

15 Jim Tuttle is head of our explosives division. As we've
16 heard from the Defense Minister about the issues in
17 Afghanistan, we certainly have seen this around the
18 world, that the terrorist's choice weapon, weapon of
19 mass influence, if nothing else, is of course the
20 improvised explosive device, but also just the
21 unauthorized use of explosives. We've also seen around
22 the world the propagation of understanding of how to
23 make homemade explosives, not necessarily conventional
24 explosives, so the threat continues to expand. And how
25 we approach that is specifically right into Jim's camp.

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1 So I think we're all going to look forward to seeing how
2 Jim looks at this in his portfolio. Thanks, Jim.

3 MR. JAMES TUTTLE: Thank you, Starnes. Appreciate it.
4 Thank you also to the Swedish Civil Contingency Agency
5 for having U.S. here. I'll start off with what keeps me
6 up at night. As far as on a nonprofessional level, it
7 would be taking a red eye over here, in the middle
8 aisle, the middle seat, with two hockey players on each
9 side of me. That keeps me up at night. But in a
10 professional side, as far as being explosive division,
11 is having IEDs go off in our country. We talk about
12 mass disruption. We years ago had a sniper in
13 Washington, D.C., and he was shooting somebody about
14 once a week. And after about four or five weeks the
15 whole city was just totally changed, the thought process
16 of people of how they went about their day, daily life,
17 and it really disrupted the city. They eventually
18 captured him, thank God, but imagine if IEDs started
19 going off, explosives started going off. There are some
20 people that view IEDs as more of a war-like type weapon,
21 and we all know that that's not the case. Israel went
22 through years of this. And it doesn't have to be a
23 suicide bomber either. It could be a placed package.
24 Someone walks in the metro, places a backpack and just
25 walks off. So it's definitely a real and present

1 danger, and it's very easy to make a homemade explosive
2 device now. Get right on the internet and Google it,
3 and it will tell you how to do it. I mean, they've got
4 videos. So it's a very dangerous thing we're dealing
5 with here. So the challenge, after saying that, the
6 first challenge that comes to mind is the homemade
7 explosive, detecting it. Around the world we're trying
8 to do this right now in our airports. I mean, that's
9 the main focus I would say in the airports of the
10 screening versus mass transit. In the airports they're
11 looking at how do we allow people to start bringing
12 liquids and gels back on the airplane, and I'm here to
13 tell you it's a real threat and it's really hard for
14 these machines to be able to tell the difference between
15 a benign substance and the real threat.

16 Now, there is technology out there that can do those
17 things, but the problem there is not only detection but
18 the other part is the false alarms. And that's what's
19 really going to get you right now. There are going to
20 be so many false alarms with some of the technology out
21 there that, for example, if you're going through a
22 checkpoint and you yourself or the bottle you had
23 alarmed, what do you do if it alarmed? Do you open it?
24 There's all sorts of issues with false alarms. So until
25 we drive the false alarms down and the detection, that's

1 going to be a big challenge. So that's on homemade
2 explosives.

3 As far as another challenge would be mass transit. When
4 you think about detecting a threat before it gets on a
5 train, subway, before it gets on a ferry, whether it's a
6 vehicle or a person, it's a great challenge to be able
7 to see that. We can't have checkpoints like we have at
8 the airport at a metro system, a subway system. That
9 would just impede the flow of travel. So how do we do
10 it in a way that it doesn't slow people down, but we
11 still can detect weapons and explosives? That's a big
12 challenge there.

13 The last question you had was based on what are the
14 three take-aways. I'd say the first one is I mentioned
15 the homemade explosives in mass transit is going to have
16 to be an international effort to work this. It's much
17 more than just the technology itself. It's how you
18 place it and how the users would actually use it. In
19 our country we have TSA that does the screening in
20 airports. Well, they don't do the screening in subways
21 and metro stations and ferries, so that means that the
22 law enforcement people are going to have to operate this
23 equipment. So that would be the second take-away: It's
24 very important to bring the users involved with the
25 technology as early as possible, because what we don't

1 want to do is develop some technology in the back room
2 and think it's perfect and say, okay, go ahead and
3 productize it now, and people start buying things. Now,
4 if you put quality equipment on a quality products list,
5 then the first responders are going to feel like okay
6 it's thoroughly tested; let's buy it. But you have to
7 have them test it, develop it with you, get the inputs
8 back from the users. So it's very important.

9 And the last thing is basically the international
10 community, the researchers, as we're doing with Sweden
11 and some other countries, it's very important to work
12 this issue together because there are bright minds over
13 the world that think about how we're going to be able to
14 solve this problem. Because right now we don't have the
15 problem even nearly figured out at the checkpoint and
16 now we're thinking about doing it at a standoff
17 distance, whether there's a vehicle or suicide bomber or
18 package itself. Every day in our country there's a
19 suspicious package found in the country, and if it's
20 found near a -- well, you just had it happen not too
21 long ago. It was a criminal activity. If it's found
22 next to a police barracks or a helicopter or whatever it
23 is, you have to figure out what it is, what you're
24 dealing with, call in the robots -- it takes hours. If
25 it happens in the metro, it shuts the metro down. If it

1 happens in the airport terminal, it shuts the terminal
2 down for hours. So how do you have technology to be
3 able to tell quickly and effectively is it a threat,
4 what kind of threat it is, if it is a threat, and then I
5 haven't even spoken about the last thing: How do you
6 defeat it at a standoff distance. So those are some of
7 the challenges. Thank you, Starnes.

8 DR. STARNES WALKER: Jim, you talked about the
9 difficulty of detecting the devices and the explosives.
10 Could you say a few words about the importance of
11 lessons learned from operations on an international
12 standpoint and the importance of intelligence sharing.
13 The more you know about your adversary or potential
14 adversary, what role does that play in enhancing
15 homeland security?

16 MR. JAMES TUTTLE: Intelligence plays a very, very vital
17 role not only in U.S. defeating the threat but also from
18 a research standpoint. When you look at homemade
19 explosives, I'll just give you an example. There's all
20 sorts of different types of homemade explosives you can
21 develop, and a lot of the technologies, for example,
22 X-rays, it looks for the density of this material. And
23 the material, you could have different materials. You
24 could add pepper, you could have cumin, all sorts of
25 different things. So what intelligence will do is help

1 U.S. determine what do we need to put as the highest
2 priority for the technology, because we're not going to
3 be able to do everything. Focus that technology on the
4 more likely threats, and in the meantime develop the
5 other capability to see the wider gaps and threats. So
6 it's very important.

7 DR. STARNES WALKER: Thanks, Jim.