation of the Army brought along Spiral 0; that is the initial concept and basic research. What we tried to do in the Joint Rapid Acquisition Cell is facilitate meeting the immediate warfighting needs, so we provided the funds that bridged that gap between Spiral 0 to Spiral 1, with the Army designated as the program manager. So in Spiral 1, the idea is to start integrating and testing the system that makes up the full spectrum supply form.

Mr. ABERCROMBIE. Could you summarize in the next 90 seconds?

Dr. BUHRKUHL. The whole presentation?

Mr. ABERCROMBIE. Yes, sir.

Dr. BUHRKUHL. Basically I stand by what I told you last fall. We looked at the different needs of the warfighter. We are relying on independent test evaluation. It didn't appear to us that the Trophy was ready to be put onto the vehicle and deployed. We had an urgent material release date of June 2007 to get three Strykers in theater. We are going to make that date, but my decision, based on an Army recommendation, was to use slat armor instead. But what I did to base that—make that decision, I went to the Central Command and asked, what is your preference. We can give you the Full Spectrum Effects Platform (FSEP) now or very soon at, say, the 95 percent level; or do you want to wait for the Trophy or some other Active Protection System? And they said that they preferred to get the full spectrum effects platform without the APS at that time, and we could use it and put it on a later Spiral.

Mr. ABERCROMBIE. So you are the person that has to answer up to the person—to the fighter in the field; is that right?

Dr. BUHRKUHL. Yes, sir.

[The prepared statement of Dr. Buhrkuhl can be found in the Appendix on page 70.]

Mr. ABERCROMBIE. I am going to ask you to go next, and Mr. DuBois is going to bat clean-up.

Captain MCGETTIGAN. Thank you very much.

Mr. ABERCROMBIE. He likes that idea, by the way.

STATEMENT OF CAPT. JOSEPH MCGETTIGAN

Captain MCGETTIGAN. At Naval Service Center Warfare Division, we are a center of excellence for integrating combat systems, and that is why the Office of Force Transformation came to us and asked us to integrate many systems onto this Stryker vehicle called the Full Spectrum Effects platform. We were evaluating each of those subsystems independently. One of those was an Active Protection System. We didn't conduct a paper study or an engineering study of all of the available systems. The one that we thought was technically most mature and that was in conjunction with the Army was the Trophy system. So we procured a Trophy system and we ran it through tests to verify what the technical capabilities of that system were. And out of 38 tests that we ran, it successfully engaged 35 times, which we computed to approximately 92 percent probability of success for that system.

And we did not go through and evaluate the other systems in the same manner. We did not go beyond that. We had that one requirement to integrate that system on board that Stryker vehicle, and that was the testing that we did. That was not an operational test. It was specifically something that was just to verify the technical capabilities of that system as it existed at that point in time.

Mr. ABERCROMBIE. Is that it?

Captain MCGETTIGAN. Yes, sir.

Mr. ABERCROMBIE. Thank you.

[The information referred to can be found in the Appendix beginning on page 87.]

Mr. ABERCROMBIE. This has been a long day for you, but you have been able to observe everything virtually from the beginning, and I would value your assessment at this point.

STATEMENT OF RAY DUBOIS, JR.

Mr. DUBOIS. Mr. Chairman, Mr. Saxton, Mr. Wilson, it is an honor to be here again. It is the first time I have appeared before this committee since I resigned from the Defense Department, now almost 10-plus months ago.

Anytime that any of us can appear to discuss the safety and security of our soldiers is an important thing to do, and I would do it at anytime you asked me.

I think it is important to go immediately to the NBC newscast of last week.

I was asked, and let me say in response to Mr. Johnson's question, that as a senior advisor but also as an independent consultant, I have accepted government funding and will continue to accept government funding in my consulting capacity, as well as defense industry funds, on areas in public policy and industrial policy of interest to me, but I did not accept nor did NBC offer any compensation for my involvement with that news program.

Now why did I get involved? Lisa Myers called me up and said, "I have in my hand an e-mail that purports to be the minutes of a meeting that you chaired on October 26, 2005 in your capacity as Under Secretary."

I said, "Oh, really. Why don't you read it to me?" which she proceeded to do. And she wanted to know straight up, was the reference to me in the e-mail accurate and did it characterize my con-

clusions and recommendations at the end of that meeting which was focused on FSEP and Trophy. Was it characterized accurately? And I said yes, it was.

So I agreed to sit down with her for 50-plus minutes on tape. She interviewed me, and I took the opportunity to discuss with her the various aspects of Army testing and evaluation, the FSEP program, Strykers, Active Protection Systems, the threat, the Office of Force Transformation, all of the issues that were bound into this discussion, in an effort to help her understand where she was going and perhaps indicate to her that it was not an entirely accurate portrayal on her part, at least in the past.

Out of that 50 or 45 minutes, 4 or 5 seconds appeared Wednesday night on the 10th, and I said, and I quote, "It appeared that Trophy was mature enough. It needed to be looked at seriously and not ignored," end quote. Now that was in the context of my discussion with her that all technologies that are going to affect the safety and security of soldiers in the field, the Army is interested in. But in my year-plus as acting Under Secretary, I will tell you that a week didn't go by when there wasn't a communication of a Member of Congress, a communication from industry, a communication from another service, "Here was an aspect of technology that ought to be considered."

In the case of Trophy, it is important to note that the Secretary of the Army—and I was involved in this decision in the summer of 2005—had looked at the threat, and this is the key aspect that Mr. Saxton was getting at. The types and kinetic nature of the threat is what we have to pay attention to. If the 105-millimeter shell from a tank were to hit a Stryker with slat or bar armor and reactive armor, it wouldn't make a difference, that type of protection. We were looking at RPGs, we were looking at IEDs, as has been discussed. The Trophy had been lab tested, had been developmentally tested, had been tested, as I believe the captain said, under controlled conditions. Even the Israelis who developed the system did not apply that system to the tanks when they invaded Lebanon.

Another issue that has got to be understood in this context is the integration issue. We talked about the weight, 1,700 pounds. You can't just bolt a nifty technology, mature though it might be in a developmental testing context, on a vehicle, figure out how to wire it in so that it works, and at the same time know that if it works the way its developer says it will work, what happens to the dismounted infantry that is on either side of the vehicle, should it go off.

The Army—and I will just stop with this—my experience with the Army, and it goes back to when I was an Army enlisted man in Vietnam in 1968 and 1969, has always taken very seriously what conditions, what technologies, can we export to the field that are properly tested—as General Sorenson and General Speakes spoke to in the previous panel—which will yield the result that we want. So I am confident that on the one hand it is true I said, this system, this technology, is worthy of further testing, and if it proves out—in fact, we had planned to test it at Yuma Proving Ground—we should move it to CENTCOM. But as CENTCOM said, we would like the FSEP without the Trophy right now. The

best testing is always in realistic combat situations. And I am convinced—and the United States Army maintains constant communication with the Israeli Army—we will find out, the Army will find out if in point in fact this system can be used and integrated at this time or any time going forward.

So thank you again, Mr. Chairman.

Mr. ABERCROMBIE. Thank you for that perspective. I am very appreciative.

Mr. Wilson, thank you for exercising great patience and forbearance to this point.

Mr. WILSON. Thank you, Mr. Chairman. And General Sorenson, Dr. Buhrkuhl, Captain McGettigan, Secretary DuBois, thank you for being here today.

I am particularly interested in the good work that I believe that you all have done in regard to promoting new technology. We are facing a different enemy and we need to be proactive, and I sincerely believe that in your positions, the military in general has been very proactive in addressing an enemy who changes what they are doing every day in a—from my perspective—very evil way of using women and children as shields.

As I hear this evening, the presentation has been made, I want to thank the Chairman, Mr. Abercrombie. I want to thank the Ranking Member, Mr. Saxton, and also Congressman Johnson.

The issue of active protective systems has really been well covered, and I think very professionally done. And so my interest is indeed promoting new technology and for people to be able to bring to the attention of the military what can be done. The perspective I have as a Member of Congress, I am very grateful, but I have a personal interest. I have three sons in the Army National Guard, one on Active Duty, Navy. And I want the best for them. And it is really ironic in the handout today, I can tell you firsthand how the new technology that you promoted is so important. The handout has a soldier here, 1999, indeed, the equipment of these soldiers. In 1999, I was preparing for—I was in the Army National Guard myself—for a training exercise at the National Training Center at Fort Irwin, California, and this is the equipment we had. And I have frequently pointed out, and I didn't know this diagram existed, Mr. Chairman, but I frequently pointed out that the equipment that I have—and I mean this in a very positive way—is now in museums because of the advances of technology and the soldier of 2006.

The equipment, indeed, that our young servicemen and women now have today is multiple generations, not a few, from what we had just seven years ago. And the reason I think a lot of this has come about is because as Secretary DuBois has pointed out, Members of Congress contact all of you virtually on a weekly basis: What recommendations do you have to those of us in Congress, to the American citizens; how can we bring to your attention new technology? If any or all of you would like to answer that, what can we do to expedite on the latest technology or suggestions on how to protect our service members.

Mr. ABERCROMBIE. Before you answer, one way I would suggest we shouldn't do is have NBC accuse people of not being prepared to extend and utilize new technologies.

General SORENSON. Well, that is true. But with respect to what you are asking here, clearly in all cases within the Army, the art at the Research and Development Command Headquarters throughout all of our program executive officers' locations, we have set up Web sites that basically we would call, in this case, an unsolicited proposal of new technology. They can basically come up, get a point of contact, contact that person, and basically say, "I have got something I want you to take a look at."

I will tell you that on a daily basis, I respond to a number of letters from all of you with respect to I have got this from my constituents, "What do you think I need to do with this?" and my response back to you has always been clearly, "This is what we currently deploy," and oh, by the way, if you are a particular constituent and want to pursue this, this is the direct point of contact he can go to. Here is the Web site, here is the phone number to try to make sure we can take advantage of that. And clearly all cards and letters that we get we take advantage of.

Mr. WILSON. And if that Web site can be provided to us, that would be helpful.

General SORENSON. We can make that available, yes.

Dr. BUHRKUHL. As far as the Joint Rapid Acquisition Cell, the big basis for our whole success has been the good ideas from the warfighters in the field, because we actually take their suggestions. These young men and women are so savvy when it comes to computers, and they come up with good recommendations on ways for us to field the urgent needs and that is one way we do that.

On a more formal basis, of course, we have our Technology Office, Defense Advanced Research Projects Agency (DARPA), and our foreign comparative test. In fact, on this very subject, I should mention that we are going through our Technology Office and test one APS Trophy and one auto-loader, like in the August-December time frame, so we are not forgetting about that even though our initial decision, for at least the FSEP, was to use slat armor. But we take all kinds of suggestions. We get a lot coming into the Joint Rapid Acquisition Cell because of our reputation. But if it is not ours, we get it to the right organization like the Joint IED Organization.

Mr. ABERCROMBIE. Anything else?

Mr. WILSON. I just thank all of you, and again, every time I think about being in the Mohave Desert in this particular battle dress uniform, and my four sons now are in digitally enhanced uniforms that make a lot better sense. Thank you very much.

Mr. DUBOIS. I would like to ask a question, if I might, of one of our panel members which may be instructive.

Mr. ABERCROMBIE. We are all friends here.

Mr. DUBOIS. General Sorenson, since September 2005 with the usage of slat or bar or reactive armor on the full major combat ground systems, the M–113, the Stryker, the Bradley, have we had any deaths of soldiers on those vehicles?

General SORENSON. Mr. DuBois, thank you for asking the question. Quite frankly, most—when I testified here in September, the answer was zero.

