



Remarks by

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Delivered at

**International Fertilizer Association Annual Conference
Doha, Qatar**

May 22, 2012

Good afternoon. Thank you Mr. Ponce for the kind introduction. I would like to thank Mr. Luc Maene for inviting me here to speak today. In addition, I'd also like to thank Mr. Bill Doyle, Mr. Ford West, and Mr. Jacob Hansen for their leadership and willingness to collaborate in our efforts to control the illicit use of fertilizer.

Ladies and gentlemen, I am truly grateful for the opportunity to speak to you today. I am Lieutenant General Michael Barbero, Director of the United States Department of Defense's Joint Improvised Explosive Device Defeat Organization. JIEDDO, as it is commonly known, was established in 2006 to focus on the improvised explosive device problem in Iraq and Afghanistan. My organization is singularly focused on this threat and we exist to rapidly field capabilities to reduce the effectiveness of the IED.

Now, I am sure you're wondering why a U.S. Army general is speaking to the international fertilizer community? Well over the next few minutes, I will try to answer that question. But first, I would like to acknowledge the essential and noble work of the fertilizer industry to feed the globe and improve the quality of life worldwide. Truly impressive! Now, let me provide some background on why I am here today.

Improvised explosive devices, commonly known as IEDs, are a global threat that faces us all. As you may know, the IED is a weapon fabricated in an improvised manner, incorporating destructive and lethal chemicals designed to destroy or kill people or attack infrastructure. IEDs may incorporate military or commercially available explosives, or consist of homemade explosives. However today, IED-makers increasingly use fertilizer as the primary explosive element — with ammonium nitrate as the most common.

Because of this growing threat and IFA's longstanding commitment to actively promote the responsible production and use of fertilizers, I am here today to describe a common challenge,

work with you, and support your leadership in tackling the difficult issues surrounding the growing illicit use of your fertilizer products as a weapon.

So, this afternoon I would like to:

- First, give you an update on the global IED problem and the threat networks that employ these weapons;
- Second, discuss the homemade explosives challenge and the actions of the U.S. government, in concert with our allies, in a whole-of-governments response;
- And third, describe the need for a whole-of-industry approach to address the illicit use of your product.

Let me say up front, it is clear the IED, and the networks that use IEDs, will remain a threat to our homelands for decades. This threat is global — and growing. The IED is the weapon of choice for threat networks because these devices are cheap, readily available, lethal, accurate, easy to construct, and comprised largely of off-the-shelf materials.

As you may know, IEDs have been used with devastating effects around the world. More than 500 IED attacks occur outside of Iraq and Afghanistan each month — with Colombia having the greatest number of IED attacks followed by Pakistan, India, the United States, and Syria, who recently moved into the top five. Since last year, there were over 8,000 global IED events occurring in 112 countries, executed by more than 40 regional and transnational threat networks.

Globally, IED's have been used as a weapon in a variety of situations including:

- Conflict and post-conflict environments
- Illicit drug operations
- Insurgencies
- Political violence
- Religious crises

- **Ethnic conflicts**
- **And acts of terrorism**

— all aimed at causing casualties, creating the perception of insecurity, and influencing the will of our nations.

Today's extremist networks that employ IEDs have proven to be resilient, adaptive, interconnected, and extremely violent. This threat is complex and transnational in nature, representing layers of interdependent global networks and support systems. These networks adapt rapidly, communicate quickly, and are unconstrained by political borders. These extremists often cooperate with established criminal elements.

We see an example of these transnational threats in the networks that operate on both sides of the Afghanistan—Pakistan border. These networks support, supply, and employ IEDs against NATO forces, Afghan Security forces and civilians in Afghanistan. And these same networks similarly use IED's in Pakistan against Pakistan Security Forces, civilians, and government institutions. In this Afghanistan—Pakistan area we see:

- **The nexus of narcotic, criminal, insurgent, and terrorist networks;**
- **Supported by the easy flow of dual-use components;**
- **Passed through legitimate businesses;**
- **Composed of locally and readily available explosive materials;**
- **Executed by a generation of combat experienced IED makers and facilitators — all interacting and operating in a complex environment of tribal loyalties, endemic corruption, and unsecure borders.**

We see similar situations in Colombia, Yemen, Nigeria, Somalia, and Thailand — on every continent. As Peter Singer of the Brookings Institute, a U.S. think tank, recently wrote, and I

quote, “We need to stop visualizing the weapon as a tool only for insurgents or groups affiliated with al-Qaida or the Taliban.” End quote.

