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**NAVAL WAR COLLEGE
Newport, R.I.**

**PREPARING FOR A NIGHTMARE: USNORTHCOM'S HOMELAND
DEFENSE MISSION AGAINST CHEMICAL AND BIOLOGICAL ATTACK**

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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15 May 2014

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Preface

U.S. military forces operating in a CBRNE environment outside of the USNORTHCOM area of responsibility are not included in the following discussion. The requirement for immediate and ongoing response to a chemical or biological attack is the focus, separate from any law enforcement action against perpetrators (who will likely be unknown). Therefore restrictions of Title 10, U.S. Code or the *Posse Comitatus Act*, which are often cited as preventing law enforcement by military forces, are similarly not addressed.

Paper Abstract

The U.S. will be subject to future terrorist attacks and innovative violent extremists will employ the most destructive weapons they can acquire. Demonstrated terrorist capabilities and intent, combined with the opportunities provided by inadequate defenses, present a clear and present threat of attack with WMD. Due to their availability and lethality, chemical agents and biological pathogens offer the most likely potential WMD for terrorist use. USNORTHCOM's mission to defend the homeland is guided by a family of CONPLANS dedicated to prevention and response to CBRN incidents. Despite stated national and military strategy to deter, defend, prevent, and respond to WMD, USNORTHCOM's existing plans and authorities are insufficient to perform the operational function of protection against chemical or biological weapons under its primary mission. Where prevention is not possible, security must focus on early detection and rapid response which requires sufficient training and resources to execute swift identification/diagnosis, containment, decontamination, and treatment to halt the spread of any agent or disease and save lives. USNORTHCOM is not adequately prepared to protect the homeland against the chemical or biological threat. The results of such an attack would quickly overwhelm civil authorities' capacity, requiring a military response beyond current readiness capabilities.

INTRODUCTION

“If a population loses faith in its government or military, the adversary has won.”

- *Richard Cromwell, 2010*

Chemical agents and biological pathogens (CB) have a long and distasteful history of use in warfare and few are interested in discussing the implications of their employment in the future. Infectious diseases and nerve agents are scary. Anyone who has seen films such as *The Rock*, *Outbreak*, *Contagion*, or recent news stories about chemical weapons in Syria or antibiotic-resistant “superbugs” is relieved that the former were only movies, and at least ‘that other stuff isn’t happening here.’ It is the elephant in the room; military, law enforcement and intelligence personnel eagerly converse about and plan for vehicle-borne improvised explosive devices (VBIED), or nuclear and radiological threats, but no one wants to talk about CB. While there are detailed plans to prevent and respond to these threats, actual preparation by the combatant commander is woefully inadequate. Regrettably, the U.S. remains exceedingly vulnerable to these asymmetric threats. U.S. Northern Command (USNORTHCOM) is not postured to protect the nation against or respond to the catastrophic effects of a terrorist attack with chemical or biological weapons.

Before continuing, a few definitions will serve to both inform and limit the scope of the discussion. While there is no universal definition of terrorism, the Department of Defense (DoD) Dictionary of Military Terms uses, “The unlawful use of violence or threat of violence, often motivated by religious, political, or other ideological beliefs, to instill fear and coerce governments or societies in pursuit of goals that are usually political.”¹ The terms terrorist, violent, armed, or radical extremist, may be used interchangeably; in this context each refers to groups or individuals who may or may not subscribe to a radical Islamist

ideology such as al Qaeda, but hold a desire and intent to use violence against U.S. persons without discrimination between combatants and non-combatants (civilians). Weapons of mass destruction (WMD) include chemical, biological, radiological, nuclear and high-yield explosives (CBRNE), however the focus here will be on CB; the other elements of WMD are not covered. Attacks refer to attempts made specifically against the U.S. homeland within the USNORTHCOM area of responsibility.

Homeland Defense (HD) is defined as, “The protection of United States sovereignty, territory, domestic population, and critical infrastructure against external threats and aggression or other threats as directed by the President.”² Since no amount of security measures will deter every attack, prevention will eventually fail and a successful terrorist incident with release of CB material is inevitable. Finally, the operational function of protection, “Extends beyond force protection to encompass protection of US noncombatants. Protection capabilities apply domestically in the context of HD, Civil Support and emergency preparedness.” This function includes a number of tasks including protecting U.S. civilians and providing chemical, biological, radiological and nuclear defense.³

The United States is not secure. The borders between Mexico and Canada are largely unmonitored and illicit activity occurs at multiple entry points along both the northern and southern boundaries of the nation. In addition, the U.S. Coast Guard is unable to inspect every vessel that enters U.S. territorial waters, and port security is inadequate to screen every inbound ship and container for dangerous weapons. Commercial air travel may be mostly secured since September 11, 2001, but that does not preclude nefarious actions utilizing non-commercial aviation and avoiding major international airports.