Most recently, we did suffer an attack where a soldier was killed. However, this soldier was not killed because of a lack of armor. Un-

fortunately, this particular soldier, who was one of the ones that was on the particular TV station, excuse me, the TV broadcast on MSNBC, happened to be in the gunner's position, so he was exposed. And it wasn't exactly from the standpoint of almost, say, a rifle shot, more so than anything where he was inside of the vehicle. The vehicle was attacked with an RPG, and the vehicle was not able to withstand that particular attack. So that was the one case.

And the other case, the soldier was in a Humvee, and as we have already talked about, this particular system is not ready at this point in time to be anywhere close to being put on nor deployed nor installed on some lighter-type vehicle. It is strictly right now being looked at, the combat system.

So again, I testified in September the answer was zero. We have had over 1,300 attacks. And to date, we have only suffered one casualty on our combat systems.

Mr. ABERCROMBIE. Thank you.

Mr. Johnson, do you have another question?

Mr. JOHNSON. No, sir.

Mr. ABERCROMBIE. How about you, Mr. Saxton?

Mr. SAXTON. No. I just have one final comment on behalf of the committee.

Our goal is to make sure that every protective system that is feasible to be employed is employed. And I can't remember exactly what year it was, but I would—I am going to guess it is 2004. I actually led a congressional delegation to Israel, seeking help from people who had faced IED threats for a lot longer than we have, as to how and what systems we might be overlooking. And we got some ideas and passed them along to DOD, and I am sure they were all considered.

And so whether it is an Israeli system or an American-built system or the system that is originated and designed and tested and developed someplace else in the world, it was my—and it was and is my desire and objective as chairman of the Terrorism, Unconvential Threats Subcommittee, which has responsibility here for force protection, to explore every avenue that we could. And wherever our technology is mature and where it is feasible to be deployed in the protection of American troops, those are my objectives.

Mr. ABERCROMBIE. Thank you very much.

Gentlemen, thank you. Again, I have used the word "patience" a good deal this afternoon, but I mean it sincerely. This is the only opportunity that we have institutionally to be able to get any message out to the public that is comprehensive and inclusive of the facts and offers, hopefully by the end of it, an opportunity for a conclusion to be reached by free people in a free society.

I speak for all members of the committee, the subcommittee and the committee, and for Members of the Congress in thanking you for your service, for your devotion and dedication and professionalism. I can assure you that everything that has been put forward today will be taken into account by us as we move forward with our recommendations. And, again, these recommendations will be put forward on what we believe the strategic interests of the United States are and how we can best serve the goals and mission

of the Department of Defense in terms of our responsibilities on this committee.

There may be some other questions. I think we have covered pretty much everything I was interested in in both the classified session and in this session. But should there be other questions or observations that come as a result of this hearing, if you would all be so kind as to indicate whether you would be willing to receive them and respond. I can assure you that close attention will be paid to them. They will not disappear into a drawer somewhere. We take our responsibility seriously, and we take your participation seriously, and we thank you yet once again.

Mr. SAXTON. I am sorry, I forgot. Mr. McKeon, who had to leave, has five questions he wants to submit for the record.

Mr. ABERCROMBIE. I am not sure who they will go to but we will do that.

[The information referred to can be found in the Appendix beginning on page 95.]

Mr. ABERCROMBIE. And with that, I would like to take my father's gavel, and I wish he could be here to see me do it, and bring this hearing to an end.

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

A P P E N D I X

JANUARY 18, 2007

PREPARED STATEMENTS SUBMITTED FOR THE RECORD

JANUARY 18, 2007

Statement of the Honorable Neil Abercrombie

Chairman, Subcommittee on Air and Land Forces

Army Force Protection Systems

January 17, 2007

The Subcommittee will come to order.

Today, we will continue the high priority this subcommittee has placed on providing force protection for our men and women in combat.. We will receive testimony from Department of Defense and Army witnesses on Army force protection systems, including combat vehicles, body armor, and active protection systems -- systems designed to protect ground combat vehicles from threats like rocket propelled grenades and anti tank guided missiles.

Some of the major issues that we need to address are:

1) Does the current threat to our combat vehicles require an active protection system for those vehicles?

2) Does an effective, acceptable active protection exist to equip those vehicles and when can it be fielded?

3) Is the investment required to equip those vehicles with an active protection system warranted relative to all of our other requirements?

Again, given the urgent action request from Central Command for our forces in Iraq, the Subcommittee hopes to understand why the Office of the Secretary of Defense has declined to pursue an interim active protection system capability, with the current earliest projected fielding of an active protection system in 2011.

STATEMENT BY

LIEUTENANT GENERAL STEPHEN M. SPEAKES
DEPUTY CHIEF OF STAFF, G-8

MAJOR GENERAL JEFFREY A. SORENSON
DEPUTY FOR ACQUISITION AND SYSTEMS MANAGEMENT
OFFICE, ASSISTANT SECRETARY OF THE ARMY
(ACQUISITION, LOGISTICS, AND TECHNOLOGY)

BEFORE THE

AIR AND LAND FORCES SUBCOMMITTEE

HOUSE ARMED SERVICES COMMITTEE

UNITED STATES HOUSE OF REPRESENTATIVES

ON ARMY FORCE PROTECTION PROGRAM

FIRST SESSION, 110TH CONGRESS

January 18, 2007

NOT FOR PUBLICATION
UNTIL RELEASED BY THE
COMMITTEE ON ARMED SERVICES

Chairman Abercrombie, Ranking Member Saxton, and distinguished members of the committee: on behalf of the Army, thank you for the opportunity to appear before you today and to update you on Army force protection programs. Force protection continues to be the Army's highest priority. We are working hard to enable our Soldiers and those who lead them to accomplish their mission successfully and return home safely. As we stated previously, the death of one Service member reflects an immeasurable loss to the Nation in terms of his or her life's potential. We never lose sight of this, and we never stop trying to protect our forces better. Congressional funding has allowed the Army to enhance force protection and field improved equipment for our greatest asset, the United States Soldier. Improvements and fielding have been accomplished while we are simultaneously fighting a determined enemy. Thank you for your ceaseless support; it is making a tremendous difference in the protection of our Soldiers.

The battlefield has changed from being linear with relatively defined boundaries between front and rear areas to one that is asymmetrical, a battlefield with no front lines. Every Soldier in theater has to be prepared to shoot, move, and communicate in this dynamic environment. The ever-evolving enemy continues to develop increasingly sophisticated and complex weapons to attack our forces at perceived weak spots. As stated at the outset, the Army's number one priority is the protection of the Soldier.

Since our last update in June 2006, we have initiated joint programs with the Marines to develop an interim solution for the tactical wheeled vehicle challenge via the Mine Resistant Ambush Protection vehicle (MRAP). We are partnering with industry to move forward faster on these initiatives so that we can field MRAP starting this summer and the long-range solution, the Joint Light Tactical Vehicle (JLTV) as soon as possible. We are also preparing for increased troop levels in Iraq and need to ensure that we can continue to leverage the Rapid Fielding Initiative to provide all Soldiers in theater with individual force protection equipment, including enhanced small arms protective inserts as part of the Integrated Body Armor ensemble.

Jointly with the Marine Corps, we are in the process of rapidly acquiring Mine Resistant Ambush Protected (MRAP) vehicles. MRAP fills a near-term, urgent joint service requirement for enhanced crew protection. The MRAP program will rapidly field highly survivable, mobile, multi-mission vehicles to the Joint Force to meet urgent operational requirements. MRAP vehicles are commercial, off-the-shelf solutions. The

MRAP has a V-shaped hull that provides an immediate and dramatic increase in underbody protection for Soldiers. MRAP vehicles are inherently offensive in character, built from the ground up to survive a combination of mines, rocket propelled grenades, and small arms fire and would enhance our Soldiers' ability to conduct independent operations in a survivable vehicle. The services have documented a requirement for 6,465 MRAP vehicles. On November 9, 2006, the U.S. Army and U.S. Marine Corps released a competitive Request for Proposals (RFP). In late January 2007, the services will award contracts to those with the greatest likelihood of meeting requirements. Testing is expected to take place from February through May 2007. The Army and Marines will place production orders with those contractors whose MRAP vehicles best meet survivability and other performance requirements in testing and have the capability to meet an aggressive production and delivery schedule. Delivery is projected to begin in fourth quarter FY2007. Concurrently, the Army will continue to work with the Marines to develop a long-term solution through the Joint Light Tactical Vehicle (JLTV) program.

To date, the industrial base has been increasingly responsive in meeting requirements for Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF). Our Original Equipment Manufacturers (OEMs) have been teaming with other manufacturers to increase capacity wherever possible. Additionally, the Depots have been responsive to numerous armoring efforts, such as the Objective Gunner's Protection Kit, to provide an increased production capacity. With the increased requirement of the Mine Resistant Ambush Program (MRAP) and the Family of Mine Protected Vehicle Program of Records we are beginning to see some capacity issues, but until the competitive contracts are awarded we will not know the full impact.

The new ventures that we are aggressively pursuing continue our focus on protecting the Soldier, our highest priority. 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, M-4 carbine rifle, fire resistant uniforms, and integrated 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), and the Mine Resistant Ambush Protected Vehicle (MRAP). Protection is further layered through the use of tactical unmanned aerial vehicles like the Raven, route clearance equipment such as the Buffalo, the Husky, the RG-31, and the Cougar, and counter-measures like Counter Remote Control IED Electronic Warfare (CREW) devices and Counter Rocket and Mortar (C-RAM) surveillance equipment. Protection is layered even further through the use of increasingly sophisticated command, control, and communication systems like the Land Mobile Radio (LMR), the Joint Nodal Network (JNN) and Blue Force Tracker, which provide our Soldiers the ability to maintain enhanced situational awareness on the battlefield. The Army makes use of intelligence gathering efforts to help prevent the execution of enemy attacks. JNN helps to provide the band width to bring key intelligence capabilities to the battalion level. 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 first time Soldiers use force protection equipment should not be after they deploy to a combat zone, but while they are performing pre-deployment training at their home station. Thanks to your support, throughout calendar year 2006 we fielded more essential equipment earlier in unit training timelines facilitating good pre-deployment training. When TTPs are rehearsed and reinforced through training, Soldiers respond in a moment of hazard with an absolute, immediate reaction that will save his/her life or that of a buddy or comrade. Units in theater are continuously adapting and evolving their TTPs to counter enemy tactics. These TTPs are being captured by the Center for Army Lessons Learned and used in pre-deployment training at home station. Furthermore, all Army units are conducting live, virtual, and constructive pre-deployment training at home station and at our training centers using the most current lessons learned provided by units currently operating in theater.

Commanders also make use of Operational Needs Statements (ONS) to request material solutions to correct a deficiency or improve on a capability that impacts mission accomplishment. In the fall of 2006, HQDA developed and instituted a fully automated ONS request, sourcing, and tracking system to fully support warfighter needs. The

Army processes approximately 500 requests for 250,000 individual items each year. As soon as resources are identified, we expedite the materials to the field as quickly as possible. The process optimally takes 35 to 42 days from request to sourcing solution. However, when developmental items are requested, time taken to develop and field a new program, system, or material solution is additive to this time. The Joint Urgent Operational Needs Statement is another expression of urgent needs that are handled within the Joint Command and Staff communities. An example of an Operational Needs Statement currently in the system is the request for replacement of current up-armored HMWWVs with a new generation of vehicles, which we are addressing through the MRAP and JLTV programs.

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 enemy continually works to identify and exploit our vulnerabilities. Our challenge is to identify and then address these efforts through a combination of TTP and materiel changes. Since our last update to the committee in June 2006, the Army continues to make substantial progress. We would like to provide you an update on our ongoing efforts to improve force protection.

