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Army Space Support to Civil Authorities

“**O**ur National Strategy for Homeland Security recognizes that the lives and livelihoods of the American people also are at risk from natural catastrophes.

Our vast Nation, with its varied population, geography, and landscape, will continue to endure a range of natural hazards and disasters.”¹

This decade has witnessed arguably one of the worst natural disasters in our nation’s history. Hurricane Katrina caused the death of more than 1,330 lives, forced more than 770,000 people out of their homes and cost in excess of \$96 billion in damage.²

While America’s Army responded to help our fellow citizens in the days following the devastation, the relief efforts also exposed some gaps in providing better reconnaissance assets to natural disasters.

For 233 years, the Army has defended the cause of freedom by going into harm’s way and putting boots on the ground whenever and wherever needed. Today it continues that sacred trust not only by continuing to fight a determined enemy in an era of persistent conflict, but also by helping communities during times of need. Our Soldiers – Active, Reserve and National Guard – are in communities following a natural disaster. The camouflage uniforms have come to represent hope to the thousands along the Gulf Coast after hurricanes or to those fighting the wildfires in the west or to those stemming the floods in the northern plains.

In this issue of, the Army Space Journal, there are several good articles that discuss the varied missions, capabilities, and

issues surrounding Army Space support. From Blue Force Tracking, to “Best Crew Competition,” to lessons learned from the Space Cadre Symposium, to the Commercial Exploitation Team White Paper – each article provides a unique perspective about the complexities of our profession.

One aspect not normally discussed is that of Army Space support to civil authorities. I would like to briefly touch on the importance of Army support to civil authorities and invite others in upcoming issues of the Army Space Journal to provide their perspectives as well.

Policies that guide Army support

Providing military support following natural disasters is not new. The U.S. Army was both heralded for its support to civil authorities during the great Chicago fire, October 1871, and at the same time questioned about the legitimacy. In a proclamation dated Oct. 10, 1871, Mayor Roswell B. Mason places LTG Philip Sheridan in charge of restoring peace in Chicago.³ However, the Governor of Illinois questioned whether that support was constitutional. It is important to note that the framers of the Constitution envisioned very limited use of American Armed Forces in support of civil authorities given the history of British rule.

Today, the laws that govern the use of military support to civil authorities allow more and better cooperation between state and federal agencies. The Stafford Act of 1988 provides the statutory authority for military support to civil authorities during disaster relief. In addition, there are military plans that delineate responsibilities among the

services to defend the Continental United States from attack or to provide support to civil authorities during natural disasters or civil unrest.⁴

Unique capabilities of USASMDC/ARSTRAT

U.S. Army Space and Missile Defense Command (USASMDC/ARSTRAT) is uniquely organized to provide Warfighters with dominant Space-based capabilities and integrated missile defense. The command is dispersed around the globe to operate early warning radars to detect incoming ballistic missiles, to provide Blue Force Tracking information to Warfighters, as well as to provide Army Space Support Teams and Commercial Exploitation Teams in support of combatant commanders and Warfighters. I was fortunate to visit some of our Army Space professionals in the Central Command Area of Responsibility recently and I am glad to report that they are providing tremendous support to the Warfighters and to the combatant commanders. They not only provide assets to our Warfighters, but also are very proactive in training their peers and our coalition partners about available capabilities.

A comparison between Hurricanes Andrew and Katrina

There have been many reports written about the severity of Hurricanes Andrew and Katrina as well as the Department of Defense response to the relief efforts following the landfall of each storm. It is not my intent to unearth new lessons from those experiences, but to put Hurricanes Andrew and Katrina in context with the Army Space support provided to the relief effort of Hurricane Ike in September 2008. According to the 1993 United States Government Accountability Office report about Hurricane Andrew, an aerial survey would have helped leaders determine the magnitude of the damage done by the Category 5 hurricane.⁵ Unfortunately, the 2006 Government Accountability Office report about Hurricane Katrina had similar comments.

Problems that were identified about relief efforts for Hurricane Andrew would surface again during Hurricane Katrina: inadequate ability to assess damage, problems with communication, no aerial reconnaissance utilized.

In reports to Congress after Hurricanes Andrew and Katrina respectively, the Government Accountability Office determined that accurate assessments of damage following landfall was crucial to providing much needed services to those most affected by the storms.

Deployment of Army Space Support Team (ARSST)

USASMDC/ARSTRAT deployed Army Space Support Team 3, with attached civilians from the command's G-2 Advanced Geospatial Intelligence Node, to Fort Sam Houston, Texas, from Sept. 6-19, in order to provide Space support to Army North for Hurricane Ike relief operations. Army Space Support Team 3 remained in San Antonio with the Army North Main Command Post due to the Team's lack of mobility. The combined Army Space Support/Advanced Geospatial Intelligence Team 3 was able to push products forward to the Operational Command Post in Houston, albeit with limited bandwidth at the post. The deployment successfully demonstrated a need for continued Space Support to civil authorities, but emphasized the need for more planning and coordination for such support within the Space community.

In a disaster relief scenario, the availability of resources such as life support, communications, food, water, sanitation and transportation is very limited. While Soldiers are relied upon to adapt and overcome in these situations, it is still incumbent upon leaders to ensure that Soldiers are prepared to enter this type of environment.

