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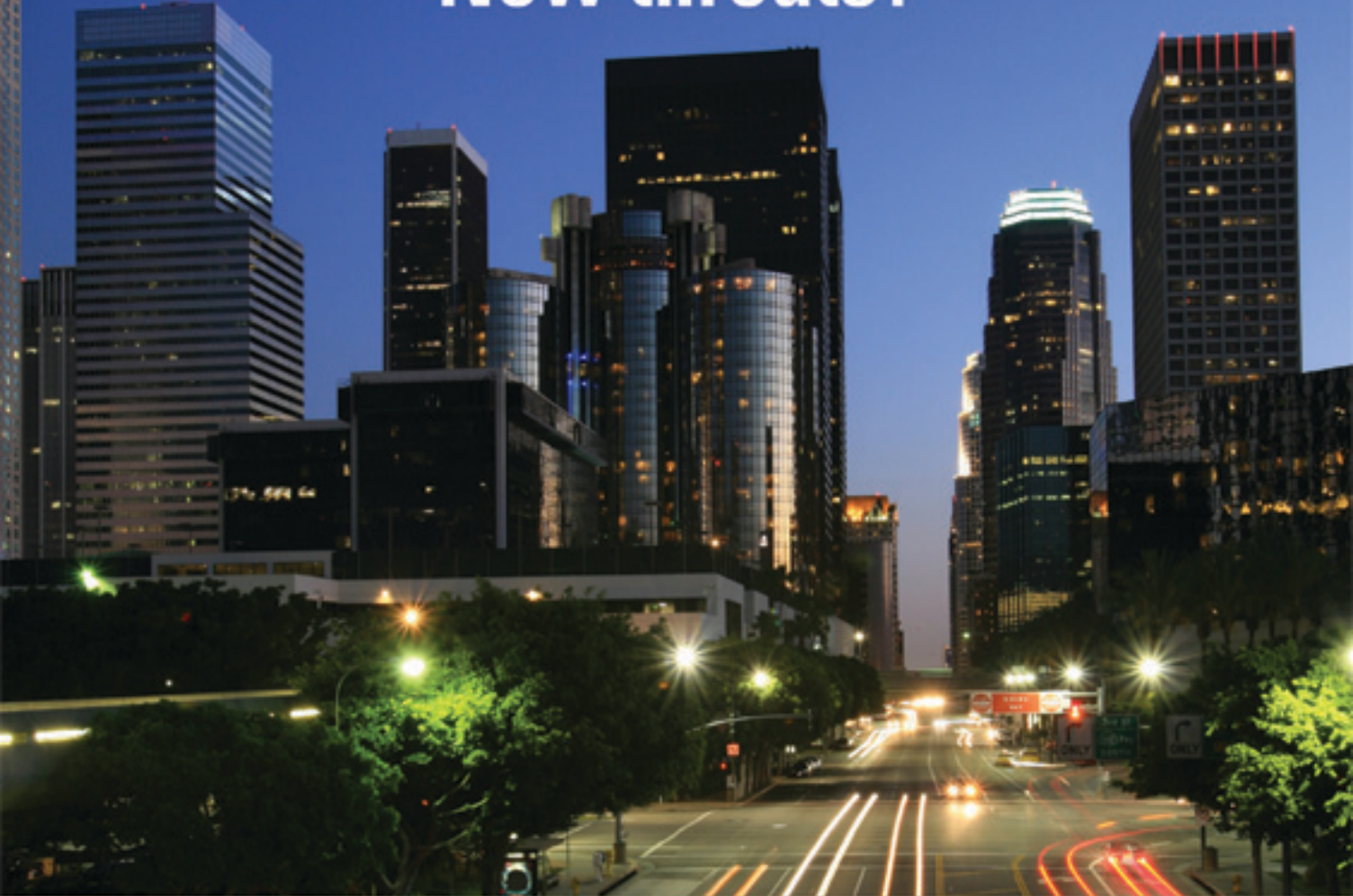
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## PUBLISHER'S MESSAGE

By Martin (Marty) Masiuk, Publisher



The blinding flash of light and hints of “explosive” situations linking the cover of this month’s printable issue of DomPrep Journal with the articles inside are not overly subtle hints of what our editorial staff and distinguished authors try to accomplish in every issue of the magazine – namely, provide not only senior decision makers but also everyday working professionals the information they need to form their own opinions on what are frequently some very complicated issues in the field of homeland security.

The article by Asha George beginning on page 14 provides an excellent example of the approach taken by many of our authors. Dr. George, an Army intelligence officer, a paratrooper, a veteran of Desert Storm, and a highly respected authority in public health issues, discusses the difficult and extremely complex problems facing first responders who have the awesome responsibility of dealing with terrorist incidents involving biological weapons. Not surprisingly, she suggests that their first priority should and must be amassing, analyzing, and disseminating the huge volume of information required to form an accurate, actionable, and truly comprehensive intelligence “picture.”

One of the principal points that Dr. George and many other DPJ authors emphasize is the need, in an era of unprecedented dangers and difficulties that threaten the entire nation, for all domestic-preparedness professionals to work more closely together than ever before in pursuit of a common goal – protection of the U.S. homeland. Which is precisely what the leaders of the Coast Guard, the Maritime Administration, U.S. port authorities – working hand in glove with seafarers and shippers and shipbuilders and other maritime “stakeholders” – already are doing in their unified effort to detect, deter, defeat (if possible), and/or deal with the aftermath of terrorist threats “from the sea” or within U.S. coastal and inland waters. Coauthors Christopher Doane and Joseph DiRenzo III – a recent PhD recipient (Bravo Zulu, Doctor “D”) – discuss the details in their insiders’ report on the Maritime Operational Threat Response (MOTR) process, a little-known but immensely important component of the U.S. national strategy developed specifically to deal with the burgeoning threat posed by international terrorism.

Undoubtedly the most important building block of this month’s printable issue, though, is the OpEd article by Rep. Steny Hoyer (D-Md.), the new majority leader of the U.S. House of Representatives and for many years one of the most consistent, and most articulate, congressional supporters of a stronger, better funded, and more diversified homeland-security program. The views he presents are his own, of course, but they clearly reflect the opinions held by many, probably most, other members of Congress, of both parties, who believe that, as the headline says, “Homeland Defense Begins at Home.”

We also support that view and promise to do our utmost, in a strictly nonpartisan way, to provide Majority Leader Hoyer and his colleagues, on both sides of the aisle, the factual information and authoritative analyses they need on a continuing basis to carry out their own constitutionally mandated duties and responsibilities to “provide for the common defense.”