In addition to the advanced combat helmet, night vision goggles, and the M4 carbine, the Army provides every Soldier in Theater with Integrated Body Armor (IBA). IBA remains a centerpiece program for the Army; it saves lives everyday. IBA is a modular design that provides protection against fragmentation and small arms ammunition. The standard system consists of an Outer Tactical Vest (OTV) and a set of ballistic inserts known as Small Arms Protective Inserts (SAPI). The Enhanced Small Arms Protective Inserts (ESAPI) provides increased ballistic protection. Additional protection is provided through the Deltoid Auxiliary Protector (DAP), which provides protection to the shoulder and armpit regions of the body, and Ballistic Side Plates. Here is a brief chronology of the evolution of Interceptor Body Armor (IBA):

- In 1999, the Army started fielding the Outer Tactical Vest (OTV) with Small Arms Protective Inserts (SAPI) to Soldiers Deployed in Bosnia.
- In April 2004, Coalition Forces Land Component Command requested the Deltoid Auxiliary Protector (DAP).
- In April 2004, Coalition Forces Land Component Command reported 100 percent fill for both OTV and SAPI requirements.

- In January 2005, the Coalition Forces Land Component Command requested Enhanced Small Arms Protective Inserts (ESAPI).
- In September 2005, Coalition Forces Land Component Command requested Ballistic Side Plates.
- In January 2006, Coalition Forces Land Component Command reported 100 percent fill for ESAPI.
- In January 2006, the Army started fielding Enhanced Side Ballistic Inserts to Theater.
- In December 2006, Coalition Forces Land Component Command received 100 percent fill for Enhanced Side Ballistic Inserts.

Table 1 shows the Army and Theater wide requirements for the Interceptor Body Armor ensemble.

TABLE 1

Interceptor Body Armor Item	Army Acquisition	Validated Theater Requirement	O/H in Theater	Total # Funded
Advanced Combat Helmets (ACH)	1,197,150	230,000	*	1,197,150
Outer Tactical Vests (OTV)	966,000	201,000	201,000	966,000
Small Arms protective Inserts (SAPI)**	966,000	**	*	520,000
Enhanced SAPI (ESAPI)**	966,000	201,000	*	642,000
Deltoid Auxiliary Protector (DAP)	966,000	247,860	247,860	451,000
Side Armor Plates	966,000	230,000	230,000	546,000

Notes: *Soldiers deploy from home station to the theater with this equipment. Sustainment quantities are available in Theater.
**SAPI is no longer in production. ESAPI replaced SAPI in the IBA ensemble because it offers improved protection.

The domestic body armor industrial base is currently robust and fully capable of meeting all Army requirements. The Army is producing 20,000 sets of ESAPI per month and currently fielding ESAPI to next deployers at home station. Table 2 shows the program schedules for each component of IBA. (Numbers in the "Total Fielded" column are current as of 31 December 2006.)

TABLE 2

Interceptor Body Armor Item	Total Army Requirement	Program Schedule	Produced	Total # Funded	Total Fielded
Advanced Combat Helmet (ACH)	1,197,150	30,000/Mo	844,984	1,197,150	844,984
Outer Tactical Vests (OTV)	966,000	0	966,000	966,000	966,000
Enhanced SAPI	966,000	20,000/Mo	462,000	642,000	462,000
Deltoid Auxiliary Protector (DAP)	966,000	20,000/Mo	271,000	451,000	271,000
Side Armor Plates	966,000	30,000/Mo	276,000	546,000	276,000

We are currently developing interim improvements to our body armor toward the Next Generation Body Armor. These interim modifications, which include enhanced individual Soldier mobility, ease of medical access, reduced weight, increased ballistic protection, improved comfort, and improved weight distribution of ballistic and fighting load components, are expected to begin fielding by the first quarter of FY2008. The Army continuously evaluates industry designs for the Next Generation Body Armor; with sufficient advancement in technology, fielding may begin as early as FY2010.

Another aspect of the individual layer of protection that has assisted in saving lives is the ability to provide life-saving first aid. Hemostatic bandages are one of the greatest lifesavers of the modern battlefield. Hemostatic bandages help stop arterial bleeding in places where tourniquets are not totally effective such as the upper thigh, the abdomen or if an arm is severed at the shoulder. Hemostatic bandages provide a critical layer of force protection by helping first responders such as combat lifesavers and combat medics control the bleeding of wounded soldiers until they can be safely evacuated to advanced medical and surgical facilities. Last year we spent approximately $20 million fielding bandages and plan to spend approximately $28 million on bandages this year.

We are continuing to provide and upgrade the protection for our Soldiers while conducting their missions by way of armoring the vehicles they ride in. Over 78 percent of the theater's demands for the up-armored HMMWV (UAH) and Armored Security Vehicle (ASV) have been filled. Use of unarmored vehicles is strictly limited to secure forward operating bases. We project being able to fulfill armor requirements for UAHs in theater with third quarter FY2007 production; vehicles will arrive in theater by fourth quarter FY2007. We expect to fulfill theater demand for the ASV with fourth quarter FY2007 production; vehicles will arrive in theater by first quarter FY2008.

Ongoing and future armoring programs for the UAH include the production and installation of fragmentation protection kits, each of which provide increased survivability. Production of fragmentation kit #1 was completed in fourth quarter FY2006 and fragmentation kit #2 was completed in first quarter FY2007. As of the end of first quarter FY2007, we had installed over 80% of the theater's demands for fragmentation kits #1 and #2. We are in the process of fielding fragmentation kit #5, which provides increased survivability through enhanced armor protection. Fragmentation kit #5 was produced in support of an Operational Needs Statement (ONS) from the theater. Production of interim fragmentation kit #5 was completed in fourth quarter FY2006, and we have installed over 87% of the theater's demands. We are in the process of producing and installing the objective fragmentation kit #5. We are also in the process of producing and installing the Objective Gunner's Protection Kit (O-GPK), which is an upgrade to the current GPK and includes transparent armor for enhanced situational awareness while providing protection for the Soldier.

To further enhance the protection of Soldiers inside the UAH, numerous safety improvements have been made to improve crew survivability from vehicle accidents and roll-overs. The enhancements range from improved seat belts, gunner's restraints, vehicle intercom systems, and a vehicle fire suppression system designed to mitigate the after effects of an IED attack. Production of over 71,000 safety enhancement kits is complete and all requirements are met, minus the fire suppression system. The fire suppression system is scheduled to be completed by first quarter FY2008. Similar fire suppression systems and gunner's restraint systems are designed for the heavy tactical vehicle fleet. The Army is also expanding its use of uniforms made of flame retardant material. The Army has shipped 71,000 fire resistant uniforms to theater so that Soldiers riding in convoys have additional protection against the possibility of sustaining burn injuries. The Army has plans to ship an additional 93,000 by third quarter FY2007 in order to fulfill theater demand.

Table 3 lists the current status of our route clearance platforms. These vehicles have proven to be highly effective. Their modular design helps us to quickly repair and return these vehicles to operation following battle damage. These vehicles were designed specifically for an environment where mines and improvised explosive devices would be deployed. The unique V-shaped hulls, high stand-off and armor body provide for excellent protection. As the threat has grown, the Army has responded by

increasing the force protection levels through the use of spall liners, bar/slat armor, and improved gunner protection kits. In FY2006, the Army received $200M to purchase 153 route clearance vehicles. In FY2007, the base budget and bridge supplemental provided $223M for additional route clearance vehicles, which will add 174 vehicles toward meeting theater demands.

TABLE 3

SYSTEMS	TOTAL REQUIRED	QTY FUNDED	PRODUCTION COMPLETION DATE	TOTAL PRODUCED
BUFFALO	85	85	MAY 07	66
HUSKY	79	79	JUN 07	62
RG-31	321	321	JUN 07	146
COUGAR	125	125	NOV 06	121

In the area of command and control and especially tactical communications, the Army is making great strides. The Army began fielding the Land Mobile Radio (LMR) in second quarter FY2007. Over the next 18 months, we will field 58,000 radios to individual soldiers. The LMR provides a secure, lightweight solution to improve increased intra-squad communications for the dismounted Soldier. The Single Channel Ground and Airborne Radio System (SINCGARS), is our critical secured, tactical FM radio. In FY2006, we fielded 50,000 radios, allowing us to provide the required communication capabilities for convoy support. Also, as our industrial base continue its strong support. Reserve Component forces are receiving radios to fill their shortages so that they can better support Homeland Defense missions and assist with natural disasters. In FY2006, we fielded 20,000 radios to the Guard and Reserve. Finally, the Army continues to rapidly expand fielding of the mission critical Joint Network Node, which provides a suite of voice, video, and data communication tools designed to meet Division, Brigade and Battalion Command Post structures. To date the Army has fielded Joint Network Node (JNN) equipment to seven divisions, two Stryker Brigades, one Expeditionary Signal Battalion (ESB), and five ARNG Brigade Combat Teams. Through FY2008, the Army plans to field additional JNN equipment to two divisions, three ARNG Brigade Combat Teams, one Stryker Brigade Combat Team, two Combat Aviation Brigades, six ESBs, and four fires brigades. By the end of FY2008, JNN will be fielded to approximately 50 percent of the total force.

The integration of multiple layers of protection has resulted in fielding enhanced equipment to provide the best protection for the Soldier and meet the Combat Commander's requirements. Our goal is to provide equipment to Soldiers as soon as possible prior to deployment. In the past, equipment was issued to soldiers as they went to the staging base in Kuwait, just before they took part in one last training exercise. Our current ability to provide equipment 45 days before a unit conducts a Mobilization Rehearsal Exercise is a tribute to the success of funding and providing the quantities of equipment needed for the force. We would like to continue to increase the available time that Soldiers have to train with this equipment to enhance their proficiency in developing and refining the TTPs that will enhance their survivability and protect Soldiers' lives on the battlefield.

All Soldiers in Brigade Combat Teams and Military Transition Teams deploy with the most modern equipment available in the Army inventory. Through the success of the Rapid Fielding Initiative (RFI) program, every Soldier in theater is equipped with individual force protection equipment. Through the success of the Rapid Equipping Force (REF), we have been able to take advantage of Commercial off the Shelf (COTS) capabilities in acquiring components for programs such as the Joint Network Node (JNN) and armored vehicle solutions. We still confront some force protection risks related to the armoring of our tactical wheeled vehicles. We are taking several actions to mitigate these risks, to include our recent partnering with industry to expedite the development of new solutions. When necessary, we cross-level equipment between deploying units and those returning to or at home station. We collaborate with all commands, the Army Guard, and the Army Reserve through the Army Equipping and Reuse Conference to ensure that each unit entering theater has the best equipment available and that those who respond to homeland defense and security missions have the equipment necessary to complete their missions.

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 must now equip all units, Active and Reserve Component, with night vision goggles, crew served weapons, radios, and other critical items to survive on

today's asymmetric battlefield. We have also instituted a process to use all available equipment in the Army inventory, whether new or used, to fill formations for all components of the total force. As a result of the Army Equipping and Reuse Conference (AERC) 6.0 in first quarter FY2007, we accomplished the distribution of $38.8 billion of equipment to Active and Reserve Component formations over FY2007, FY2008, and first quarter FY2009 (compared to $22 billion in AERC 5.0). This includes $10.6 billion of equipment for the Army National Guard and $2.5 billion of equipment for the Army Reserve. We delivered equipment earlier than 45 days prior to final mission rehearsal exercises for 85% of our managed items, and we are approaching our goal of delivering equipment earlier than 90 days prior to final mission rehearsal exercises.