These threat organizations are seamless, overlapping, and unconfined by geographical or jurisdictional boundaries. They are viruses that breed and flourish in climates of instability — using improvised weapons — operating in some fashion in nearly every country worldwide. This is a growing, global problem that is a threat to all of us.

Globalization, the internet, and social media have extended the transnational reach of these organizations, allowing threat networks to easily spread IED technology. We’ve seen IED tactics and techniques used by insurgents in one area of the world increase in sophistication and proliferate throughout that region and into other regions. The interaction of these fully networked organizations is enabled by the latest information technologies and virtual applications that provide a platform for recruiting, technical exchanges, training, planning, funding, and social interaction.

Now that I have shared with you some information on the global nature of the IED problem and the threat networks that employ these weapons, let me shift gears and discuss one of the greatest threats we face today and will face in the future — the use of homemade explosives.

Homemade explosives, by definition, are any explosive, chemically or physically produced in an ad hoc laboratory or household, requiring little or no special industrial tools or processes, with precursors easily available from market sources.

As I mentioned earlier, the vast majority of homemade explosives are comprised of ammonium nitrate-based fertilizers that are ubiquitous, easy to transport, and readily converted into explosives. We see this threat first hand in Afghanistan, where 86 percent of IEDs are homemade explosives, and of those, 83 percent are made with ammonium nitrate. While IEDs cannot stop our units or deter our commanders and soldiers, this device has been the greatest

source of battlefield casualties this decade — causing significant traumas — multiple amputations, traumatic brain injuries, loss of life — to U.S., NATO, and Afghan Security Forces — but, also to many more innocent civilians. All of the ammonium nitrate employed in Afghanistan is a legally produced fertilizer manufactured in a neighboring country.

But the use of this fertilizer as an explosive is not confined to Afghanistan. It is critical for us to understand the gravity and size of this situation. As I mentioned earlier, more than 500 IED incidents occur around the world each month and the use of homemade explosives, specifically ammonium nitrate, continues to grow worldwide.

In the early 1980s, the Provisional Irish Republican Army used ammonium nitrate-based IEDs in multiple attacks in London. 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. In November 2003, a series of ammonium nitrate-based truck bombs killed more than 50 and injured 700 at multiple locations across Istanbul, Turkey.

Just last year, we saw the devastating effects of ammonium nitrate-based HME attacks in Mumbai, India, and Oslo, Norway. In Mumbai, three ammonium nitrate-based bombs claimed the lives of some 27 people and injured 130 others. And in Oslo, approximately six tons of ammonium nitrate and calcium ammonium nitrate was used as a vehicle-borne IED that closed down the entire city center, killing eight and wounding hundreds. The Oslo bomber was able to easily purchase and store massive amounts of fertilizer by simply establishing a fake farming business and easily converting the fertilizer into a bomb.

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 too 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 and used in IEDs without extracting the inert material.

In both cases, “paint flake” aluminum, powdered sugar, fuel, or a combination of all, 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 our forces or at home — builds a sense of urgency across our government to act.

As such, this global and enduring IED threat is being met with a whole-of-governments approach — not only the U.S. government, but those of our international partners. Following the attack in Oslo, Norway last year, EU Commissioner for Home Affairs Cecilia Malström said it best, and I quote, “No single Member State can respond to these threats on its own — we have to work together to achieve our security objectives, and respond in an effective way to the concerns of our citizens” end of quote.

No single government department or international partner has the ability to fully limit access to HME precursors —in the U.S. we are integrating our efforts and nearly every part of the U.S. government contributes to the effort to defeat the IED and go after the threat networks that distribute IED materials.

Our U.S. government 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 apply to the counter-IED fight, but it gives you an idea of the collaboration that is taking place on all levels.

And we are taking action.

To give you a specific example, the U.S. Department of Commerce’s Entity list stops U.S. companies from trading with entities — companies, organizations, persons — who violate U.S. export laws. Last month, sixteen new entities — four individuals and twelve companies — were added to this list for providing materials used to make IEDs employed against U.S. and Coalition forces in Afghanistan. To date, 152 persons have been added to the Entity list because of IED-related matters. Through coordinated efforts and strong partnerships across the U.S. government and with our international partners, we are able to go after these nefarious actors and effectively counter the networks that use IEDs.