**About the Cover:** U.S. Air Force Staff Sgt. Andrew Smith of the USAF’s explosive ordnance disposal unit stationed at Baghdad International Airport stands at a safe distance to detonate explosives in an uninhabited range in close vicinity to the airport. The unit, part of a joint task force, is responsible for EOD operations within a 500-square-mile area around Baghdad. (Aug. 18, 2006, USAF photo by Staff Sgt. Bryan Bouchard)

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## Homeland Security Begins at Home

By Rep. Steny Hoyer (D-MD), Viewpoint

*A Note from the Publisher: The "OpEd" article below, by House Majority Leader Steny Hoyer (D-Md.), is the first in a planned series of commentaries by leaders of both major political parties and other officials who have been asked to give DPJ readers the benefit of their personal views on the current state of the U.S. homeland-defense program, along with recommendations on how to make the nation safer, more secure, and better protected. On behalf of our readers and the DPJ staff, I thank Majority Leader Hoyer for his willingness to serve as the first of our guest commentators.*

Martin (Marty) Masiuk



As I listened to the President's State of the Union address last month, I could not help but notice that something was different this time around. In all the talk about the threats we face as a country and the "decisive ideological struggle" that holds "the security of our nation in the balance," not once did the President utter the words policeman, firefighter, or first responder.

He made no mention of enhanced security at our airports or harbors. He did not talk about giving our civilian protectors the tools they need to keep us, and themselves, safe. And he did not cite a single specific homeland security initiative that will protect the American people in case of another attack.

On September 11, 2001, we all witnessed humanity at its worst and most destructive, but we also saw human beings at their best and most courageous.

We saw extraordinary men and women rush headlong into smoke-filled stairwells and hallways engulfed in flames to save people whom they had never met. We saw police and firefighters make the ultimate sacrifice so that others could live on. And we saw thousands of survivors stream out of the World Trade Center and the Pentagon who might not be with us today if not for the valor and selflessness of our first responders.

In the years since that fateful day, the men and women who have answered the call to help keep this country safe – police officers, firefighters, paramedics, and transit security personnel – have been working around the clock to ensure that we never have to confront this type of tragedy again.

But today, five-and-a-half years later, I fear that our government is now starting to neglect this important mission and what former National Security Advisor Richard Clarke has often referred to as our "forgotten homeland." In an environment that is almost entirely focused on prosecuting the War on Terror abroad, it seems that we are overlooking our first line of defense.

In his homeland security budget submission to Congress last year, President Bush called for cuts that were irresponsible at best and downright dangerous at worst.

Included in the President's proposal were 40 percent reductions in homeland security funding for New York City and Washington, D.C., a decrease in nationwide first responder funding from \$3.4 billion to \$2.7 billion, and the elimination of the Metropolitan Medical Response System, which provided vital medical supplies to our first responders. Why?

Attacks in Bali, Madrid, and London have proven that Al-Qaeda is still allocating resources to support terrorist operations outside of Iraq and Afghanistan – it took only 19 hijackers to kill nearly 3,000 innocent people on September 11.

In December of 2005, the 9/11 Commission gave the federal government an "F" in providing a risk-based allocation of homeland security funding, an "F" in ensuring communications interoperability for first responders, and a "D" in the screening of checked baggage and air cargo on passenger aircraft.

Furthermore, former Republican governor of New Jersey and 9/11 Commission Co-Chair Thomas H. Kean observed, just a couple of months ago, that "we're not protecting our

own people in this country – the government is not doing its job.”

In my judgment, it is time for the federal government to start taking more responsibility, not less, for protecting the American people within our own borders. After all, homeland security begins at home.

When the 110th Congress convened last month, with a new Democratic Majority in place, the House of Representatives made the implementation of measures that will enhance our national security efforts our top priority.

And, as the first component of our “100 Hours Agenda,” House Democrats introduced the aptly named “House Resolution One – Implementing the 9/11 Commission Recommendations Act of 2007.” This legislation passed with overwhelming bipartisan support – and for good reasons.

First, this legislation seeks to significantly increase the share of state homeland security grants that are provided on the basis of risk, meaning that federal dollars will go where they are needed most to help first responders protect American families.

Second, this legislation, if signed into law, will create a stand-alone grant program for interoperable communications for our first responders. This measure will ensure that police, firefighters, and other government officials from different jurisdictions and agencies will be able to communicate quickly and effectively in emergency situations. There is no telling how many lives could have been saved if interoperable communications systems had been in place on September 11.

Third, this legislation will phase in a 100 percent inspection requirement of air cargo over the next three years and a 100 percent scanning requirement of U.S.-bound shipping containers over the next five years.

And fourth, this legislation will accelerate the installation of explosive detection systems for checked baggage on commercial airliners.

These measures are not going to entirely eliminate the threat we face, but they are critical steps toward greater security that signal this Congress’s commitment to

moving forward on vital initiatives that should have been in place long ago.

In the coming months, Congress will be carefully examining the President’s homeland security budget for fiscal year

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2008 and vigorously guarding against the reckless cuts our first responders were forced to endure last year.

We will be examining innovative ways to improve rail and transit security throughout the United States.

And, as Co-Chair of the Congressional Fire Services Caucus, I will continue to be a strong advocate for full funding of the Fire and SAFER grant programs, which ensure that our nation’s firefighters have every available resource at their disposal to provide for their own safety and that of our communities.

The new Democratic Majority in Congress recognizes that our highest duty is to protect the American people, defend our homeland, and strengthen our national security. In order to fulfill that responsibility, we must proceed with the same sense of obligation and urgency that our first responders and other security personnel exhibit on a daily basis.

Americans depend upon our police officers, firefighters, paramedics, and security professionals to keep their families safe.

Those who work tirelessly to prevent disaster from occurring, and those who will have chosen to be our first responders when emergencies arise, need to know that they can depend on their federal government to provide the resources they need to achieve that goal.

A solid defense is just as important as an aggressive offense in the War on Terror.