As we continue to fulfill the challenging missions given the Army, we are dependent on your continued support. While we are growing the Army in this time of war, ramping up production to accommodate the growth of the total Army will be a major effort. Further, given the Reserve Components' new role as an operational rather than strategic force, we confront even more challenges by increasing the demand for equipment and resources.

As we look to fiscal year 2008 and beyond, we must fully resource the Army to grow while it modernizes and transforms to meet the challenges of the future. Our need for continued Congressional support is vital. Soldier survivability has increased substantially 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, enacted early with distribution of both main and supplemental funding within 30 days of the start of the fiscal year, 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. Finally, continued support from American industry will enable us to rapidly develop and field new equipping solutions.

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SUBCOMMITTEE ON
AIR AND LAND FORCES**

TESTIMONY OF

DR. ROBERT L. BUHRKUHL

DIRECTOR, JOINT RAPID ACQUISITION CELL

OFFICE OF UNDER SECRETARY OF DEFENSE

(ACQUISTION, TECHNOLOGY& LOGISTICS)

BEFORE THE UNITED STATES HOUSE

ARMED SERVICES SUBCOMMITTEE ON

AIR AND LAND FORCES

January 18, 2007

**FOR OFFICIAL USE ONLY
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Chairman Abercrombie, Congressman Saxton, and Members of the Subcommittee:

Thank you for the opportunity to appear before your Subcommittee today to discuss the concerns expressed over delaying integration of the Israeli Active Protection System (APS), named Trophy, onto the Full Spectrum Effects Platform, commonly called "FSEP".

As the Director of the Department's Joint Rapid Acquisition Cell, I am responsible for facilitating the Department's response to immediate warfighting needs submitted to the Department from the Combatant Commanders that are not Improvised Explosive Defeat requirements. I believe you are aware, that improvised explosive defeat initiatives are the responsibility of the Joint IED Defeat Organization.

This committee and the Congress have supported the Department's efforts to respond rapidly to the unforeseen needs of our forces that are engaged in the Global War on Terror. The FSEP is an example of how the Department expedites new and evolving capabilities that can provide our warfighters with safe and effective systems while serving as a good steward of the taxpayers' dollars. The Department is able to speed these new capabilities to the warfighter as a result of the flexibility and cooperation provided to the Department by the Congress. The Under Secretary of Defense (Acquisition, Technology, and Logistics) (USD(AT&L)) provides oversight of major weapons acquisitions and not components or subsystems that may be part of those systems.

I will discuss the Joint Rapid Acquisition Cell's mission and involvement in the decision to delay integrating Trophy on the FSEP, and provide the rationale for that decision. Also, I intend to address the other issues of concern to the Subcommittee.

Role and Oversight in Fulfilling Requirements

The Deputy Secretary of Defense created the Joint Rapid Acquisition Cell in September 2004 to help overcome the institutional barriers that inhibit timely and effective responses to immediate Warfighter needs. I have been the Director of the Joint Rapid Acquisition Cell since its inception. As the Director, I am responsible to the Secretary and the Deputy Secretary of Defense for accomplishing the Joint Rapid Acquisition Cell's mission. I work through the Under Secretary of Defense for Acquisition, Technology and Logistics and the Under Secretary of Defense, Comptroller, to respond to the immediate warfighter needs that have been validated by the office of the Chairman of the Joint Chiefs of Staff.

The Joint Rapid Acquisition Cell provides a single point of contact in the Department for facilitating solutions to these Immediate Warfighter Needs. We focus on near-term, materiel solutions, typically involving existing, off-the-shelf, capabilities that can satisfy, to some degree, the urgent need of the Combatant Commander.

On April 19, 2005, the United States Central Command's Chief of Staff sent the Joint Staff's Deputy Director for Resources and Acquisition an urgent operational need statement for a capability that included a suite of scalable non-lethal weapons combined with a set of lethal weapons mounted onto an existing military vehicle, such as the Stryker. The suite of weapons, non-lethal and lethal, would enable the warfighters' use of a full spectrum of components in conducting force protection missions, route reconnaissance, crowd control, raids, and point defense – all in the effort to save lives and reduce collateral damage.

The Central Command believed that the requested weapon system, the Full-Spectrum Effects Platform, represented a combination of near-term technologies, which were critical to success in the counter-insurgency battle and recommended it be evaluated as a potential solution.

In fact, at the time of the Central Command's request, FSEP was a concept. That concept included a component for a fully automated, active protection system against rocket propelled grenades and anti-tank missiles. This component subsystem for FSEP was the *Trophy* Active Protection System, and was to be used on the candidate Stryker vehicles in lieu of the slat armor, or the reactive tile armor subsystem. Slat armor forms a metal cage around the vehicle, and detonates rocket propelled grenades before they can penetrate the vehicle. In a similar manner, the reactive armor tiles defeat the threat through deflection and/or attenuation of the penetrating mechanism.

Besides the *Trophy* Active Protection System, the suite of lethal and non-lethal components included the Gun Slinger counter-sniper and enemy Fire Detection System; a Mobile Multi-Band Jammer to Counter IEDs; an Active Denial Technology using millimeter wave technology; a Long Range Acoustic Device; and a Laser Dazzler. These components represented a range of potential capabilities with different technology readiness levels, insofar as being integrated onto a single platform for the operational concept intended by the warfighter.

On April 28, 2005, after evaluating the Central Command's request, the Joint Staff's Deputy Director for Resources and Acquisition supported the Central Command's need, but stated that the proposed FSEP solution, with all its subcomponent systems, was "unachievable in the near-term," which is a prerequisite for taking action to resolve an Immediate Warfighter Need. The time frame for defining "near-term" is flexible, and can extend up to two years in order to deliver some capability to the warfighter to satisfy, or mitigate, an immediate need. However, the near-term time period does not include weapon systems development.

Subsequently, the Office of Force Transformation, working with the Army officials and Naval Surface Warfare Center engineers at Dahlgren, Virginia, planned a more thorough and accelerated schedule for integrating subsystems onto and developing the FSEP vehicle.

Representatives from the Office of Force Transformation presented their accelerated schedule to the JRAC on September 19, 2005.

Their plan included an aggressive effort for testing, evaluation, and spiral development, which would lead to deployment of some capability to the warfighter in 2007. The JRAC accepted the aggressive schedule after review with the Office of Force Transformation and after discussion with Army Force Developers.

Based on the JRAC's recommendation, in January 2006, the Deputy Secretary of Defense approved the use of $31.3 million for the Army to proceed with Spiral 1 Development of FSEP. The Army received funding in February 2006. In May 2006, however; the Army Program Manager identified potential delays in delivering Spiral 1 capabilities. The Active Denial Technology Subsystem and the Active Protection Subsystem, *Trophy,* displayed technical development and performance risks which ultimately led to the decision to delay the integration of these capabilities onto the FSEP Spiral I Strykers.

Since the focus of this Subcommittee is primarily on the Active Protection subsystem, the remainder of my remarks will focus on it.

System Operation

The Army program manager, working with the Army Test and Evaluation Command, highlighted the risks to Spiral 1 objectives should the *Trophy* Active Protection subsystem be a component of the overall suite of capabilities. Issues included technical immaturity of major subsystem components, such as the autoloader, and the risk of collateral hazards from *Trophy* to friendly forces and noncombatants in an area where it might be used.

The *Trophy* auto-loader, a key component for quickly engaging multiple rocket-propelled grenades, had not then been built and was not forecasted to be available until May 2007, too late for the planned integration and testing prior to operational demonstrations and use.

Retaining *Trophy* as a component of Spiral 1 would add, at a minimum, an additional six to fourteen months to the schedule, thereby delaying other useful *FSEP* capabilities for the warfighter. A simple, readily available interim solution was to equip the Spiral 1 FSEPs with slat armor protection, which is currently in use and extremely successful in protecting Strykers and our service members against rocket-propelled grenades.

Organizational Recommendations

During my deliberations, I consulted with numerous stakeholders that included the Joint Staff's Deputy Director for Resources and Acquisition; the Commander, Army Test and Evaluation Command; the Deputy Director of Land and Expeditionary Warfare from the Office of the Director for Operational Test and Evaluation; and the Director of Capabilities Developments from the US Army Capabilities Integration Center; representatives from the Naval Surface Warfare Center, Dahlgren and Office of Force Transformation who advised me on their perspectives of the availability and readiness of the Active Protection Subsystem. The preponderance of stakeholders advised me that the Active Protection Subsystem would slip significantly due to its technological immaturity and qualification testing requirements.

I presented the available facts to the CENTCOM Chief of Staff, and asked that the requested capability be revalidated. In doing this, I specifically raised the issues about the potential cost and schedule impacts of the Active Protection Subsystem on the *FSEP*.

On May 16, 2006, Central Command responded that proceeding with Spiral 1 with readily available capabilities was preferred, and that the Active Protection capability could be integrated as it became mature in a later spiral of FSEP development, if it proved successful.

Based upon these consultations, I validated the Army program manager's decision to integrate the Active Protection capability in subsequent development. This action allows the Department to demonstrate the FSEP Spiral 1 capability in response to the warfighter's

immediate need. The FSEP Spiral 1 vehicles will have significant non-lethal capabilities, within a rapid time frame, and with balanced cost, schedule and technical performance risks.

Office of Force Transformation

The Office of Force Transformation (OFT) was initially the lead for the FSEP effort and facilitated Dahlgren's basic research in its Spiral 0 development. The DepSecDef's January 13, 2006 memo provided $31.3 million in funding to the Army for FSEP Spiral 1 development and the Army has since been responsible for program management. OFT was realigned in December 2006 to the Rapid Reaction Technology Office, reporting to the Director, Defense Research and Engineering, within the Office of the Under Secretary for Acquisition, Technology and Logistics.

Current and Future APS Development Programs

Section 234 of the John Warner National Defense Authorization Act for Fiscal Year 2007, Title II, Research, Development, Test and Evaluation directed that the Secretary of Defense should contract with an entity independent of the United States Government to conduct an assessment of various foreign and domestic technological approaches to vehicle-based active protection systems and required a report to the Secretary and congressional defense committees, not later than 180 days after enactment of the act. The Department has contracted with the Institute for Defense Analyses to conduct a reasoned assessment of vehicle-based active protection systems, Worldwide and they expect to report to the Secretary of Defense by April of this year.

The Rapid Reaction Technology Office is also testing the Trophy APS as part of the Wolf Pack Platoon Project. Additionally, the Defense Advanced Research and Programs Agency is developing potential systems and the Foreign Comparative Test Office is monitoring active protection systems.

The Future Combat System APS

Although not directly related to the FSEP discussion, the Army and Marine Corps acquired their active protection subsystem as a component of a larger acquisition program. The Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics did not have oversight of the particular subsystem acquisition; however, the Defense Contract Management Command did provide the Active Protection System Source Selection Committee with past performance evaluations on bidders, which is their normal responsibility. I am not aware of any other involvement that AT&L had in the April 2006 contract awarded to Raytheon.

Conclusion

In closing, Mr. Chairman, there was much thought, consultation and thorough consideration of alternatives that went into the decision to delay fielding of the FSEP APS. The acquisition community is committed to the safety of our warfighters and ensuring they are provided with the best protection and weapon systems available. Thank you for the opportunity to testify before the Subcommittee. I will be happy to answer any questions that you or Members of the Subcommittee might have.

Prepared Statement
Hon. Philip E. Coyle, III
Appearing before the House Committee on Armed Services
Air and Land Subcommittee
Thursday, January 18, 2007

Mr. Chairman and Members of the Committee, I currently am employed as a Senior Advisor to the non-profit Center for Defense Information, a division of the World Security Institute, a Washington, D.C.-based national security study center. To help insure our independence, the World Security Institute and the Center for Defense information do not accept any funding from the Federal government, nor from any defense contractors.

