



Remarks by

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Homemade Explosives Threat

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Good morning. Mr. Hind, Mr. Kilpatrick members of the ANNA Executive Board; ladies and gentlemen, I am grateful for the opportunity to speak to you today about a global threat that faces us all, the threat posed by improvised explosive devices, commonly known as IEDs. I am Lt. General Michael Barbero and I am the Director of the Joint Improvised Explosive Device Defeat Organization. JIEDDO, as it is commonly known, was established in 2006 to lead the Department of Defense's counter-IED activities. Our organization is singularly focused on the IED problem and we exist to rapidly field capabilities to reduce the effectiveness of the IED.

The IED is a significant operational threat to our troops in Iraq and Afghanistan, and will continue be a threat in future operations. And, as I will explain, the IED is a real threat to our domestic security. These IEDs often use fertilizer-based homemade explosives as their primary explosive component. So this is a great forum to share views on this enduring threat, discuss how your community can assist in our efforts to counter the IED, and open a dialogue of cooperation to reduce this threat.

An IED is a weapon fabricated in an improvised manner incorporating destructive, lethal, noxious, pyrotechnic, or incendiary chemicals, and designed to destroy or incapacitate people or attack infrastructure. IEDs may incorporate military or commercially available explosives, or consist of homemade explosives, which is the focus of my remarks today.

The IED is the weapon of choice because these devices are cheap, readily available, easy to construct, lethal and accurate. The enemy has developed and improved their tactics and techniques in Iraq and Afghanistan, and we see these practices spread and employed globally. IED information and expertise is spread via the Internet, social media websites, web-based video conferencing and other virtual applications, allowing threat networks to share their expertise, as well as recruit, plan, fundraise, and train the next crop of insurgents. These threat networks are agile and adaptive.

As you know, IEDs have been employed with devastating effects around the world, with more than 600 IED attacks occurring outside of Iraq and Afghanistan on a monthly basis. I repeat, more than 600 IED attacks occurring outside of Iraq and Afghanistan monthly. Globally, IEDs are used to cause casualties, create a perception of insecurity, and influence the will of a nation. Homemade explosives — also referred to as HME — present one of the greatest threats today, and will do so in the future. The vast majority of homemade explosives use ammonium nitrate as the main charge.

Over the years, we have seen the growth in IED attacks using homemade explosives, both domestically and internationally. In the early 1980s, the Provisional Irish Republican Army used ammonium nitrate-based IEDs in multiple attacks in London. And the U.S. witnessed firsthand just how deadly ammonium nitrate can be in the 1995 Oklahoma City bombing that claimed the lives of 168 people. Most recently, we saw the devastating IED effects in Mumbai, India, and Oslo, Norway, both attacks used ammonium nitrate as an explosive. Throughout the world, networks that use IEDs will remain a threat for decades to come.

On the battlefield, while IEDs cannot stop our units or deter our Commanders and Soldiers from taking the fight to the enemy, these devices are the greatest source of casualties in both Iraq and Afghanistan. In Iraq, there are still 400 to 500 IED events per month, and in Afghanistan, IED activity remains consistently high, with more than 1,500 events per month. Increases in dismounted operations — foot patrols — pose a new set of challenges for our counter-IED fight in Afghanistan. The number of IED incidents against dismounted troops has increased 92 percent since last year. These calcium ammonium nitrate-based IEDs cause significant traumas — amputations, traumatic brain injuries, casualties — to U.S., Coalition, and Afghan Security Forces — but, also too many more innocent civilians.

In the counter-IED fight in Afghanistan, the growth of homemade explosives has become our greatest concern. More than 75 percent of the IEDs used against Coalition forces in

Afghanistan have HME as the main charge, and the majority is derived from calcium ammonium nitrate fertilizer. Let me repeat, more than 75 percent of the IEDs used against Coalition forces in Afghanistan are homemade explosives, with the majority made with calcium ammonium nitrate. Dismounted operations and CAN-based IEDs are a lethal combination. Yet despite a countrywide ban on its importation, CAN continues to be used to produce the majority of IEDs in Afghanistan. Explosives can be made from a range of fertilizers, but it is easy to turn calcium ammonium nitrate into a bomb and it is the product of choice — by far. The continued uncontrolled availability of CAN and other HME precursor material smuggled into Afghanistan is the most significant factor contributing to the Afghan IED problem.