*Congressman Steny H. Hoyer (D-Md.), majority leader of the U.S. House of Representatives, is charged with managing the House Floor and with scheduling legislation to be considered. He also plays a key role in helping House Democrats determine their legislative agenda and in building support for the party’s positions. Now in his 14th term, Hoyer represents Maryland’s Fifth Congressional District of Maryland. Earlier in his career, he won a seat in the Maryland Senate at the age of 27, and at the age of 35 was elected president of the Maryland Senate, the youngest in state history.*

*The longest-serving House member from Southern Maryland in history, and the highest-ranking member of Congress in the state’s history, he served for two terms as Democratic whip prior to being elected majority leader. Recognized on both sides of the aisle as an effective leader and committed consensus builder, he is the former chairman of the Helsinki Commission, and is widely regarded as a champion of human and civil rights. He was the lead House sponsor of the Help America Vote Act, which President Bush signed into law on 29 October 2002, and also guided the landmark Americans With Disabilities Act to passage in 1990.*

## ***Stay Tuned For Our Next Scheduled Legislative Commentary***

Rep. Bennie G. Thompson, (D-Miss), chairman of the House Homeland Security Committee, will detail his legislative priorities for homeland security, in particular emphasizing his views on the need to secure funding for programs to develop interoperable communication systems for police and fire personnel.

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# IEDs, RDDs, and Other Improvised Hazards

By Joseph Cahill, EMS



As a result of the guerrilla war in Iraq the IED, or improvised explosive device, has moved from the military and law-enforcement lexicon into the common vocabulary of Americans. An IED is basically a homemade bomb often used as a booby trap and/or detonated by a timer. It is not designed as a weapon per se, in other words.

The definition of IED is independent of its size, the source or types of materials used to build it, and/or the delivery strategy employed, and would include a vest filled with five pounds of C4 explosives or a rental truck packed with diesel and fertilizer or artillery shells strung along a roadway.

The addition of radioactive materials to an IED creates a radiological dispersion device (RDD), the effects of which should not be confused with a nuclear explosion. The main difference is the energy source for the explosion. In a nuclear detonation the energy comes from an atomic chain reaction, whereas the RDD receives its energy from conventional explosives.

## The Residual Effects of Fear

The use of an RDD makes sense, in fact, only in the context of a terrorist action. Most IEDs are used primarily for anti-personnel/anti-vehicle purposes; in contrast, the RDD is aimed primarily at denying the use of territory or a specific facility. The radioactive contamination from an RDD is distributed not only by the force of the explosion but also, inadvertently, by the actions of victims and rescuers.

Only a small amount of radioactive material is needed for an RDD to be effective – just enough to get noticed by detection equipment will accomplish the goal of spreading fear. By contaminating the area around an explosion with radioactive materials the terrorist uses the public's own lack of understanding of radiation, and the fear that results from the explosion, to deny the use of that area even after decontamination is complete.

To combat the psychological and propaganda as well as the actual destructive effects of an RDD, line-level resources must be equipped to detect radiation, and the detection capability must be deep enough that it would not require a special call to higher authorities to get detection resources on the scene. In addition, the scene of every explosion should be checked for radiation, and there must be a realistic plan in place to react to the discovery of radiation.

*The radioactive contamination from an RDD is distributed not only by the force of the explosion but also, inadvertently, by the actions of victims and rescuers.*

## Secondary Devices A Primary Danger

The typical injuries caused by an IED are similar to those caused by any other explosion; in fact, for the first responder, the primary difference between an IED and any other explosion is, frequently if not always, the risk caused by secondary devices – which might simply be one or more other IEDs positioned near the first IED, and triggered separately. What is believed to have been the first use of a secondary device in a terrorist attack in the United States occurred in the 1997 bombing of an abortion clinic in Atlanta, Georgia.

The threat posed by the secondary device is aimed primarily against the first responders on the scene, and for that reason all first responders not only must be actively involved in scene safety but also conscious at all times that any emergency response to an incident in which an

explosion has occurred carries the risk of a secondary explosion being set off. In other words, all responders must be constantly aware of their surroundings, recognize that they cannot afford the luxury of being too shy to report something – anything – out of the ordinary, and must take whatever immediate and appropriate actions are needed to protect not only responders but also any bystanders in the vicinity.

In short, the primary responsibility of the first responder is to return home safely.

### Links for Later Use:

#### IED General

<http://www.globalsecurity.org/military/intro/ied.htm>

<http://www.defense-update.com/features/du-3-04/IED.htm>

#### Human Cost of IED

<http://www.icasualties.org/oif/IED.aspx>

[http://www.atf.treas.gov/explason/abortion\\_clinic\\_violence.htm](http://www.atf.treas.gov/explason/abortion_clinic_violence.htm)

<http://www.cnn.com/US/9801/29/bombing.update/index.html>

#### Secondary Devices

<http://www.emergency.com/atlnabmb.htm>

<http://www.osha.gov/SLTC/emergencypreparedness/guides/secondary.html>

#### RDD

[http://www.osha.gov/SLTC/emergencypreparedness/rdd\\_tech.html](http://www.osha.gov/SLTC/emergencypreparedness/rdd_tech.html)

[http://www.fema.gov/areyouready/radiological\\_dispersion\\_device.shtm](http://www.fema.gov/areyouready/radiological_dispersion_device.shtm)

<http://209.85.165.104/search?q=cache:qZ8h7e8ilnAJ:www.ead.anl.gov/pub/doc/rdd.pdf+rdd&hl=en&gl=us&ct=clnk&cd=14>

<http://www.osha.gov/dep/fire-expmatrix/index.html>

*Joseph Cahill has served as a line paramedic for over ten years in The South Bronx and North Philadelphia. He was awarded the distinguished service medal and seven pre-hospital "saves" ribbons from NYC\*EMS and FDNY as well as a unit citation from the Philadelphia Fire Department, and has received both the 100-Year Association's award for "Outstanding Service to New York City" as well as the World Trade Center Survivor's Ribbon (two bronze stars).*

# Camera Phones Add “a Thousand Words” To the Handling of Transportation Incidents

By Rodrigo (Roddy) Moscoso, Law Enforcement



Since August 2006, first responders in Northern Virginia have been participating in an innovative pilot program sponsored by the U.S. Department of Transportation (DOT) that uses camera phones to transmit images from incident scenes to other responders and to regional tow companies. The University of Maryland’s Capital Wireless Information Net (CapWIN) program is implementing the pilot program to assess the value of using field images to improve the effectiveness and timeliness of responses to significant transportation incidents.

As part of the program, approximately two dozen transportation field personnel have been using commercial cell phones equipped with cameras to capture both images and “voice tags” (audio descriptions of the accident scene) – which are then transmitted to participants in the pilot program. Tow companies use the field images to make better-informed decisions about the type of equipment to dispatch to



clear an accident scene, and regional transportation officials use the images to better manage incidents in terms of detours, updates to message signs, and coordination with other jurisdictions.