During their deployment, the Army Space Support Team 3 and Advanced Geospatial Intelligence Node provided direct support to the Army North staff and the Operational Command Post which was forward deployed to Houston, Texas. The support provided included: imagery collection planning; Geographic Information System products; reach back support to the Advanced Geospatial Intelligence Node and other Space agencies; additional satellite communication bandwidth capability; Global Positioning System Navigational Accuracy reports; and, with the assistance of the attached Advanced Geospatial Intelligence Node civilians, Global Broadcast Service downloads and additional imagery products. Army Space Support Team 3 was not the only team providing Space support during Hurricane Ike: National Geospatial Intelligence Agency supported Federal Emergency Management Agency and Eagle Vision IV supported Air Force North.

A major lesson learned was that the support must be synchronized to preclude duplication of effort and competition for scarce Space resources. The bottom line is that training for disaster relief must be incorporated into the annual training regimen and must be done under realistic conditions, with all players participating. The right Space support requirements and capabilities applied effectively can be the difference between life and death during a natural disaster.

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Where do we go from here?

According to the National Weather Service, since 1851 there is an average of two major hurricanes that hit the Gulf or the Atlantic Coast every three years.⁶ If history is a guide, we can anticipate two things: there will be a Category 3 hurricane again within the next 12-18 months and the Army will be there to provide support to relief operations. We cannot influence the first possibility, but we can certainly begin planning for the second. We can assume there will be damage and we can assume there will be a need to provide accurate damage assessments.

The old adage of “train like we fight” needs to apply to disaster relief as well. In order to improve operations and to establish a habitual relationship with Army North, Army Space Support Team 3 trained with the Army North Operational Command Post during exercise Vigilant Shield 09, which took place at Fort Sam Houston, Texas, in November 2008. Historically, Army Space support to Defense Support to Civil Authorities has been low. Habitual support relationships and tactics, techniques, and procedures will need to be established.

We must continue to be proactive in preparing for the next disaster and incorporate the lessons learned in order to include Army Space Support Teams’ unique capabilities into disaster relief operations planning and training.

As I mentioned at the start, I would like to see those Space professionals who supported disaster relief operations to provide articles that discuss tactics, techniques and procedures. Tell us what worked and what didn’t work during your deployment. Only by sharing information can we improve. 

1 Homeland Security Council, National Strategy for Homeland Security, October 2007, 10

2 Lynda E. Davis, Jill Rough, et al, Rand Corp, Hurricane Katrina Lessons for Army Planning and Operations, 2

3 The Great Chicago Fire, Rescue and Relief Essay, (<http://www.chicagohs.org/fire/rescue/>)

4 GAO Report to Congressional Committees, Hurricane Katrina: Better Plans and Exercises Needed to Guide the Military’s Response to Catastrophic Natural Disasters, May 2006, 11. A copy of the Stafford Act is available at <http://www.fema.gov/about/stafact.shtm>

5 GAO Report to the Chairman, Subcommittee on Readiness, Committee on Armed Services, House of Representatives, Disaster Assistance: DOD’s Support for Hurricane Andrew and Iniki and Typhoon Omar, June 1993, 6

6 Eric S. Blake, et al, National Weather Service, The Deadliest, Costliest, and Most Intense United States Tropical Cyclones from 1851 to 2006, April 2007, 13 (a major hurricane is one that is Category 3 or greater).

Even though fielding for the first full Future Combat System brigade is slated for fiscal year 2015, a few of the systems or spin-off technologies have already been fielded: small UGV (unmanned guided vehicle), several unattended ground sensors and an Unmanned Aircraft System. In fact, 2nd Brigade, 25 Infantry Division took 30 of the Class I Unmanned Aerial Vehicles (gasoline-powered Micro Air Vehicle) with them to Iraq last summer in response to an joint operational needs statement asking for more intelligence, surveillance and reconnaissance assets. And the Pennsylvania National Guard’s 56th Stryker Brigade Combat Team will deploy to Iraq in January 2009 with 15 of the Unmanned Aerial Vehicles. (This is the first Guard unit to use one of these unmanned vehicles.) This particular system is man-portable and has the capability to hover and stare which other Army and Air Force Unmanned Aerial Vehicles don’t.

Overall, Space-based capabilities are critical enablers of the Future Combat System’s fundamental operational maneuver principles: to see first, understand first, act first and finish decisively. For example, all that the mobile equipment will use the Global Positioning System for is position and navigation. The Battle Command network will need satellite communication to provide secure, reliable access to distribute information over extended distances throughout the Global Information Grid over open or complex terrain. Information from the unattended ground sensors/data, which the Future Combat System depends on, will be exfiltrated using Space-based communications. Commanders and staffs of the Future Combat System will team collaboratively and virtually with other elements through a global Battle Command network linking the Future Combat System Brigade Combat Team to higher headquarters and joint, inter-agency and multi-national community assets and organizations. Information must be current, near real time. In all, to be successful, this family of systems will be required to acquire, access, and disseminate relevant and accurate information at requisite levels of detail over the area of operation, regardless of how large the area.

A lot of electrons will need to move around the battlespace. The network that handles all this information will require robust bandwidth and redundant systems. The network disseminating the electrons will likely consist of multiple tiers or layers, including terrestrial, airborne, high altitude and Space. Ground force commanders will depend on assured access to the network, and will expect appropriate doctrine to be written to support the land component commanders.

Today’s Army priorities for Space (enhanced satellite communications; early missile warning; assured access and asset protection; persistent surveillance; position, navigation, timing; and weather, terrain, and environmental monitoring) support the Future Combat System needs.