From 1994 to 2001 I served in the Pentagon as Assistant Secretary of Defense and Director, Operational Test and Evaluation. In this capacity, I was principal advisor to the Secretary of Defense and the Undersecretary of Defense for Acquisition, Technology and Logistics on test and evaluation in the DOD. I had OSD OT&E responsibility for over 200 major defense acquisition systems.

From 1959 to 1979, and again from 1981 to 1993, I worked at the Lawrence Livermore National Laboratory. Over those 33 years I worked on a variety of high technology programs, and retired from the Laboratory in 1993 as Laboratory Associate Director and deputy to the Director. During the Carter administration I served as Principal Deputy Assistant Secretary for Defense Programs in the Department of Energy.

In my current capacity at the Center for Defense Information I am called upon to provide independent expertise to the media on various defense matters. I have over 30 years of test and test-related experience involving U.S. defense systems and equipment. Knowing my background, NBC asked me to review DOD and Army documents that NBC had acquired. NBC also knew that in the course of my six and a half years at the Pentagon I would be familiar with all sorts of briefing documents and correspondence, perhaps not unlike those that NBC had acquired.

However, with respect to the NBC documents - which by the way are on their web site -, while I have indeed seen many DOD and Service briefing documents and other correspondence, related to the development of U.S. military systems, I have never before seen documents which purported to threaten members of the DOD Test and Evaluation community, nor officials in OSD, for doing their job, as the NBC documents show. Also, I had never before seen documents that sought to delay or avoid a proposed military system in the face of positive test and evaluation results.

NBC aired four programs on the Trophy-Raytheon controversy, and I appeared briefly in two of those programs.

On September 6, 2006, with respect to the make-up of a technical review panel assembled to evaluate competing RPG defense systems, I said, "That sure doesn't look

like an objective panel to me. It just doesn't pass the ho-ho test when you have that many people from one company (Raytheon) on the selection panel and then that company is chosen."

I stand by that comment.

On January 10, 2007, in another NBC program on the Trophy-Raytheon controversy, I was asked why the U.S. Army would refuse to allow Trophy to be tested on an Army Stryker vehicle, forcing the Pentagon to borrow a Stryker from Israel and fly it to Virginia at a cost to taxpayers of around $300,000. I said, "What it says to me is that the Army doesn't want to get results that would show that trophy was the best system, and all that does is hurt the very soldiers that need these new types of protection."

Later, in the same NBC program, I also said, "The whole idea is to get, you know, new equipment that can really make a difference to U.S. soldiers and to Marines in Iraq, so I just don't understand the reluctance."

Mr. Chairman I stand by those remarks also, and this concludes my prepared statement.

I would be pleased to take any questions you might have.

DOCUMENTS SUBMITTED FOR THE RECORD

JANUARY 18, 2007

Analysis Of Alternatives Data

	Operational Concept/Technology	Procurement Cost/side	Integration cost	Schedule	Safety and Testing	Weight	Size	Power Requirements	Cooling requirements	System Performance	Availability of models and Tech data/ICD	Raw Score	Weighted Score
Trophy	[illegible]	6	[illegible]	6	6	[illegible]	6	3	[illegible]	3	6	72	195
CIAPS	6	[illegible]	3	0	6	[illegible]	3	[illegible]	6	3	6	60	141
CLADS	3	[illegible]	[illegible]	[illegible]	3	[illegible]	3	[illegible]	6	3	6	69	189
TRAPS	0	[illegible]	[illegible]	[illegible]	3	[illegible]	6	[illegible]	[illegible]	3	3	69	189
FCLAS	3	[illegible]	[illegible]	6	3	[illegible]	6	[illegible]	3	3	6	66	180
CICM	6	[illegible]	6	6	3	[illegible]	3	[illegible]	6	3	6	66	174
SLAT	3	[illegible]	[illegible]	[illegible]	[illegible]	6	3	[illegible]	[illegible]	[illegible]	6	81	213
Weighting	3	4	4	4	1	2	3	1	2	3	2		

QUESTIONS AND ANSWERS SUBMITTED FOR THE RECORD

JANUARY 18, 2007

QUESTIONS SUBMITTED BY MR. ABERCROMBIE

Mr. ABERCROMBIE. Will the increase of five additional brigade combat teams impact the current theater requirements for vehicles and vehicle armor?

General SPEAKES and General SORENSON. Yes. The increase in deployed forces will increase the Total Theater requirement for vehicles and vehicle Armor. Anticipating the increased theater requirements, the Army validated an initial surge requirement of Up-Armored HMMWVs, Fragmentation Kits, Objective Gunner Protection Kits and other Safety Enhancements to support soldiers operating in light tactical vehicles. At the same time, the Army validated an initial surge requirement for Add on Armor kits, Gunner Restraints, Generation 3 Appliqué and other safety enhancements for the medium and heavy tactical wheeled vehicle fleets. These actions were taken with the knowledge that Theater was working to determine the final numeric requirement but, in the interim, the Army could begin producing additional vehicles and armor to "jumpstart" getting to these new requirements.

Mr. ABERCROMBIE. What quantity requirement was stated in the MRAP joint urgent operational needs statement? Has the quantity been validated? Will it be validated?

General SPEAKES and General SORENSON. The total JUONS requirement is 1,185 and includes a requirement for 335 MRAP vehicles for the Army. On January 18, 2007, however, the Army Requirements and Resourcing Board (AR2B) validated the Operational Needs Statement (ONS) 07–1115 for 2,500 additional MRAP vehicles. The Army intends to re-evaluate the MRAP requirements and procurement objectives after the completion of testing and evaluation of MRAP vehicles.

Mr. ABERCROMBIE. How do you plan to resource the Army's MRAP requirement? When do you expect to receive these funds?

General SPEAKES and General SORENSON. The current Army MRAP requirement of up to 2,500 vehicles is based on recent Joint Urgent Operational Needs Statements and an Army Operational Needs Statement. The MRAP is a Theater-unique requirement that fills a specific capability niche by providing our Warfighters with an increased force protection capability now through Commercial Off-The-Shelf (COTS) procurements. The program is currently managed as an Acquisition Category II (ACAT II) with resourcing dependent upon Supplemental funding, but given the Joint quantities and cost projected for the MRAP it is likely to become an ACAT ID program of record with resourcing required in the Base Budget.

Current Army funding for MRAP consists of initial start-up funding of $90 million (M) as a cash flow from the High Mobility Multi-purpose Wheeled Vehicle (HMMWV) program until receipt of the $520 million requested in the Fiscal Year 2007 Main Supplemental. Upon receipt of the Fiscal Year 2007 Main Supplemental, the Army intends to pay back the $90 million reprogrammed from the HMMWV program, with the remainder of the $430 million going to MRAP. To procure all 2,500 MRAP vehicles will require an additional $2.249 billion, which is currently unfunded.

Mr. ABERCROMBIE. What do you see as the biggest challenge in quickly fielding the MRAP vehicle?

General SPEAKES and General SORENSON. The two biggest challenges that we face in quickly fielding the MRAP vehicle are the timely receipt of funding and potential designation of the MRAP program as a major defense acquisition program (MDAP). First, the Army requires $2.796 billion to procure, integrate, field, and sustain 2,500 MRAP vehicles. The Army has requested $520 million in the FY07 Main Supplemental and requires an additional $2.249 billion to procure the 2,500 MRAP vehicles. Second, due to the size of the joint requirements for MRAP vehicles, MRAP program may soon be designated as an Acquisition Category (ACAT) 1D, MDAP. The MDAP designation may result in additional procurement, testing and evaluation, and fielding schedule required by statutory and regulatory requirements. This in turn may result in extended procurement and fielding schedules.

Mr. ABERCROMBIE. The Marine Corps is procuring a new outer tactical vest that provides better weight distribution as well as providing a quick release function for easy access in emergency medical situations. Is the Army going to procure the same vest? If not, why?

General SPEAKES and General SORENSON. The Army does not intend to procure the Marine Corps Outer Tactical Vest (MTV). The USMC MTV is essentially a reconfiguration of the Cordura carrier for the Outer Tactical Vest. The MTV reuses the existing Interceptor Body Armor (IBA) soft Kevlar inserts and hard Enhanced Small Arms Protective Inserts (ESAPI) plates and provides no additional ballistic protection over the Army's current body armor. Although the USMC and US Army requirements for body armor load carriage, ballistic protection, emergency cut away, weight distribution, and medical access are similar; the Army is interested in accommodating these features at reduced weight to minimize the increasing heat, weight, and agility penalties associated with body armor.

Mr. ABERCROMBIE. What is the status of the body armor industrial base? How many vendors are you currently using to produce vests and plates? Do you feel this is adequate and do you plan to expand the existing industrial base?

General SPEAKES and General SORENSON. The body armor industrial base has consistently met Army requirements for body armor, to include surge requirements. Currently, the Army has 6 vendors under contract to produce Enhanced Small Arms Protective Inserts (ESAPI) and 1 vendor that produces the Outer Tactical Vest (OTV). There is no plan to increase the body armor industrial base, since industry is meeting current and projected Army requirements.

Mr. ABERCROMBIE. Are there any material constraints that would be generated by a sudden surge in requirements?

General SPEAKES and General SORENSON. There are no material constraints.

Mr. ABERCROMBIE. Have you evaluated Pinnacle Dragonskin body armor? How does it compare to the existing body armor?

General SPEAKES and General SORENSON. Yes, the Army evaluated Pinnacle Dragonskin body armor. The test results showed that Dragonskin did not meet the ballistic requirements to protect Soldiers in combat.

Mr. ABERCROMBIE. How often do you test and evaluate new body armor solutions?

General SPEAKES and General SORENSON. The Army continuously evaluates new body armor solutions. In March 2006 the Army hosted an Industry Day for vendors to present new concepts for the Next Generation Body Armor. In August 2006, six vendors from Industry Day presentations were chosen to participate in a Soldier Protection Demonstration, hosted by the United States Army Infantry Center. Concepts from this Soldier Protection Demonstration will be used in a re-design of the Outer Tactical Vest to provide a quick release and other enhancements. The next Soldier Protection Demonstration is scheduled in May 2007 to continue to evaluate individual Soldier protection items.

Mr. ABERCROMBIE. With respect to the Army's Advanced Combat Helmet (ACH) internal pad suspension system. How many vendors are presently qualified to provide kits? How many vendors are currently under contract by the National Institute of the Blind (NIB) to provide pad kits?

General SPEAKES and General SORENSON. Currently, one vendor meets the Army's new ACH blunt force trauma pad specification.

Mr. ABERCROMBIE. What has feedback been from theater regarding the particular pad kits currently being fielded as part of the ACH?

General SPEAKES and General SORENSON. Soldier feedback from Theater is positive regarding the ACH pad system. The Army has been fielding the pad system with the ACH since 2002.

Mr. ABERCROMBIE. Did the Army change the performance specification for ACH non-ballistic impact protection?

General SPEAKES and General SORENSON. Yes, the Army changed the performance specification for ACH non-ballistic impact protection. In June 2006 the House Armed Services Committee directed OSD to evaluate pad systems for the Army ACH and Marine Corps Light Weight Helmet (LWH). The results of the testing showed that improved non-ballistic impact protection can be provided with a new helmet pad specification. The Army is currently producing and fielding the new helmet pad specification to Soldiers in Theater.

Mr. ABERCROMBIE. How are vehicle armor protection levels classified in theater? By installation or performance? Does the Army plan to change or modify current vehicle armor protection definitions/classifications? What's the status of this initiative?