Although traffic cameras have long been permanent fixtures along the Interstate 95 corridor between Washington, D.C., and Richmond, Virginia, the images available from those cameras often

do not provide enough visual detail to determine the specific nature of a given accident scene when (and if) the incident scene is in the camera’s field of view. Moreover, because many traffic cameras are positioned at a fixed angle and do not possess pan, tilt, and zoom capabilities, their value may be limited to providing information about the impact of specific incidents on overall traffic flow, the extent of delays, rubbernecking, and similar problems.

## Proven Value – And Much More to Come

Initial feedback from participants in the DOT camera phone pilot has been positive and indicates that the field images transmitted could be of significant value in supporting regional incident awareness and coordination. The addition of voice-tag recordings to the pictures also has helped to confirm the specifics of a given incident – e.g., lane-closure information and other details that are not always provided or can easily be misinterpreted through standard radio communications.

Camera phone images also can be automatically linked to the associated transportation center incident via the CapWIN incident management system, making it much easier for first responders to share multimedia information – including pictures as well as audio and video clips – with other first responders across a wider geographical area. For example, incidents covered by the Northern Virginia Smart Traffic Center automatically generate incident reports in the CapWIN system that are made instantly accessible to all CapWIN field and center-based users. In addition, a first responder in the field can use his or her camera phone to take a photo of the incident scene and transmit a standard multimedia text message to the CapWIN system, which will automatically add the image to the incident’s record for all to see.

The City of New York recently announced a plan to integrate camera phone images provided by private citizens directly into the city’s own 911 dispatch centers to increase the level of situational awareness available



to responding agencies. Although the value of these images to aid in emergency response remains to be proven, the near ubiquitous availability of camera phones possessed by the general public provides a significant untapped resource to provide additional visual context to field incidents. Because many first responders are not equipped with camera phones themselves, New York’s solution would use the resources of the public to fill this gap. Although questions remain about the validity and ultimate legal admissibility of such images to aid in criminal investigations, the New York City solution will almost certainly result in emergency responders having a better visual image of an incident scene.

In the Washington, D.C., area, CapWIN’s field-imaging technology has been used not only by the transportation community but also by public-safety personnel to aid in criminal “be on the lookout” searches and other law-enforcement activities. The images transmitted have included mug shots, photos of missing persons, commercial-vehicle placard information, and photos of stolen merchandise. In addition to supporting law-enforcement activities, field images also have been used to support a number of disaster-response efforts. When Tropical Storm Ernesto crossed over Virginia, Maryland, and the District of Columbia, for example, first responders captured images of water damage and the flooding caused by the storm that were made instantly available to all participating agencies.

## The Impartial Observer

Visual images also can provide an “unbiased” assessment of a given incident scene. For example, following Katrina’s landfall in



New Orleans, initial assessments of the status of the city's levees were frequently contradictory and in some instances almost wholly dependent upon the information available to, and/or the opinion of, the individual providing the assessment. In fact, former FEMA Director Michael Brown testified that, shortly after the storm, he received a report from one of his staff members in New Orleans that there was a levee breach in progress. Brown dismissed the report, however, allegedly because the staff person who provided it was "prone to exuberance."

It seems almost certain that one or more photographs of the suspected levee breach would have provided an unambiguous assessment of the situation. As it happened, though, sixteen hours passed before the levee breach was officially confirmed by FEMA, and that delay severely affected the agency's ability to effectively plan for the flooding that already was taking place.

On a day-to-day basis, images also can provide clarity to a wide range of other situations. One recent example occurred in the Washington, D.C., area when the Woodrow Wilson Bridge, a critical link in the I-95 corridor between Richmond and Baltimore, was shut down because a "suspicious device" was found on a barge sitting at the base of the bridge. All traffic in the vicinity was stopped, or diverted elsewhere, for nearly an hour while the Metropolitan Police's Harbor Patrol and other local law-enforcement agencies responded to the scene. One of the responders identified the device as a weather balloon monitoring station and, after contacting the National Weather Service to confirm the location of the device, local officials reopened the bridge to traffic.

It seems likely that the situation would have been resolved much more quickly if the initial report by the first responder had been accompanied by an image from a cell phone that could be made instantly available to hundreds of other first responders both in the field and at operation centers – one or more of whom could have correctly identified the device from the photo.

With the establishment of regional "fusion" centers that include integration of law-enforcement and other first-responder agencies

with public safety, transportation, and even weather personnel, resolution of the same incident might in fact have been accomplished



almost instantly, saving not only the valuable time of first responders (and thousands of commuters) but also the considerable expense incurred by numerous responding agencies making their way through traffic, and/or by boat, to the incident scene.


Under the sponsorship of regional public safety and transportation agencies, the CapWIN program continues to assess new technologies that could be used not only to support incident response but also to improve field-level situational awareness both among center-based users and at the command level. Recently, for example, live video streaming from the field has been

demonstrated using commercial wireless data services. This capability will be further explored and tested in future versions of the CapWIN system. In the meantime, the availability and use of field images using cell phones, PDAs, and digital cameras will undoubtedly continue to increase among first responders. However, day-to-day integration and the full exploitation of these and other advanced technologies probably will occur only through, and after, the development and promulgation of standard operating procedures describing, or perhaps mandating, their use in the field.

A formal evaluation of the DOT Camera Phone pilot program is expected to be released sometime this summer.


*For additional information about the pilot project and/or the CapWIN program, contact the author at [rmoscoso@capwin.org](mailto:rmoscoso@capwin.org).*

*Rodrigo (Roddy) Moscoso currently serves as Communications Manager for the Capital Wireless Information Net (CapWIN) Program at the University of Maryland. Formerly with IBM Business Consulting Services, he has over 15 years of experience supporting large-scale IT implementation projects, and extensive experience in several related fields such as change management, business process reengineering, human resources, and communications.*



## Audio Interview


**Dr. Kevin Yeskey, M.D.,  
Acting Deputy Assistant Secretary,  
Preparedness & Emergency Operations, HHS**



Dr. Yeskey's knowledgeable views on the present status of the department's preparedness and emergency operations programs, the transfer to HHS of the National Disaster Medical System, and numerous related topics.

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## The TRP/ACU 1000

# A Major Step Forward In Communications Interoperability

By Brent Bankus, DOD



In today's multiagency environment, first-responder mission-essential tasks have greatly expanded, making the need for a robust communications system capable of operating with other communications systems of various types and configurations a high-priority consideration. Simply speaking, communications interoperability means nothing more and nothing less than the ability of two or more dissimilar communications systems to exchange information when and where it is needed.

The lack of interoperability is in fact one of the more difficult problems facing the U.S. first-responder community. Fortunately, recent technological advances have reduced and may soon eradicate this problem, thanks primarily to the advent of new systems such as the TRP/ACU 1000.