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 are the basics of this strategy.” End quote. The U.S. government and our allies are implementing efforts to identify those 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, adding people and business to the denied entities list — to combat the HME threat.

As a result of its illegal use as a weapon, a range of approaches have been implemented internationally to regulate ammonium nitrate. Some countries, such as the United Kingdom, have taken a layered approach by restricting the types of ammonium nitrate fertilizer that can be sold, but also partnering with industry to mitigate security challenges. Indonesia, South Africa, Peru, and Colombia have banned the use of ammonium nitrate fertilizers all together, while others such as China and Ireland have imposed bans based on the ammonium nitrate content.

In August 2011, the U.S. Department of Homeland Security, proposed a rule to create the Ammonium Nitrate Security Program. As you know, this rule will establish regulations for the U.S. domestic sale and transfer of ammonium nitrate fertilizer. When the rule is final, the U.S. will join many of our international partners — Canada, Australia, the European Union, the United Kingdom, and others — in regulating ammonium nitrate. I am not implying that you or other producers are at fault — I want to be clear on that. But while we understand controlling the inventory of a legally traded commodity is a challenge, in order to ensure the security of the citizens of all our nations I believe we must do better.

While the U.S. government is unified and taking action, we can't solve this global HME problem alone. And this is not just a United States problem. This challenge is global and can't be treated as business as usual — it requires a significant commitment by our allies and most importantly you, our industry partners. We have a shared interest in safeguarding the valuable products of the global fertilizer industry from illicit use.

When announcing the IFA Product Stewardship Initiative your Director General Luc Maene said, and I quote, “It is important for industry associations like IFA to lead the way for their members, especially in an industry so dispersed geographically as the fertilizer sector.” This is exactly what you are doing today by establishing a Product Security Task Force. I commend IFA for taking this first step and look forward to building on these initial actions. IFA's guiding

principles for safety, health, and environmental management embody this industries commitment to responsible and sustainable fertilizer production and use.

So, I'd like to share my thoughts with you about this urgent need for a whole-of-industry approach.

I believe with IFA's leadership and your support, we will mitigate this deadly and growing problem. And, I believe there are four critical areas that require your leadership:

First is the creation and implementation of a universal dye program to aid in the recognition and tracking of ammonium nitrate. One of the biggest challenges we face is the identification and interdiction of calcium ammonium nitrate.

I believe there are methods that can be applied, at the point of production that could make significant positive contributions in the ability to identify the origin, trace the flow, identify the network, and interdict CAN used for illicit purposes. By instituting this initiative, you will demonstrate a leadership commitment to the safety and security of fertilizer production, distribution, and sales — which is IFA's number one safety, health and environmental management guiding principle.

Because insurgents and criminals are particularly good at disguising and repackaging ammonium nitrate, dyeing the CAN will make that far more difficult. It could then be identifiable by anyone, at anytime, at any border, with no specialized equipment and little training. This simple and cost-effective method will pay huge dividends in the ability to understand the illicit supply chain, identify ammonium nitrate on the borders, and interdict it before it is weaponized.

This low-cost coloration can be done with very little re-engineering. In fact, I believe it can be integrated into a marketing campaign, demonstrating and underscoring your leadership and commitment to preventing illicit use of your product.

The second issue requiring industry focus is in the development of a non-detonable formula for ammonium nitrate. Now, I understand this is extremely difficult, but this reformulation is imperative to saving lives — both the lives of our security forces and the lives of our citizens in our homelands. Your fourth safety, health, and environmental principle states that all members shall ensure adequate financial and human resources for continual improvement to the safety, security, health and the environmental performance of your products. I ask you to continue to invest in this security and apply your resources to aggressively research and rapidly develop alternative, non-detonable fertilizer compositions.

Adding calcium carbonate to ammonium nitrate was an important first step — but it has been rendered totally ineffective. You must continue to explore ways to make current fertilizers more difficult to reprocess into a detonable composition. In addition to a non-detonable formulation, some other methods to prevent detonation worth exploring are:

- **The use of dilutants;**
- **Additives to prevent or complicate the conversion to an explosive;**
- **Desensitizers;**
- **And formulations that are easier to neutralize after it is turned into a homemade explosive.**

Understanding the challenge in finding a viable solution, I have also reached out to the U.S. national laboratories, academia, and the research and development community to seek their assistance in tackling this difficult task. This challenge requires the best and the brightest from industry, academia, and the global research and development community. I am confident a solution can be found if your technical expertise and leadership are applied to this problem. Your leadership is critical.