THE THREAT: TERRORISM

There are currently 58 groups listed by the Department of State as Foreign Terrorist Organizations (FTO), including al Qaeda, while four nations remain on the State Sponsors of Terrorism list, including Iran and Syria.⁴ The 2014 Worldwide Threat Assessment (WTA) identified a continuing significant danger from both domestic and international terrorism, and further acknowledged “adversaries’ acquisition, development and use of weaponized agents,” particularly infectious diseases, as among the foremost health security threats.⁵

The fight against terrorism is not over. U.S. foreign policy is widely criticized throughout the international community, and a number of both state and non-state adversaries actively seek to do harm to the American economy, military and citizens. The DoD believes strongly in being proactive, planning for crises and contingencies before they happen, but all too often is forced to be reactive to impending catastrophes due to budget constraints and higher priorities. Sadly, it often takes a tragedy to justify a solution to the problem, and the issue that had sufficient attention before it happened, is corrected only after something horrific occurs.

Despite the 1993 attempt to destroy the World Trade Center, the 1998 bombings of two U.S. Embassies in Kenya and Tanzania, and the October 2000 bombing of the USS COLE in Aden, Yemen, as well as repeated warnings from the intelligence and law enforcement agencies, and even some on the National Security Staff, it took the terrorist attacks of 9/11 to initiate corrective actions. The Department of Homeland Security, the Office of the Director of National Intelligence, the Transportation Security Administration, the National Counterterrorism Center and U.S. Northern Command were all created after al Qaeda hit the Pentagon and the World Trade Center with hijacked airliners.

Regardless of the cause for which they claim to justify their actions, violent extremists have consistently displayed a proclivity for employing the unexpected when executing attacks. The U.S. government acknowledges the continued threat of terrorism and WMD, in national and military strategies as well as in Joint Doctrine and Theater Campaign Plans. The 2014 Quadrennial Defense Review (QDR) outlined a defense strategy based on three pillars and emphasized the DoD's first priority, Protect the Homeland, as its most fundamental duty. "Terrorists remain willing and able to threaten the United States, our citizens, and our interests; Terrorist networks continue to demonstrate interest in obtaining WMD."⁶ While the various departments and organizations differ somewhat in their prioritization of CBRNE, there is a common thread that chemical and biological agents present equal, if not greater concern, than nuclear weapons in terrorist hands.

THE NON-NUCLEAR NIGHTMARE

A 2012 Heritage Foundation report succinctly characterized the threat, "The potential for multiple, simultaneous, CBRNE attacks on US territory is real."⁷ Chemical agents have a long history of use in warfare, both before and after they were banned by international law. Many nations continued to pursue and sustain chemical weapons programs after the 1899 Hague Declaration concerning Asphyxiating Gases, the 1925 Geneva Gas Protocol, and the Chemical Weapons Convention (CWC) of 1993. Syria just signed the CWC after (allegedly) using rockets with Sarin gas against rebels in August 2013, killing over 1,400 people.⁸ In addition, it is well known from published accounts that countries including Russia, continued robust development of offensive chemical weapons even after signing the CWC.⁹

The Organisation for the Prohibition of Chemical Weapons (OPCW) has stated that, in the 15 years since the CWC went into force, just over 80 percent of the world's declared

chemical weapons stockpile had been destroyed.¹⁰ That leaves over 14,000 metric tons of known chemical weapons yet to be destroyed which could fall into the hands of violent extremists. Today there remain six states that are not a party to the CWC.¹¹ Furthermore, known stockpiles aside, the components necessary to manufacture chemical weapons are mostly unrestricted and available through commercial industry. The internet, as well as other open sources, contains the information required to combine these dual-use materials into toxic or even lethal combinations. Many household and industrial chemicals such as chlorine (gas) are deadly without mixing or modification. Beyond what is available to the general public via books and a plethora of both radical and scientific websites, access to instruction in chemistry is open to virtually anyone. Finally, there are numerous accounts of terrorists who received advanced education in both chemistry and biological fields.