There are now more than 17,000 law-enforcement agencies of various sizes throughout the United States. An estimated 95 percent or so have fewer than 100 officers assigned. There also are over 35,000 fire and emergency medical agencies nationwide. Because of the non-standardized and wide variety of communications systems used by these agencies, interoperability is very difficult to achieve. For example, public safety radio frequencies can vary from low-band Very High Frequency 25-50 MHz to 806-869 MHz, and there is no standardized and affordable radio available to operate across the entire range of frequencies encountered.

### **No Silver Bullet, But a Very Good Start**

Because of the wide variety of communications equipment used by the first-responder community, the ability of local, state, and federal law-enforcement agencies and other first-responder units to communicate effectively with one another

during a large-scale natural or man-made disaster is always difficult and sometimes impossible. Use of the TRP/ACU 1000 – developed by JPS Communications Inc., a subsidiary of the Raytheon company – may not be the “Silver Bullet” that solves the entire problem, but it seems to be at least an impressive start, if the experience



Figure #1

of the Derry Township Police Department (in Dauphin County in South Central Pennsylvania) is a typical example.

An exceptionally versatile communications system, the TRP 1000/ACU 1000 was designed and built specifically to provide interconnections between different communication systems. As a bonus, it also can be configured to meet most telephone and radio interface applications. Suitable for various systems and a variety of modes – e.g., high-frequency, land mobile radio, and Satellite Communications (SATCOM) – it is highly expandable as a radio branch exchange.

The ACU 1000 Modular Interconnect System not only is able to simultaneously cross-band two or more dissimilar radio networks, it also is fitted with a Gateway Switch and can connect a radio network to a telephone line or SATCOM system, or even create a conference call between several different radio networks and a caller on the telephone line. An ACU 1000 operator can use the HSP-2 module – i.e., the Handset/Speaker/Prompt module contained within

the ACU 1000 system – to monitor or establish an interconnection with any or all of the communications systems wired to the rear panel of the ACU 1000. The system, which is reported by the manufacturer to be able to interconnect up to 24 devices, also provides both voice and tone prompts to help users take full advantage of all of the system's capabilities.

Figure #1 provides a front view of the ACU 1000. Depending on user requirements, each of the 12 interface module plug-in slots depicted in Figure #1 may contain a module that will connect a communications system to the rest of the ACU 1000 network; for operational purposes, each plug-in slot is given an extension number, from 01 through 12.

### **Shock-Resistant And Mobile Versatility**

The TRP/ACU 1000 system shown in Figures #2 and #3 includes not only the



Figure #2



ACU 1000 but also five VHF and five UHF radios. Figure #2 shows the TRP/ACU 1000 in a mobile configuration, and mounted in shock-resistant cabinets; and Figure #3 shows a fixed-site configuration, similar to that used, for example, in a county emergency management center.

The deployment options for the TRP/ACU 1000, users say, are virtually endless. Some jurisdictions have mounted the system in vehicles or facilities ranging from a converted ambulance to a dedicated communications trailer to a tactical command vehicle (converted from a mobile home – but a custom-made vehicle can be ordered from the JPS Company). It should be noted, though, that if the communications system is mounted on a trailer a prime mover will be needed to take it from one place to another as the need arises.

Among the most useful subsystems in each configuration is a dedicated power supply – which would be used not only to power the communications system but also to ensure that the ambient temperature is kept constant (because the stress of using the TRP/ACU 1000 in extremely hot weather could adversely affect its performance). In

any climate, though, the system generates a good deal of heat that also can affect its performance if not closely monitored.

## A High-Value Life-Saving Demonstration

Regardless of its configuration and/or the deployment options available, the potential value of the TRP/ACU 1,000 communications system to the first-responder community would be difficult to exaggerate – as was demonstrated during



Figure #4

a recent local flooding emergency in south central Pennsylvania during which the ACU 1000 not merely “performed as advertised,” according to Lieutenant Patrick O’Rourke, platoon leader of the Derry Township Police Department, but allowed local and state police, and other first-responder units, to communicate with one another during the entire operation, adding immeasurably to their ability to act almost immediately when the flood waters from several local streams rose so quickly that the evacuation of several housing areas had to be ordered.

The acquisition of the ACU 1000 required a lot of effort on the part of several forward-looking officials, O’Rourke also commented. The command and control van and the entire ACU 1000 configuration cost approximately \$500,000. The police department had to submit a contract bid through a local state task force, which allocated some of the scarce federal funding available to complete the procurement

## Lower Cost, Almost Equal Capability

In addition to designing, developing, and building the larger TRP/ACU 1000, the



Figure #5

Raytheon Corporation also has led the effort to develop and deploy a smaller and less expensive version of a similar piece of communications equipment that gives users much of the same technology incorporated in the larger ACU 1000. On 15 May 2006, Raytheon announced the introduction of the ACU-M, shown here in Figures #4 and #5. The ACU-M – a compact piece of communications equipment fitted with audio ports, several voice-over internet protocol ports, and a headset port – is particularly recommended for the quick and easy establishment of a command post at a disaster site. Among the system’s more attractive characteristics are a self-testing diagnostic capability and the ability to run from a battery, a twelve-volt outlet, or an AC power supply.

In addition, thanks to its digital processing capability, the unit can interconnect radios in any band, including VHF, HF, and UHF. Moreover, because of its compact size, the ACU-M can be deployed almost anywhere – in a variety of configurations.

From the first-responders’ point of view, it seems that the needs of the front-line units are finally receiving some much needed attention, at least in the communications area, and that the improved systems now being fielded will help them carry out their assigned tasks more quickly, more safely, and much more efficiently in the future.

*Brent Bankus retired as a promotable Lieutenant Colonel from the Army National Guard Active Guard Reserve Program with over 25 years service. His military career, beginning in 1979 as an Armor/Cavalry officer, encompassed command and staff positions in the U.S. Army, Army National Guard, and the Army Reserve.*



Figure #3

## Pennsylvania, Arkansas, Texas, & Florida

By Adam McLaughlin, State Homeland News



### Pennsylvania **Montgomery County School System Demonstrates “Panic Button” Capability**

On 24 January, 75 members of the Montgomery County public-safety community and school systems attended a demonstration at the county courthouse of a new “panic-button” system that the county intends to install in each of its approximately 650 public, private, and parochial schools, day-care centers, and nurseries.