As many of you know, CAN was developed to be a non-detonable alternative to pure ammonium nitrate. However, this highly valued and legally produced fertilizer is easily reprocessed by insurgents and used as the main charge, or explosive element in IEDs.

Insurgents routinely use two approaches to reprocess CAN before sensitizing it with a fuel. The very soluble ammonium nitrate can be separated from insoluble calcium carbonate by dissolving it in hot water and decanting the concentrated ammonium nitrate solution. Excess water is evaporated and the ammonium nitrate is dried and crushed. It can also be ground to a fine powder without extracting the inert material. In both cases, “paint flake” aluminum, powdered sugar, or a combination of both, is added to increase the explosive power and sensitivity. The ubiquitous nature of these fertilizers, and their simple and easy processing into an explosive, makes this a dangerous and effective global threat. And, of significance to this group, it is clear to me that every new IED attack — on the battlefield or at home — builds a sense of urgency across our government to act.

The IED threat requires whole-of-government coordination as well as cooperation with foreign governments to address this complex issue. No single U.S. Government department or international partner has the ability to limit access to precursors. The challenge of interdicting

this HME threat is considerable, and requires integrated efforts to leverage the combined authorities and capabilities of many agencies of our government and the active cooperation of our allies.

Nearly every part of our government already contributes to the effort to defeat the IED and attack those networks which distribute IED materials. Our interagency partners bring expertise in:

- Defeating and prosecuting criminal networks;**
- Applying financial pressures by going after the assets of IED network members, financiers, and distributors;**
- Enacting export controls and treaty compliance efforts that lead to the interdiction of IED components;**
- Advancing counter-IED objectives through public diplomacy and policy and regulatory changes;**
- Advising on legitimate agricultural requirements; and**
- Coordinating and executing domestic counter-IED efforts.**

This is by no means a comprehensive list of the actions our interagency partners will apply to the counter-IED fight, but it gives you an idea of the collaboration that is taking place on all levels. We will take action.

To address the threat posed by HME, JIEDDO — my organization — recently proposed an interagency process designed to transform a community of interest into a community of action. We have worked closely with Congress and other federal agencies — including Justice, Treasury, Commerce, and State — to develop a whole-of-government approach, which will immediately focus on the HME threat in Afghanistan. By developing a whole-of-government strategy to counter the flow of CAN and other IED precursor materials into Afghanistan, we are employing the full range of the considerable tools and authorities of our interagency partners.

In recent discussions about the efforts to counter the CAN threat, U.S. Senator Robert P. Casey, a Congressional leader and ally in the fight against IEDs, said, and I quote “Parallel tracks by law enforcement, legislative strategy and educating the general public on this problem will be the basics of this strategy.” End quote.

An example of that unified approach is the recent proposed rule the U.S. Department of Homeland Security issued last month to create the Ammonium Nitrate Security Program. As you know, this rule will establish regulations for the domestic sale and transfer of ammonium nitrate that has a nitrogen level of 30 percent or higher, to prevent its misappropriation or use in an act of terrorism. The rule requires purchasers and sellers of ammonium nitrate to register with DHS, maintain sale records for at least two years, and report any losses or thefts of ammonium nitrate within 24 hours. When the rule is final, the U.S. will join many of our allied partners — Canada, Australia, the European Union, the United Kingdom, and others — in regulating ammonium nitrate.

We understand that controlling the inventory of a legally traded commodity is a challenge, but to ensure the safety of our troops and citizens we must do better. The U.S. government and our allies are implementing efforts to identify nefarious actors who are knowingly providing terrorists and insurgents access to these HME precursors and we will leverage all available tools and authorities of our governments — freezing assets, opening criminal cases, and adding people and business to the denied persons list — to combat it. The Department of Defense, Congress, and U.S. Government leaders are unified and ready to take action — momentum is building — therefore, I believe it is time for you to act!