Third, I urge you to develop effective industry-wide standards, regulations, and safeguards to secure and trace the production and distribution of nitrogen-based fertilizers. This initiative is in line with the underlying principles of IFA's product stewardship program which stress putting responsible business management processes in place. By increasing accountability and instituting effective controls to monitor and regulate the sale, transfer, and transport of ammonium nitrate you will prevent future illicit or terrorist activities.

In September 2011, India enacted stricter controls on the distribution of ammonium nitrate and are seeing results. This month, for example, a truck carrying 30 tons of ammonium nitrate disappeared during delivery. The supplier became concerned when the product did not reach its destination after 15 days and notified police. Between these stricter government regulations and the diligence of this supplier, Indian authorities have been able to recover a portion of the missing product and track the likely whereabouts of the truck driver and the remaining ammonium nitrate.

As I mentioned earlier, with every IED attack there is an increased call for action among government officials around the world. Globally, government imposed restrictions and regulations on ammonium nitrate fertilizer are on the rise:

- The U.S. Congress took action following the Oklahoma City bombing, mandating the Department of Homeland Security to regulate ammonium nitrate;**
- The Philippines banned its use and Australia instituted regulations as a result of the 2002 Bali night club attack which claimed the lives of 202 people and injured hundreds more;**
- And as I mentioned, India, in response to the attacks in Mumbai last year, added ammonium nitrate to their list of controlled explosives. Now, a license is required to purchase, transport, and possess ammonium nitrate.**

This trend will likely continue, but as the producers of this fertilizer, it is in your best interest and your responsibility to ensure that it doesn't end up as a weapon. Proactive self-regulation, through an effective product stewardship management structure, will demonstrate leadership and commitment, which I believe may minimize government-imposed regulatory burdens.

Instituting simple measures such as maintaining sales records, placing effective controls on distribution to threat networks, and immediately reporting losses or thefts to authorities, you can significantly aid in the ability to track down those who use your product in illegal and deadly ways without the need for government imposed regulations. In addition, I will ask the Product Security Task Force to investigate technical tracing means to track the distribution of ammonium nitrate from the factory to the field.

Fourth, and finally, is the creation and implementation of a global education and awareness campaign. In the United States, the Fertilizer Institute partnered with the Department of Homeland Security to implement “America’s Security Begins With You,” a national campaign targeting the agribusiness community to raise their awareness to the potential criminal misuse of ammonium nitrate fertilizer. This campaign provides agribusiness retailers with information on how they can protect against the criminal misuse of ammonium nitrate by establishing security plans, knowing their customers, being able to identify suspicious activities, keeping sales records, and notifying law enforcement immediately if there is a problem.

Education on the criminal misuse or danger of a product is imperative for industry, and is the definition of good stewardship. Knowledge is power — through a simple awareness campaign, the agribusiness retailers will be armed with the tools they need to identify suspicious customers or transactions, and how to report suspicious activities, thefts, or unexplained losses.

Addressing these four initiatives:

- **Implementation of a universal dye program;**
- **Development of a non-detonable alternative to ammonium nitrate;**
- **Instituting industry-wide standards, regulations, and safeguards;**
- **And supporting a global education and awareness campaign**

— are in your long-term interest and are this industry's responsibilities. I am confident with your leadership we will have a significant impact on combating this threat.

In closing, addressing the threat posed by homemade explosives requires innovative and creative solutions by all of us — military, government, and industry. As American industrialist Henry Ford once said, “Coming together is a beginning, keeping together is progress, but working together is success.” My organization stands ready to work together with you on developing workable, mutually beneficial ways to address the global IED threat presented by the illicit use of your fertilizer.

While we are never going to stop all IEDs, we must act — we have a moral obligation to take action. This organization — IFA — has taken an important first step in establishing the Product Security Task Force in accordance with its commitment to responsible stewardship. I truly believe a whole-of-industry approach combined with our ongoing whole-of-government strategy will make it more difficult for threat networks to produce homemade explosives — and ultimately mitigating the impact of IEDs globally. I look forward to partnering with you — working together to keep fertilizers out of the hands of nefarious actors.

Again, I would like to thank the IFA leadership for the opportunity to share my thoughts with you today. And I commend you for the responsible stewardship you have demonstrated to date. I appreciate your time and attention, and in the time that is left, I am happy to entertain any questions you have.

Thank you.