The panic-button system essentially will tap into the county’s 911 system to permit, without human intervention, the immediate dispatch of emergency personnel to a school. The protection of school children is a major concern of police chiefs throughout the county, Lower Merion Police Superintendent Joseph J. Daly noted, but at present “no ... alert system exists” such as the one planned for Montgomery County. “As I stand here,” Daly said, “I have no way of knowing if something is going on at a school. Even just getting an alert telling me that something is going on at a school is 100 percent more information than I possess right now.”

The Community Law Enforcement Alerting System (CLASS), which will be engineered and put in place by Texas-based Micro Technology Services Inc., will be tested in 20 schools this spring, the county said, including Springfield High School. That school asked to serve as one of the test schools following an incident last December in which a high school junior brought a gun into the school and fired five shots into a corridor ceiling and wall before taking his own life with a sixth shot.

“This is not a panacea,” said Commissioners Chairman Thomas J. Ellis. Officials will never know whether a panic-button system would have prevented the Springfield incident, he said, “But what is important is that anything we can do as commissioners to improve the safety of our schools, to make sure our students are safe, and that our parents feel safe sending them to school, we will do.”

An advisory committee composed of school officials, police, and public-safety officials will develop the protocols that determine when the system should be used, who should have access to the wireless panic button, whether the button will be configured to designate the type of incident taking place, and similar operational information and procedures.

*“What is important is that anything we can do to improve the safety of our schools, to make sure our students are safe, and that our parents feel safe sending them to school, we will do.”*

### Arkansas **University Researches Rapid Response to Avian Flu Threat**

An interdisciplinary team of researchers led by Yanbin Li, professor of biological engineering in the Division of Agriculture at the University of Arkansas, has developed a portable biosensor that can be used for the rapid in-field screening of avian influenza virus.

The relatively low-cost device, officials said, will be able in less than 30 minutes to “specifically and sensitively” detect if the H5N1 avian influenza strain is present on poultry cloacal or tracheal swab samples and could help health officials coordinate a rapid response for the eradication, quarantine, and vaccination of poultry and other animals in the area.

“Rapid detection is the key to controlling the spread of avian influenza,” Li said. “Techniques currently used to detect the disease are either time-consuming, or too expensive, or not specific to subtypes of avian influenza viruses.

Our device provides robust and reliable results and introduces the concept of real-time detection to facilitate a coordinated and rapid response.”

The research team – composed of Li; Billy Hargis, a professor of poultry science; Steve Tung, an associate professor of mechanical engineering; and Luc Berghman, associate professor of immunology at Texas A&M University – combined their expertise in biosensors, virology, immunology, microfluidics, poultry diseases, and micro-electromechanical systems to design, build, and evaluate a prototype device, a spokesman said, that is not only portable and easy to use, but also permits the “rapid, specific, and sensitive” detection of avian influenza virus.

The biosensor – a portable instrument specifically designed for field use – can be operated as a stand-alone instrument or connected to a laptop computer for data acquisition, analysis, and control. The researchers are currently pursuing funding for further testing and evaluation. Li said he expects the device to be ready for commercial production in one year. As a commercial product, the biosensor probably would cost less than \$8,000, Li said, and testing fees would be less than \$10 per sample.

The H5N1 avian influenza virus was discovered in the late 1990s. To date, animal cases have been reported in more than 46 countries, and 10 countries have reported human infection. As of late January, according to the World Health Organization, 269 humans had been infected with avian influenza since 2003, and 163 of them had died.

### Texas **Governor Proposes \$50 Million Disaster Contingency Fund**

Texas Governor Rick Perry has proposed the creation of a \$50 million Disaster Contingency Fund to ensure that state and local governments have the ability to forcefully respond in times of a major public emergency.

“As we have learned from disasters like hurricanes Katrina and Rita, as well as recent wildfires and floods, we can never be too prepared,” Perry said. “The Disaster Contingency Fund will allow state and local government to respond with all the necessary resources in the face of a disaster and better manage the cost to taxpayers.”

The fund will be used for a number of purposes: to pay costs associated with pre-positioning



state resources in anticipation of disasters, for example, and to reimburse local jurisdictions for disasters that do not meet federal disaster declaration standards. Also: to provide up-front funding to smaller jurisdictions that lack the resources needed to carry out large-scale emergency operations; and to pay the federal matching-fund obligations that are required for reimbursement from the Federal Emergency Management Agency (FEMA).

Various disaster situations would merit the allocation of these funds. For example, FEMA's Fire Management Assistance Grant Program does not reimburse local jurisdictions for fighting wildfires before the fires become a threat to communities. Also, as part of Governor Perry's hurricane evacuation plan, the state pre-deploys substantial resources to support local communities when a hurricane's projected path includes the Texas coastline. If the hurricane turns and misses Texas, however – as Hurricane Ernesto did in 2006 – FEMA will not reimburse the funds allocated for the pre-deployment of resources.

"There is no question that Texas is prepared to step up to the plate and meet a disaster head-on," Perry said. "I encourage the legislature to support this \$50 million fund, so we may continue to coordinate our emergency response efforts and protect our communities without being financially penalized."

If approved by lawmakers, the funds will become available on 1 September 2007 and will be distributed by the state's Division of Emergency Management to eligible applicants.

## **Florida Conducts Annual Homeland Security Tabletop Exercise**

In early February, Governor Charlie Crist joined Florida's cabinet officers, the directors of various state agencies, and numerous law-enforcement and emergency-management officials at the State Emergency Operations Center to conduct the fifth annual Florida homeland-security "tabletop" exercise. The exercise is now an annual drill in which the governor and other senior state officials respond to mock terrorism and homeland-security threats.

"Florida's first-rate emergency planning and training efforts have enabled the state emergency management team to respond

effectively to the recent tornadoes in Central Florida," said Crist. "Today's exercise will help ensure that Florida's team continues to be a national leader in response to any type of disaster that may threaten Floridians."

The scenario of the 2007 training exercise was based on the possibility of a terrorist event involving a radiological threat. The primary objective of the exercise is to give the state's top executives and their staffs an opportunity to engage in policy-level discussions with federal and local officials. The exercise also provides an opportunity to evaluate state, local, and federal information-sharing capabilities and to improve the coordination of the response plans and recovery roles played by partner agencies.

Representatives from the Federal Bureau of Investigation, the U.S. Coast Guard, the Florida National Guard, and the Federal Emergency Management Agency also participated in the half-day drill. "As we come together ... as members of the State Emergency Response Team for training," said Director of Emergency Management (DEM) Craig Fugate, "it is equally important that all Floridians take the time now, before a disaster strikes, to form a plan."