While the U.S. government and our allied partners are unified in this fight against IEDs, it requires the cooperation and expertise of our industry partners, including this organization. We need your help. I challenge you to help lead in this fight against homemade explosives — weapons

made with the legitimate product you produce. Therefore, I believe you need to take the lead and urge you to take action in the following ways:

First of all, and this is probably the most difficult, but also the most important...I ask you to continue to **aggressively research** and **rapidly develop** alternative, **non-detonable** fertilizer compositions. Developing calcium ammonium nitrate was an important first step – but you must explore ways to make current fertilizers more difficult to reprocess into a detonable composition. This is imperative to saving lives — both the lives of our troops abroad, and the lives of our citizens at home.

Second, one of the biggest challenges we face is the identification and interdiction of CAN. Coalition Forces make every effort to analyze the components of IEDs used against us, but even with the increases in exploitation capabilities, it is difficult to derive a clear understanding of the origins of all HME precursors and the threat networks that move these bomb-making components. This is in part due to challenges in recovering many items off the battlefield. However, I believe there are methods that can be applied, **at the point of production**, that could make significant positive contributions to our ability to identify the origin, trace the flow, identify the network, and interdict CAN used for illicit purposes.

We have determined one way to aid in the identification of CAN is for all manufacturers to add colorants during the manufacturing process. This low-cost step would enable the rapid identification, detection, and traceability of illegally smuggled product. This is essential in minimizing the smuggling of CAN into Afghanistan, where it is killing Coalition forces, Afghan Security forces, and innocent civilians.

Insurgents are particularly good at disguising ammonium nitrate. Dyeing the CAN will make that far more difficult. It could be identified by anyone, at anytime, with no specialized equipment and little training. This simple and cost-effective method will pay huge dividends in

our ability to understand the supply chain, identify ammonium nitrate on the borders, and interdict it before it is weaponized.

The tragic impact of IEDs on law enforcement personnel, military and innocent civilians in Pakistan and across the border in Afghanistan has led to proactive measures by the ammonium nitrate industry in Pakistan. Each new CAN-based IED attack raises our awareness to this problem, and clearly demonstrates a need for us to act collectively and decisively. I would like to take the opportunity to recognize Mr. Muktar, the president of PakArab Fertilizer, who has been a partner in this initiative. I would like to commend him and his team for his leadership and I encourage you to follow his lead.

Finally, I need you to support and put in place effective controls to monitor and regulate the sale, transfer, and transport of ammonium nitrate. While several countries already have regulations in place that are similar to those the Department of Homeland Security is proposing, and a few countries ban the use of ammonium nitrate altogether, **as the producers of this fertilizer it is in your best interest to ensure that it doesn't end up as a weapon.** By taking simple measures such as dyeing the product, putting tracking numbers on each fertilizer bag, maintaining sales records, placing effective controls on distribution to threat networks, and immediately reporting losses or thefts to authorities, we will have an easier time tracking down those who use your product in illegal and deadly ways. **Proactive self-regulation will demonstrate leadership and commitment, which I believe may minimize government imposed regulatory burdens.**

In November, JIEDDO will host a technology workshop focused on the calcium ammonium nitrate-based homemade explosives problem-set. Representatives from academia, industry, and U.S. government labs will gather to address the current HME threat and the problem posed by CAN. Based on the results of that workshop, some participants will be asked to participate in a study — funded by JIEDDO — to pose potential alternatives to produce non-detonable fertilizers, develop tracing additives, demonstrate the manufacturability and cost of production, and develop

policy. After these studies, JIEDDO will look to publish a broad agency announcement to solicit proposals for full development efforts on the most promising solutions. If you are not able to attend the workshop, we would still welcome any ideas you may have, and I encourage you to contact my science and engineering staff to discuss them. Information on this workshop is available at the registration desk.

In closing, addressing the threat posed by homemade explosives requires innovative and creative solutions by all of us — military, government and industry. JIEDDO stands ready to partner with you on developing workable, mutually beneficial ways to address this threat.

While we are never going to stop all IEDs, we must act — we have a moral obligation to take action. I truly believe by working together to make it more difficult to produce homemade explosives we will mitigate the impact of IEDs globally. I look forward to partnering with you — working together to keep fertilizers out of the hands of our enemies. Again, I want thank the ANNA leadership for the opportunity to share my thoughts with you today. I appreciate your time and attention, and in the time that is left, I am happy to entertain any questions you have.

Thank you.