General SPEAKES and General SORENSON. Current armor protection levels are classified by location of installation; however, current efforts make this obsolete. Kits previously identified as Level II are not being produced and installed during production, but installed in Theater like the Family of Medium Tactical Vehicles Low Signature Armored Cabs. The Joint staff is sponsoring an effort to re-look current classifications and determine armor classification for the future.

Mr. ABERCROMBIE. Is the industrial base posed to meet any new additional vehicle armor requirements such as armor kits for trucks? Presently all truck armor kit production lines are closed.

General SPEAKES and General SORENSON. The U.S. Army has been meeting the Theater commander's requirements and we have provided over 14,000 Up-Armored HMMWVs and 23,000 Add-on-Armor (AoA) kits in support of the Global War on Terror (GWOT) and we are postured to support current requirements. The U.S. Army's heavy and medium armor kit production requirements were met in September 2005. However, many of the lines supporting heavy and medium kit production have been completely shut down and only spare parts are in production. The U.S. Army is currently working with original equipment manufacturers to support emerging requirements.

Mr. ABERCROMBIE. If more armor kits are produced for the medium to heavier trucks, will these kits be upgraded based on lessons learned and/or based on recent threat assessment? Meaning is there a plan to apply lED Fragmentation Kits similar to those being installed on the Up-Armor Humvee to the medium and heavy truck fleets?

General SPEAKES and General SORENSON. Yes. Medium and heavy trucks will be upgraded to a "Frag Kit #5—like" level of protection by applying an opaque armor appliqué.

Mr. ABERCROMBIE. Why not provide interim armored doors (frag kit #5) for all up-armored Humvees including the M1114 and M1151?

General SPEAKES and General SORENSON. The purpose of the interim kit for the M1114 was to provide an "objective like" capability and act as bridge until the Objective kit was designed, tested, produced, and fielded. The U.S. Army produced over 6,000 interim kits for the M1114. The M1114 Objective Frag Kit #5 retrofit kit requirement is greater than 13,000 kits while the M1151 Objective Frag Kit #5 retrofit kit requirement is less than 3,000 kits (vehicles produced and fielded prior to Frag Kit #5). There are no plans for an interim Frag Kit #5 for the M1151 for the following reasons: (1) the M1151 Objective Frag Kit #5 retrofit kit production is currently on schedule and will be completed in April 2007; (2) the M1151 Objective Frag Kit #5 production capacity has exceeded the initial installation capacity for the vehicles in Theater; (3) unlike the M1114, the M1151 vehicles in production and are produced with Frag Kit #5 and then shipped to Theater; and (4) in addition, M1151 retrofit kits are produced and shipped to Theater to be installed on the vehicles fielded without the Objective kit. This simultaneous production of vehicles with Frag Kit #5 and the retrofit kits is an enormous advantage over the M1114, which was almost 100% retrofit kits.

Mr. ABERCROMBIE. How many vendors are producing frag kit #5 and do we own the technology rights for these kits? Could we outsource or use the depots and arsenals to ramp up production?

General SPEAKES and General SORENSON. Two vendors produce Frag Kit #5 (AM General produces M1151 Frag Kit #5 and Armor Holdings produces the M1114 Frag Kit #5). The government does not own the technical data package. The U.S. Army's new vehicle productions for M1151 with Frag Kit #5 are being met without outsourcing to depots or arsenals.

Mr. ABERCROMBIE. How many installation facilities will be used for frag kit #5?

General SPEAKES and General SORENSON. There are 18 installation facilities in the Theater that are used to install Frag Kit #5 (two sites in Kuwait, 15 sites in Iraq, and one site in Afghanistan). Additionally, AM General installs Frag Kit #5 on new M1151 vehicle production at its facility.

Mr. ABERCROMBIE. In what type roles and missions does the Army currently use the Cougar or Joint LOD Rapid Response Vehicle (JERRV)? Has the Army considered using this vehicle in different capacities?

General SPEAKES and General SORENSON. Cougar is the Original Equipment Manufacturers (OEM) model name for a class of vehicle. The Joint Explosive Ordnance Disposal Rapid Response Vehicle (JERRV) is the Government's nomenclature for the vehicle, which also describes its intended mission. The Cougar/JERRVs that have been purchased and deployed within the Army units are used by Explosive Ordnance Disposal (EOD) teams to provide armored protection for the crew and their equipment while they are performing EOD operations.

Other configurations of the Cougar have been and are being considered and evaluated by the Army for potential use in other than EOD operations. Additionally, the Cougar is a candidate for the Army in the Mine Resistant Ambush Protection (MRAP) program.

The Army anticipates that in Fiscal Year (FY) 2007, the Army will be initiating a Program of Record for the Medium Mine Protected Vehicle (MMPV). The MMPV Capabilities Production Document (CPD) outlines two missions for this vehicle. One

is the EOD mission and the other is for a command and control and security vehicle for the Engineer Clearance Companies. This effort will be competed on a full and open competitive basis and we anticipate that Cougar will be proposed as a potential candidate vehicle.

Mr. ABERCROMBIE. Is the Army pursuing an armor upgrade program for underbody protection for the Up-Armor Humvee?

General SPEAKES and General SORENSON. The U.S. Army developed and evaluated a "V-shaped" integrated underbody solution for upgrading the UAH against underbody threats. This solution combined Frag Kit #3 and Frag Kit #4 elements. Test results are classified, but the test confirmed that V-shape underbody solution will not provide sufficient underbody upgrade against Theater threats. Additionally, the Tank-Automotive Research, Development, and Engineering Command (TARDEC) has been directed by the Vice Chief of Staff, Army (VCSA) to determine if the M1114 UAH could be improved in terms of vehicle performance (including suspension system), protection (underbody) and/or payload. TARDEC intends to engage industry experts with demonstrated skill in innovative design, advanced automotive engineering, prototyping and manufacturing expertise in tactical vehicles. These experts will work with TARDEC to develop solutions that can rapidly improve any combination of protection, payload, or performance aspects of the UAH.

Mr. ABERCROMBIE. I understand the Army's intention is to basically replace all Humvees that have an armor survivability kit with an Up-Armor Humvee. What are you planning to do with these now excess Humvees with armor survivability kits?

General SPEAKES and General SORENSON. All Level II armored HMMWVs are being retrograded to the Continental United States for reset or recapitalization and redistribution to fill current Army shortages. The oldest models are being upgraded to increase capability through the recapitalization program, while the newer models are being reset to "zero hours-zero miles" standards. These vehicles will continue to be used in the force for the next 20-30 years.

Mr. ABERCROMBIE. Are there any contract disputes regarding the Up-Armor Humvee (UAH)? Is this impacting production?

General SPEAKES and General SORENSON. There are no contract disputes involving U.S. Army's UAH efforts.

Mr. ABERCROMBIE. Dr. Buhrkuhl, is there an existing Iraq theater validated requirement of any type for an active protection system? If so, what is the disposition of satisfying the requirement—what APS development and testing is on-going other than within the Future Combat Systems program to satisfy the requirement?

Dr. BUHRKUHL. Central Command (CENTCOM) submitted a Joint Urgent Operational Need (JUON) that requested a variety of non-lethal capabilities. On May 16, 2006, CENTCOM accepted the JRAC's recommendation to move forward with the planned deployment of the Full Spectrum Effects Platform (FSEP) with its current lethal and non-lethal capabilities. They agreed that the Active Protection capability could be integrated as it became mature in a later spiral of FSEP development, if it proved successful. SLAT armor would be used to protect these initial vehicles against rocket-propelled grenades.

Since 2003, DARPA and the Army have been working on systems that could be used on lighter vehicles. The objectives were:

1) No collateral damage aside from that caused by the threat itself;
2) Residual penetration which could be handled by the light armor appliqués used for tactical vehicles in service today;
3) Light weight; and
4) Low cost.

These systems and components are under test today and promise capability against RPGs and even heavy Anti-Tank Guided Missiles (ATGMs). They do not have a growth path to be able to counter standoff kinetic weapons such as gun fired tank rounds, and as such are not replacements for the Quick Kill system under development for Future Combat System.

The Navy/Marine Corps are evaluating Army assessments of Active Protection Systems and will continue to monitor advances in this capability and evaluate its utility for future use by Naval Forces on its vehicles. The Air Force has not yet identified this as a requirement for Air Force vehicles.

The Rapid Reaction Technology Office of the Director, Defense Research and Engineering (DDR&E) within the Under Secretary of Defense for Acquisition, Technology and Logistics (USD(AT&L)) is sponsoring the Wolf Pack Platoon Project. Testing on this program builds on earlier tests that also validate extensive Israeli testing and U.S. industry evaluation.

Under the current schedule and budget, Trophy APS and its auto-loader will undergo limited technical tests and war games from August to December 2007. Follow-on experiments with operational units are planned from January to August 2008. The tests will be to urgent material release standard. This testing will inform the development, tactics, policies, procurement and acquisition of any candidate APS at relatively low cost and risk. This parallel path is designed to accelerate and inform the acquisition program.

Testing Trophy's safety, sustainability, and suitability is an essential precondition to any fielding decision. Finally, the Department will fully support and consider the findings of the independent review of the Institute for Defense Analysis mandated by the John Warner National Defense Authorization Act for Fiscal Year 2007.

Mr. ABERCROMBIE. Why was the Trophy system removed from the Full Spectrum Effects Platform (FSEP) as one of the systems to be evaluated in field testing in Iraq?

Dr. BUHRKUHL. The Trophy system displayed technical development and performance risks which ultimately led to the decision to delay the integration and testing of these capabilities onto the FSEP.

Mr. ABERCROMBIE. NBC news recently indicated that there are officials in the Office of the Secretary of Defense who believe that the Trophy Active Protection System can save lives. Can you describe the decision process that led to removal of Trophy from the Full Spectrum Effects Platform (FSEP) and any objections that you are aware of from other OSD officials?

Dr. BUHRKUHL. On April 28, 2005, after evaluating the Central Command's request for non-lethal capabilities, the Joint Staff's Deputy Director for Resources and Acquisition supported the Central Command's need, but stated that the proposed FSEP (then called Sheriff) solution, with all its subcomponent systems, was "unachievable in the near-term," which is a prerequisite for taking action to resolve an Immediate Warfighter Need. The time frame for defining "near-term" is flexible, and can extend up to two years in order to deliver some capability to the warfighter to satisfy, or mitigate, an immediate need. However, the near-term time period does not include weapon systems development.

Subsequently, the Office of Force Transformation (OFT), working with the Army officials and Naval Surface Warfare Center (NSWC) engineers at Dahlgren, Virginia, planned a more thorough and accelerated schedule for developing the FSEP vehicle. The Office of Force Transformation representatives presented their accelerated schedule to the JRAC on September 19, 2005.

Their plan included an optimistic effort for integration, testing, evaluation, and spiral development, leading to deployment of some capability in 2007. The JRAC accepted the schedule after consultation with the Office of Force Transformation and the Army Staff.

Based upon the JRAC's January 2006 recommendation, the Deputy Secretary of Defense approved $31.3 million for the Army to proceed with FSEP Spiral 1 Development. In May 2006, the Army Program Manager identified potential delays in delivering Spiral 1 capabilities due to technical development and performance risks related to the Active Protection System, Trophy. My collaborative discussion with OFT, the Army, and NSWC Dahlgren about these risks led to the decision to postpone the integration of these capabilities to a later development Spiral.

During my deliberations, I consulted with numerous stakeholders that included the Joint Staff's Deputy Director for Resources and Acquisition; the Commander, Army Test and Evaluation Command (ATEC); the Deputy Director of Land and Expeditionary Warfare from the Office of the Director for Operational Test and Evaluation; and the Director of Capabilities Developments from the US Army Capabilities Integration Center; representatives from the Naval Surface Warfare Center, Dahlgren and the Office of Force Transformation, who advised me on their perspectives of the availability and readiness of the Active Protection Subsystem. The preponderance of stakeholders advised me that the Active Protection Subsystem would slip significantly due to its technological immaturity and qualification testing requirements.