*Adam McLaughlin is Preparedness Manager of Training and Exercises, Operations, and Emergency Management for the Port Authority of N.Y. & N.J. He develops and implements agency-wide emergency response and recovery plans, business continuity plans, and training and exercise programs.*

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# Needed: A Comprehensive Medical Intelligence Picture

By Asha George, Public Health



Acts of bioterrorism, diseases for which there are no treatments (or that have become resistant to treatments that have been effective in the past but are less effective today), and the spread

of diseases with catastrophic consequences – e.g., a pandemic flu – are all part of today's response environment. First responders, health professionals, and security personnel need much better medical intelligence about these and other health issues to complete their operational pictures and be able to save lives.

The term medical intelligence, which originated in the Department of Defense, refers to the type of intelligence related to foreign medical, bio-scientific, and environmental information that could have a significant impact upon military planning and operations overseas. However, medical intelligence as a major subject area has in recent years become a civilian priority as well, and has grown to emphasize other matters – including domestic public health and healthcare delivery data, a determination of how diseases might affect foreign dignitaries who contract such diseases, and studies of how different agents that negatively affect health might be intentionally or accidentally introduced into the local population.

Today, the process for generating medical intelligence should and usually does involve taking all of the different types of information regarding and affecting the health and security of people in a particular region, and analyzing it. Carrying out this process presents a variety of challenges, including the difficulties involved in dealing with often vastly different types of data; the assignment of responsibility – to organizations that by law are allowed to have access to such information – for generating the information needed to develop an accurate and complete domestic medical intelligence picture; and finding and/or training analysts who possess both intelligence and public health analytic skills. Once generated, this accumulation of medical intelligence has to be actionable, practical, and distributed to those who might have a legitimate need for it – the policeman

on the beat, for example, the hospital nurse, the political decision maker, and in many if not all cases the everyday citizen.

## ***A Grim Realization, And Unwarranted Assumptions***

For many years, members of the intelligence community – including, among others, personnel assigned to the Armed Forces Medical Intelligence Center, the Central

***The general consensus was that the biological threat was too great, too complicated, and too far outside any particular agency's jurisdiction to be dealt with effectively***

Intelligence Agency (CIA), and the State Department's Bureau of Intelligence and Research – collected and analyzed medical and other health-related information, usually concentrating on: (a) illnesses that were affecting foreign dignitaries; and (b) the disease burden in countries in which the United States expected to deploy troops and/or intelligence personnel.

The grim realization that certain other countries were still producing biological weapons added new and more demanding collection requirements to those intelligence agencies (the CIA again, and all of the military intelligence agencies) directly responsible for programs and situations involving weapons of mass destruction (WMDs), regardless of the type of agent weaponized. One difficulty with this obvious and seemingly prudent approach was that, without significant changes in the backgrounds and perspectives of the

analysts responsible for addressing these new requirements, the tried and true procedures of the past continued to be followed. Another difficulty was that, in those days, the biological threat was considered to be more or less a variant of the chemical threat, a gratuitous assumption that led in turn to the unrealistic and in many ways misleading "ChemBio" approach.

When the chemical and biological threats were finally split into two separate entities, a temporary paralysis of sorts spread through the nation's intelligence, law-enforcement, and first-responder communities. This was understandable in view of the fact that the threat posed by chemical agents conveniently shares a number of characteristics with the threat caused by most explosives – and the latter is a threat the U.S. intelligence community already understood quite well. For that reason alone, the threat posed by chemical weapons seemed relatively familiar. Further complicating the picture was the fact that the delivery of chemical weapons was thought to be localized, and in many situations the effects of chemicals are so quick that decontamination and clean-up are the most common and sometimes only response possible.

But the biological threat was almost completely different, in several ways – and those differences were and are intimidating. The general consensus in the intelligence community was that the biological threat was too great, too complicated, and too far outside any particular agency's jurisdiction to be dealt with effectively. For those and other reasons, the modus operandi followed by most agencies was to respond to an event involving biological weapons in the same way they would respond to a chemical event, and just hope that it would work.

## ***Forging New Partnerships***

Increasing evidence soon indicated, however, that not only biological terrorism but also biological warfare were rapidly becoming real and present dangers, and it was in that context that information about the very different types of dangers posed by microorganisms and chemicals began to be



accumulated and distributed more broadly. The intelligence organizations that were most successful in overcoming their previous paralysis in dealing with the biological threat did so by developing, reestablishing, and strengthening partnerships with other organizations with which they previously had little or no contact. In relatively short order, intelligence specialists were working with the agricultural community, for example, law-enforcement agencies were working with public health authorities, and other ad hoc partnerships of a similar nature were in various stages of formation. However, the more information these communities exchanged, the more evident it became that medical intelligence, particularly in domestic matters, was sorely lacking.

To the extent that medical intelligence is currently available, members of the federal, state, territorial, tribal, and local governments, as well as the military, can obtain that intelligence directly from the Armed Forces Medical Intelligence Center ([www.afmic.gov](http://www.afmic.gov)). One problem here, though, is that the center's medical intelligence is focused primarily on threats and situations outside of the United States itself, and is understandably oriented toward troop deployments overseas.

Fortunately, an abundance of other relevant information is available from public health agencies that have broad mandates to address naturally caused and intentionally distributed diseases – e.g., the U.S. Centers for Disease Control and Prevention, and the World Health Organization. However, the fact remains that no one organization currently has all of the information needed by responders and incident commanders to generate the actionable medical intelligence required to plan adequately, *prior* to an actual mass-casualty event or incident, for the response actions likely to be needed.

### **Pointed Questions, Unusual Events**

The generation of the much more comprehensive medical intelligence now needed is based on three prerequisites: (1) bringing together all of the organizations that have any relevant input to the overall medical intelligence enterprise; (2) training analysts to do what many have never been trained to do (namely, be lateral thinkers, be

able to operate simultaneously in two or more different worlds, understand and be able to speak different organizational languages, and see trends, patterns, relationships, and connections where no one else can see them); and (3) making medical intelligence activities more than just a federal responsibility.

Non-federal organizations can join the collective effort rather easily. For example, local, tribal, territorial, and state law-enforcement organizations can work with public health agencies to find out: (a) what the disease burden is in their jurisdictions; and (b) how those diseases can and do affect their own personnel as they respond to disturbances and crime. For those same organizations, knowing that antibiotic-resistant tuberculosis exists is one thing – but knowing that it co-exists with crime in the highest crime areas is another, and affects how police and other responders handle themselves in those neighborhoods.