I presented the available facts to the CENTCOM Chief of Staff, and asked that the requested capability be revalidated. In doing this, I specifically raised the issues about the potential cost and schedule impacts of the Active Protection Subsystem on the FSEP. On May 16, 2006, Central Command responded that proceeding with Spiral 1 with readily available capabilities was preferred, and that the Active Protection capability could be integrated as it became mature in a later spiral of FSEP development, if it proved successful.

As I stated in my testimony, we collaborated with the Office of Force Transformation (OFT) throughout our deliberations on responding to the CENTCOM Joint Urgent Operational Need. OFT; however, is not a test activity and so we con-

sulted with DOT&E and ATEC to determine the most likely timeframe for testing. We were aware of the OFT concern regarding the schedule; however, after studied consideration of the development and performance risks involved, the JRAC agreed with the recommendations of the independent test organizations and the program office.

Mr. ABERCROMBIE. Dr. Buhrkuhl, this hearing isn't about FCS, but do you see how selection of Trophy or another interim active protection system for a field test in Iraq could threaten the Future Combat Systems program, as inferred by NBC news?

Dr. BUHRKUHL. I will not speculate on whether the Trophy system could threaten another program. I can state, unequivocally, that the FCS program did not play a role in the JRAC's decisionmaking that led to the delay in integrating Trophy onto the Full Spectrum Effects Platform (FSEP).

Mr. ABERCROMBIE. Are you opposed to putting an active protection system on a Full Spectrum Effects Platform test vehicle as a technical demonstration of its capability?

General SORENSON. No. Currently, the Army has deployed three (3) complete Stryker Brigade Combat Team (SBCT) sets (317ea) of Stryker SLAT armor, to include 31 sets of spares per SBCT, 994 sets of Bradley Reactive Tiles, and the first sets of Abrams Reactive Tiles. These will be delivered to Theater in June 2007. To date, these systems have proved to be highly effective in defeating the RPG threat. Yes, the Future Combat System (FCS) program and Program Executive Officer (PEO) Ground Combat Systems (GCS) are developing a full-spectrum solution to counter short (first priority) and long-range threats, which include a wide range of ballistic projectiles: RPGs, mortars, antitank guided missiles, tank-KE/HEAT, top attack/precision guided missiles, and large caliber cannon. The Army solution will be common to the current (Stryker, Bradley, and Abrams) and future force (FCS Manned Ground Vehicles) and capable of receiving upgrades over time to meet the evolving threat.

Mr. ABERCROMBIE. When is the first Army operational active protection system scheduled to meet its initial operational capability?

General SORENSON. A prototype that has completed performance verification testing will be ready as early as last Quarter fiscal year 2009. As currently planned, a Low-Rate Initial Production decision is schedule in FY11. Full-up production verification testing begins in the 1st Quarter FY12.

Mr. ABERCROMBIE. Is the system on track and adequately funded to meet that date?

General SORENSON. Yes. However, the production decision and subsequent verification testing activities can be accelerated to start in fiscal year 2010 if the Army fully resources A-Kit integration and production.

Mr. ABERCROMBIE. Would you please detail your involvement and conclusions from evaluating and testing active protection system for the Full Spectrum Effects Vehicle.

Captain MCGETTIGAN. The Naval Surface Warfare Center Dahlgren Division (NSWCDD), with Rafael and General Dynamics Land Systems, conducted two integrations of the Trophy system to support the Full Spectrum Effects Vehicle (FSEP) program:

The first was the integration of the Trophy onto the FSEP Stryker vehicle conducted in Dec. 05. In this integration, the Trophy launchers were mounted to the side of the FSEP vehicle. Structural analysis and testing of the launcher mounting points verified that the Stryker hull would not be adversely affected by the Trophy system. The Trophy search radar systems were mounted on each side and at the front and rear of the vehicle in special mounting brackets. The internal components of the Trophy system were integrated as part of the FSEP system and were mounted in racks and positions suitable for employment in the FSEP vehicle. The Trophy system was powered by the FSEP system generator. No additional electrical power requirements were needed. This first integration incorporated the Trophy as part of the FSEP system and was reflective of how it would be included in a combat vehicle.

The second FSEP Trophy integration was on the Israeli Defense Force Stryker. This integration was conducted to support the tests and demonstration planned at NSWCDD in March 06. The exterior installation of this system was identical to that on the initial FSEP vehicle installation. The interior components of the Trophy system were rack mounted inside the vehicle to facilitate the necessary testing and analysis. Again, in this installation the Trophy system ran exclusively on vehicle power. No additional power systems were needed. This installation was not intended to represent a combat capable configuration. The installation was developed as a

demonstration capability to facilitate the testing, demonstration and extraction of data from the system.

The table below summarizes the testing that was conducted on these two configurations in conjunction with the FSEP/Project Sheriff efforts.

The Trophy integrated on the FSEP Stryker

Test	Result
Fit and Function	Trophy installed and fit as designed. System functioned as expected.
Electromagnetic Vulnerability (Tailored Environment)	No susceptibilities on Trophy.
Hazards of Electromagnetic Radiation to Ordnance (HERO)	Trophy caused no effects to any ammunition types expected aboard FSEP.
Hazards of Electromagnetic Radiation to Personnel (HERP)	Below personnel exposure limits.
Electromagnetic compatibility	No interaction of Trophy with other systems on board vehicle.

The Trophy system integrated on the IDF Stryker

Test	Result
Fit and Function	Trophy installed and fit as designed. System functioned as expected.
Flash Signature	The flash signature seen through the periscopes of the vehicle would not cause ocular damage to personnel inside the vehicle. Flash outside of the vehicle would not cause ocular damage.
Acoustic Signature	Adequate hearing protection is provided by the required standard hearing protection worn inside the vehicle.
Blast Overpressure	Minimal blast overpressure inside of the vehicle. Trophy is designed to be operated with open hatches.
Debris Protection	Witness panels proved that blast shields protected crew hatch areas from debris. Trophy is designed to be operated with open hatches.
Live Fire tests conducted at NSWCDD	38 tests were conducted with inert rocket propelled grenades (RPGs) being fired at (or in close proximity to) the vehicle. Multiple tests were conducted firing 2 RPGs nearly simultaneously—one to each side of the vehicle. The tests were conducted against RPG–7 missiles with inert warheads. These RPGs had the same velocity and flight profiles as live RPGs and were certified by NSWCDD Explosive Ordnance Disposal techs as being representative. RPGs were fired remotely from 100 meters away using test stands. 12 of the 38 tests were conducted as the vehicle was moving at approximately 25mph. 35 of 38[1] tests were rated as a success. System identified, tracked and engaged threat[2] RPGs. Notes: (1) Tests using a ''live'' Trophy engagement round accounted for 6 tests with 4 countermeasures firing. All other Trophy tests were deemed either a success or a failure by using tracking cameras in place of the ''live'' Trophy countermeasure and analyzing the system data with the video coverage with modeling and simulation to predict the outcome. (2) System successfully distinguished between RPGs aimed to strike the vehicle and RPG's that would miss the vehicle.

In addition to the tests noted above a structural test was conducted at Aberdeen Proving Ground to determine that the loading imposed by a Trophy warhead would not overstress a Stryker vehicle. A 1/2 kg charge of C–4 was detonated in place of the Trophy warhead and no structural damage was noted.

The conclusions from the tests were:

1. To the extent it was tested, the Trophy performed as advertised by Rafael.
2. The Trophy is a likely candidate as an interim or rapidly deployable active protection system (APS) capability.
3. The DoD should further evaluate the Trophy system to better understand its performance capabilities and limitations and to help develop tactics and techniques for using an APS.

Mr. ABERCROMBIE. Was there an autoloader on the Trophy system you tested?

Captain MCGETTIGAN. No.

Mr. ABERCROMBIE. What is your judgment of how long it would have taken to develop, test and field a Stryker field equipped with an operational active protection system?

Captain MCGETTIGAN. Pending the results of additional testing to be certified for use by the US military, we estimate it would take approximately 16 months to develop an integration kit and to test the integrated system to appropriate standards. Other requirements for fielding (logistics, training, other support, etc.) would have to be developed by the Army program manager who should be contacted for those estimates.

QUESTIONS SUBMITTED BY MR. ORTIZ

Mr. ORTIZ. Will you have enough Interceptor body armor sets, including ESAPI plates, to support the troops involved In the President's troop increases? If not, what is the plan to support the increase?

General SPEAKES. The Army has over 900,000 sets of body armor to include ESAPI on hand. There is more than sufficient body armor with side plates to fully support the President's troop increase..

Mr. ORTIZ. What about the rest of the RFI equipment such as the new helmet, ballistic eyewear, night vision devices and other protective equipment?

General SPEAKES. Yes, there is sufficient protective equipment to support the troop increase. The Army uses a Force Feasibility Review analysis to insure that sufficient protective equipment is distributed equally among all deploying units.

Mr. ORTIZ. Will the troops receive this equipment prior to deployment so they can properly train and prepare while wearing it?

General SPEAKES. Yes; the goal is to insure all equipment used in combat is available for Soldiers to train with, prior to deployment. Normally equipment is provided 45 days prior to the unit's Major Readiness Exercise (MRE). Any equipment not available for training will be provided either before deployment or in Theater based on availability of critical items.

Mr. ORTIZ. Will the troops (or units) deploying have all the required 4th generation, Level 1 uparmored vehicles they need?

General SPEAKES. Yes, all deploying units for the plus up will be issued Up-armored HMMWVs, with Fragmentation Kit 5 during the staging of units in Kuwait.

Mr. ORTIZ. If not, when will they get them? In Kuwait? In Iraq? If it's in the CENTCOM Theater, what do they train with at home station?

General SPEAKES. The Army has sufficient UAH retrofit kits and new vehicle production to meet theater requirements. As for training at home station, training sets have been established for each Army Command in the Continental United States. The commands have a mixture of Level I and Level II HMMWV training sets to train units prior to deployment.

Mr. ORTIZ. Will these vehicles all have the required Frag kit #5 and CREW (Counter Remote control IED Electronic Warfare) systems?

General SPEAKES. Yes, all vehicles being shipped to Theater have all safety and force protection enhancements applied during production. During the staging of units in Kuwait, all required Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) and counter-Improvised Explosive Device systems are installed prior to being issued to units leaving Kuwait.

Mr. ORTIZ. You stated that the theater requirement for route clearance vehicles (Cougar/Buffalo) has been fulfilled. Does this include the route clearance vehicles that the incoming "surge" units will need?

General SPEAKES. Route clearance teams are comprised of three types of vehicles: the Buffalo, which is a mine protected clearance vehicle; a pair of Huskies, which serve as vehicular mounted mine detection systems; and a set of RG–31s, which are used for command and control and additional security vehicles for the team. As of January 26, 2007, we have validated and resourced a requirement for 523 route clearance vehicles. We are still validating the number of route clearance teams required as part of the surge. We have delivered 246 of the required route clearance vehicles to theater and have 14 vehicles in the Continental United States (CONUS) being used for training, testing, and integration efforts. Contracts have been awarded to purchase the full validated requirement and the vehicles are being delivered to theater as soon as possible.

The Cougar is not a route clearance vehicle. The Cougar/Joint Explosive Ordnance Disposal Rapid Response Vehicle is an armored vehicle used by the Explosive Ordnance Disposal (EOD) teams for EOD operations.

The Army is in the process of validating the number of route clearance teams that will be required as part of the surge.