The next step up should be to track abnormal health events in various localities, then pose questions, such as the following, to a disparate but knowledgeable group of representatives: Why is it that a problem with whooping cough has suddenly developed here, and only here, in this county? Why is it that there suddenly seems to be a problem with E. coli at this particular restaurant chain? Does it mean anything of significance is happening when birds suddenly fall out of the sky in just one city?

The posing of such questions to a group of intelligent people coming from very different backgrounds will prove informative in itself, and will generate not only a number of possible answers but also some follow-up requirements. Beyond that step, purposeful but more comprehensive data collection and analysis could be undertaken, as could assuming that unusual events lacking reasonable explanations are probably the result of biological terrorism or warfare – in which case analysis and operations should be conducted accordingly.

### **The Credibility Of Smaller Sociopolitical Units**

It would not necessarily cost millions of dollars to obtain and analyze such data.

States, territories, tribes, and localities already have in their files much of the data that ultimately would be needed. A credible case could be made, in fact, that the smaller the sociopolitical unit, the more information about that unit is likely to be available without asking for federal assistance. It may well be that as requirements for and the understanding of medical intelligence both continue to develop, state intelligence fusion centers and similar operational headquarters may find that they are ideally suited to meeting the bulk of the nation's overall medical-intelligence requirements.

To summarize: A much more detailed, and comprehensive, medical intelligence picture is required before a successful response can be mounted to any event that affects the health of a major segment of the population. However, U.S. federal agencies have not yet determined how best to meet the requirement to develop, analyze, disseminate, and use the huge amounts of intelligence data required. Moreover, some of the sources of information necessary for analysis – and, eventually, the production of medical intelligence – are available only at the state and lower levels, or in the private sector.

In short, the truly comprehensive medical intelligence picture needed can be achieved only with the supportive input, from and leadership provided by, a broad spectrum of non-federal entities.

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*Dr. Asha M. George is the director for Public Health Security at DFI International and the director of Public Health Research for the Department of Homeland Security's Lessons Learned Information Sharing system. Her homeland-security, public-health, public-policy, and emergency-management contributions have been recognized by a number of organizations, including the FBI and the Health Care Financing Administration (predecessor of the Centers for Medicare & Medicaid Services); she also is a featured health professional for USA TODAY. Dr. George served on active duty in the U.S. Army as a military intelligence officer and as a paratrooper, and is a decorated veteran of Desert Storm. She holds a doctorate in Public Health from the University of Hawaii at Manoa, a Master of Science in Public Health from the University of North Carolina at Chapel Hill, and a Bachelor of Arts from Johns Hopkins University.*

The MOTR Process**Ensuring Unity of Effort in Maritime Security**

By Dr. Joseph DiRenzo III and Christopher Doane, Coast Guard



Several U.S. government agencies have overlapping jurisdictional responsibilities in the enforcement of laws and treaties, particularly in maritime matters. For many years these agencies have from time to time responded independently to the same threat information, a practice that would seem to be an inefficient use of taxpayer money. The increasing volume and seriousness in the past several years, though, of transnational maritime threats – e.g., piracy, drug smuggling, illegal migrant smuggling, fishery incursions, and terrorist incidents involving weapons of mass destruction – demand the combined, coordinated efforts of federal agencies to ensure maritime security. Achievement of that goal is the purpose of the Maritime Operational Threat Response process, commonly referred to as MOTR.

MOTR is one of eight supporting plans or processes underpinning and supporting the U.S. National Strategy for Maritime Security. It sets forth the protocols prescribed for the coordination of efforts among U.S. agencies and determines when the process must be used – basically, whenever more than one federal agency becomes substantially involved in a maritime-threat situation. In most of those situations, implementation of the MOTR process essentially starts with a conference call linking senior decision makers from all agencies that have a jurisdictional interest or stake in the threat.

In theory, any federal agency that plays an important role in the response or outcome would be brought into the MOTR conference call; in practice, the member agencies usually but not always include the Department of Homeland Security, the Department of Justice, the Department of Defense, and the Department of State. Several important decisions usually are made during the initial conference call, including not only an assessment of the threat but also a discussion of several specific questions that have to be answered: Is action required? Who or what agency has the legal authority to act? Who or what agency has the

capability to act? What actions are or may be required? Also, when and where?

***In Accordance With Unavoidable Realities***

Probably the most important decision, of course, is which agency will take the lead and which agencies will provide support. Here it is important to understand that the lead federal agency does not automatically take command of the forces belonging to other agencies responding to the threat (theoretically assuring unity of command). The core product of the MOTR process, actually, is unity of *effort* between and among the various federal agencies involved. There *are* certain times and situations, of course, in which one agency

***The Maritime Operational Threat Response process sets forth the protocols prescribed for the coordination of efforts among U.S. agencies and determines when the process must be used***

might assume tactical control of another agency's forces, but the general rule is that each agency retains command and control over its own assets, employing them in support of the lead agency.

The focus on unity of effort rather than unity of command is unavoidable, in fact – for a number of reasons. Most agencies possess certain unique authorities that cannot legally and/or easily be transferred to another agency. For example, the investigative and other authorities possessed by a domestic

law-enforcement agency such as the Federal Bureau of Investigation cannot be transferred to or directed by a Department of Defense agency, most of which are prohibited by law from direct participation in searches, seizures, arrests, and other “civilian” law-enforcement activities.

Most federal agencies also possess unique expertise created and developed both to carry out their primary roles and missions and to enhance the capabilities of their forces – and usually, therefore, know best how to employ those forces to achieve the outcome desired by all participating agencies. For practical purposes, therefore, it is more effective for the lead agency to communicate what assistance is required and allow the supporting agencies to determine how best to provide that assistance.

The MOTR process does not always ensure success, but it does give the United States an efficient and effective mechanism for stopping and/or responding to maritime threats. In short, ensuring interagency effectiveness through cooperation and coordination in the pursuit of common interests allows the full power of the United States to be employed against any maritime threat not only without redundancy but also without creating or exacerbating interagency rivalry.

In that context, it seems safe to say that the process as it exists today produces common agreement among the agencies – at least at the national level. The challenge, though, is to be able to translate the decisions made through the MOTR process into interagency action at the operational level. The essential next step, therefore, is for the operating personnel within each agency to reach out to their interagency partners to develop effective mechanisms for the joint planning and execution of the MOTR decisions made at the highest levels of government.

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*Dr. Joseph DiRenzo III (pictured) and Christopher Doane are retired Coast Guard officers and visiting fellows at the Joint Forces Staff College; they also are frequent contributors to DomPrep Journal.*



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