QUESTIONS SUBMITTED BY MR. CASTOR

Mr. CASTOR. What equipment did the Brigade Commanders ask for, what did the military specify could and could not be provided, and how depleted are the stocks of equipment our soldiers need?

General SPEAKES. All of our deployed Brigade Combat Teams are equipped to our highest levels of readiness with the most modern equipment available in the Army inventory. As the enemy identifies and exploits our vulnerabilities, commanders respond by developing appropriate tactics, techniques, and procedures (TTPs), based on lessons learned. To correct a deficiency or request an additional capability that impacts mission accomplishment, commanders inform the chain of command through the use of Operational Needs Statements (ONS). During Fiscal Year 2006, there were 437 Operational Needs Statements submitted by commanders. These Operational Needs Statements resulted in 350,349 items being approved as requested.

The majority of Operational Needs Statements are sourced as requested. The most commonly requested equipment included communications equipment, weapons, vehicles and vehicular armor. Equipment that was frequently requested and which the Army was unable to fully resource includes Single Channel Ground and Airborne Radio Systems (SINCGARS), Blue Force Tracker (BFT), Long Range Advanced Scout Surveillance System (LRAS3), M4 rifles, and Thermal Weapons Sights (TWS).

Programmed and supplemental funding has enabled us to equip Brigade Combat Teams with SINCGARS, BFT, LRAS3 and M4s in sufficient quantities to achieve full combat effectiveness. Due to production limitations we are not able to provide sufficient quantities of Thermal Weapons Sights. All Brigade Combat Teams start receiving their full requirement of Thermal Weapons Sights in Fiscal Year 2008 and all other types of brigades begin receiving their full requirement in Fiscal Year 2010. We project that all current requirements for Thermal Weapons Sights will be filled by Fiscal Year 2013.

QUESTIONS SUBMITTED BY MR. MCKEON

Mr. MCKEON. The Active Protective System (APS) is the hit avoidance platform of the manned FCS platform against anti-tank threat munitions prior to the threat munitions making contact with the platform. What are your thoughts on the Quick Kill program that takes advantage of smart energetics architecture (SEA) technology and getting such protective systems into the hands of the soldiers quickly?

Dr. BUHRKUHL. Although challenges to fielding a capable Active Protection System still exist, I am encouraged that we are making progress in providing soldiers with this capability.

Mr. MCKEON. I'd like your thoughts on other APS technologies you are looking at for active protective systems specifically the Short Range Countermeasure (SRCM) and Long Range Countermeasure (LRCM) programs and their schedules.

Dr. BUHRKUHL. I have no personal knowledge of the Short Range Countermeasure (SRCM) and Long Range Countermeasure (LRCM) programs and their schedules. As the Director, JRAC my concerns have been directed specifically at meeting the Combatant Commanders' near-term, immediate warfighter needs (IWN) for non-lethal capabilities through deployment of the Full Spectrum Effects Platform (FSEP),

this summer. The JRAC's focus is on technical readiness level 6+, non-developmental items.

Mr. MCKEON. What is the DOD acquisition policy for APS?

Dr. BUHRKUHL. The same policies that apply to the acquisition of other defense systems and components also apply to Active Protection Systems. Any capability gap solution is subject to the Departmental oversight necessary to reasonably ensure safety and interoperability concerns are properly addressed, prior to fielding.

Mr. MCKEON. To get these technologies into the hands of the troops quicker would the Army's Rapid Equipping Force be a source of funding or procurement? Are there other sources of funding?

Dr. BUHRKUHL. Funding and accelerated procurement have not precluded rapid fielding; rather, the maturity of the technology and its testing and integration have prevented more rapid fielding of these capabilities.

Mr. MCKEON. What else is needed to ensure that cost, schedule, and performance outcomes for APS and other force protection systems that use Smart Energetics Architecture (SEA) technology are predictable and achievable when these programs seek approval from Congress?

Dr. BUHRKUHL. I am not aware of any additional requirements necessary to ensure cost, schedule and performance outcomes for such systems.

QUESTIONS SUBMITTED BY MS. GIFFORDS

Ms. GIFFORDS. In terms of long-term effects as far as symptoms that would not appear within the first couple of weeks or couple of months, but perhaps a year or two, is there an ongoing process to make sure that our soldiers don't suffer from long-term effects or can be treated effectively?

General SPEAKES. Soldiers who are diagnosed with moderate to severe traumatic brain injury (TBI) are normally evaluated and followed by the Defense and Veterans Brain Injury Center which has case managers in military and Department of Veterans Affairs medical centers. Currently, there is not a long-term follow-up program for Soldiers who have experienced mild TBI such as a mild concussion. To better understand the effect of mild concussion on Soldiers, Lieutenant General Kiley, the Army Surgeon General, has chartered a task force to better define the diagnosis of TBI, to identify gaps in research and treatment of mild TBI, and to recommend actions to close those gaps. The task force, which includes representatives from a variety of medical specialties as well as from the Department of the Navy, Department of the Air Force, and Department of Veterans Affairs, is expected to report its findings and recommendations to Lieutenant General Kiley in May 2007.

The military uses the Post Deployment Health Assessment (PDHA) and Post Deployment Health Reassessment (PDHRA) processes to screen Soldiers for medical conditions associated with their deployment. Although the current versions of the PDHA and PDHRA do not include specific traumatic brain injury (TBI) screening questions, both instruments contain questions that capture signs and symptoms of TBI, and the PDHRA specifically asks about physical injury. The Office of the Secretary of Defense (Health Affairs) is in the process of adding TBI specific questions to the PDHA and PDHRA as directed by the FY2007 National Defense Authorization Act.

The PDHRA takes place 3–6 months after the Soldier has returned from deployment. As part of the PHDRA process all Soldiers sit down and talk with a health care provider (HCP) after filling out the PDHRA, providing the HCP an opportunity to document suspected TBI and refer the Soldier for further evaluation and care.

Additionally, the annual Periodic Health Assessment provides Soldiers in the Active Army, Army Reserve, and Army National Guard an opportunity to be evaluated yearly for any medical issues and concerns.

For Soldiers who transition out of the Army following their combat service in the Global War on Terror, the Department of Veterans Affairs (VA) provides cost-free health care services for a period of 2 years beginning on the date of separation from active military service. This provides an additional opportunity to identify and treat any late developing conditions associated with combat service. At the end of the two year period, the VA reassesses the veteran's information (including all applicable eligibility factors) and makes a new enrollment decision.

QUESTIONS SUBMITTED BY MR. LOBIONDO

Mr. LOBIONDO. I do not know what we can do for this dad to be able to convince him that the Army was correct in providing the best possible product of safety, because his next question to me was he wanted to buy the Dragon Skin and provide

it for his sons because they felt it was the best out there. How do we deal with something like that? How do I convince this dad that we are taking all of the steps to ensure what you have said? How does that get communicated that they are satisfied that the process we go through in identifying the most effective body armor is a sound process and that his sons are being protected to the best of technological abilities?

General SORENSON. Extensive marketing campaigns and press releases by Pinnacle Armor continue to make remarkable claims regarding their product's level of ballistic protection. The claims directly compare Dragon Skin to the Army's Interceptor Body Armor (IBA) with the assertion that IBA is inferior. The Army has test data that shows that Dragon Skin does not meet the Army requirement for Soldier Body Armor protection.

During the period 16–19 May 2006, Project Manager, Soldier Equipment (PM SEQ) conducted testing of Pinnacle Armor's SOV 3000™ Body Armor Vest (Dragon Skin) at H.P. White labs near APG. (HP White is the National Institute of Justice certified ballistics lab used to test Army Body Armor)

Testing was conducted using the Enhanced Small Arms Protective Insert (ESA–PI) First Article Test (FAT) protocols to insure the item meets Army requirements for ballistic protection. Prior to fielding, all ESAPI designs must pass a robust FAT protocol under a variety of environmental conditions including high (+1600 F) and low (-600 F) temperature, diesel fuel, oil, and saltwater immersion, and a 14 hour temperature cycle from -250 F to +1200 F.

Pinnacle SOV 3000 level IV Dragon Skin vests suffered 13 first or second shot complete penetrations, failing 4 of 8 initial subtests with ESAPI threat baseline of Armor Piercing (AP) ammunition. Pinnacle SOV 3000 level IV Dragon Skin suffered catastrophic failure of the ceramic disc containment grid adhesive at -600 F, 1200 F and 1600 F.

The SOV 3000 design is sensitive to extreme temperatures and failed to maintain ballistic integrity at temperatures below summer ambient in Iraq and Afghanistan. This failure mode caused discs to delaminate and accumulate in the lower portion of the armor panel, thus resulting in exposing the spine, vital organs, and critical blood vessels to lesser ballistic threats.

Force protection is the Army's number one priority. We share a common objective of ensuring Soldiers are equipped with the best possible force protection equipment available.

QUESTIONS SUBMITTED BY MR. REYES

Mr. REYES. Exactly where are we in that process in terms of giving our military personnel that survivability in both theaters? Where are we on that? Is it an R&D issue or is it a Procurement issue? Where exactly are we with that? Is there a time frame that you could give the committee?

General SORENSON. **1. Suspension Seats for Tactical Wheeled Vehicles (TWV):**

Project Manager (PM) TWV is not pursuing the application of suspended seating for TWVs. However, the Tank Automotive Research, Development and Engineering Center (TARDEC), Warren, Michigan is investigating the potential application of suspended seats for the Future Combat System (FCS) and subsequent possible applications on heavier armored systems. Numerous seat alternatives for the future Joint Light Tactical Vehicle (JLTV) are being considered. The JLTV program anticipates incorporating some form of suspended seats.

2. Suspension Seats for the Heavy Brigade Combat Team (HBCT):

a. **HBCT.** Integration and fielding of Improvised Explosive Devices (IED)/mine resistant suspended seats into HBCT vehicles is currently being pursued as a procurement effort.

- Focus throughout this effort has been on the integration of commercial off-the-shelf (COTS) mine resistant seat technologies onto our HBCT vehicles.
- A variety of seat technologies have been evaluated from many different vendors for possible integration such as suspended seats, helicopter crash seats, etc.

b. **Abrams Tank.** Current efforts are focused on the procurement and fielding of a suspended seat for the driver only. Fielding of the suspended seat for the driver's position is scheduled to begin in the June/July 2007 timeframe in conjunction with the fielding of the Abrams Tank Urban Survivability Kit (TUSK) components

on the vehicles in Iraq. PM Abrams is continuing to evaluate similar mine resistant seating technology for potential integration in the other more complex crew positions in the Abrams tank.

c. **Bradley Fighting Vehicle Systems (BFVS).** PM BFVS will evaluate suspended seats for the squad area of the BFVS from two (2) candidate manufacturers when the candidate seats are delivered to the PM in late February 2007. The PM BFVS and the Army Research Laboratory (ARL) will conduct an engineering design review and modeling/simulation evaluation of the seats at Aberdeen Proving Grounds (APG), Aberdeen, MD to determine the suitability of the candidate seat designs for potential application to the BFVS. If suitable, the final design will be subjected to a static and dynamic user evaluation. The BFVS program objective is to accept a final seat candidate design and initiate production of seats not later than fourth quarter fiscal year 2007 and begin fielding in Iraq 90 days thereafter. The PM is exploring the potential application of suspended seats for the driver's position. However, due to inherent design limitations and associated technical issues a longer term solution is envisioned.

d. **M113 Family of Vehicles (FOV).** PM BFVS is not directly exploring application of suspended seating for the M113 Family of Vehicles. However, if the Army initiates a requirement for a suspended seat for the M113 FOVs, the PM's course of action would be to adapt the seating system selected for the BFVS.

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