Dr. Ayman Al-Zawahiri, successor to Osama bin Laden, “was particularly keen on the use of biological and chemical warfare. He noted that ‘the destructive power of these weapons is no less than nuclear weapons.’” Zawahiri set up laboratories in Afghanistan and “he poured over medical journals to research various poisons.” One man who worked for Zawahiri experimented with nerve gas on dogs and another—with a degree in chemistry and laboratory science from California State University in Sacramento—“spent months attempting to cultivate biological weapons, particularly anthrax.”¹²

The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, also known as the Biological Weapons Convention (BWC) of 1972, expanded upon the provisions of the 1925 Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare. According to the United Nations, today

16 states have neither signed nor ratified the BWC.¹³ Of greater concern is the fact that, unlike the CWC, which has the OPCW to monitor and account for the destruction of stockpiles, the BWC has no equivalent verification mechanism.

In August of 2007, the Sixth Review Conference of the BWC established the Implementation Support Unit (ISU) under the Geneva Branch of the United Nations Office for Disarmament Affairs, to provide states with administrative and implementation support in elimination of biological weapons stockpiles. However the ISU holds no inspection, enforcement or directive authorities.¹⁴ In 1999, the former head of *Biopreparat* published a book detailing ‘the largest covert biological weapons program in the world.’¹⁵ Much like the Russian covert chemical weapons program, its offensive biological weapons program was expanded following endorsement of the BWC in 1972 and continued for the next 20 years.¹⁶ The current status of the Russian biological weapons stockpile is unknown beyond what they report to the ISU.¹⁷

Unfortunately, Russia is not the only nation with a biological weapons stockpile. In March 2013 the Director of National Intelligence (DNI) confirmed that in addition to known stockpiles of chemical weapons, Syria also had biological warfare agents.¹⁸ The DNI further elaborated on the unknown variables of the Syrian biological weapons program and potential threat in the 2014 WTA. Considering the ongoing conflict in Syria and the presence of multiple violent extremist groups including Islamic State of Iraq and Syria, the existence and security of both chemical and biological stockpiles are cause for great concern.

To an even greater degree than chemical weapons, biological agents are readily available from existing stockpiles or other sources. They are relatively easy to acquire in nature or from hundreds of laboratories conducting infectious disease research worldwide.

While cultivation, handling, production, containment, transport and dispersal of these types of agents presents a series of challenges, they are hardly insurmountable for the terrorist or violent extremist group determined to do so. Rising rates of antibiotic resistant bacteria or “superbugs,” threaten to cause an epidemic stemming from previously treatable diseases.¹⁹ Viruses are among the most resilient organisms on earth, and have the ability to infect, replicate, mutate, spread through the air, and kill humans in hours or days. The influenza pandemic of 1918-1919 killed between 30-50 million people.²⁰ The March 2014 Ebola outbreak in Guinea and Liberia demonstrates the ability of lethal viruses to spread naturally.²¹ New influenza strains surface annually, and many such as H7N9, are different from circulating human influenza viruses that people have virtually no immunity.²² In May 2014, two cases of travelers from Saudi Arabia arrived in the U.S. with Middle East Respiratory Syndrome.²³ These viruses often spread quickly through close contact, have no vaccine and are just a few examples of deadly pathogens that could be easily weaponized.

According to the Department of Health and Human Services (DHHS), the most dangerous infectious pathogens— those which have the lethality to result in high mortality rates and the potential to cause a public health epidemic— are grouped into Category A, “those organisms/biological agents that pose the highest risk to national security and public health because they can be easily disseminated or transmitted from person to person.”²⁴ Similar statements are made regarding the ease of production and dissemination of Category B and C pathogens, though their selection as agents for a terrorist attack is less likely due to their corresponding lower mortality rates. Terrorists or other violent extremists wishing to cause maximum casualties will most probably choose a pathogen from Category A, some of which have mortality rates as high as 90 percent.²⁵

The Centers for Disease Control and Prevention (CDC) identified the top five health security threats for 2014: “The emergence and spread of new microbes, the globalization of travel and food supply, the rise of drug-resistant pathogens, the acceleration of biological science capabilities and the risk that these capabilities may cause the inadvertent or intentional release of pathogens, and concerns about terrorist acquisition, development, and use of biological agents.”²⁶ The 2014 WTA reiterated the CDC’s list, noting, “Infectious diseases are still among the foremost health security threats.”²⁷ Of note, many Category A pathogens have no cure or vaccine. Regardless of the pathogen or chemical chosen, the key point is that both the National Institutes of Health and the CDC agree that there exists a high threat for terrorist acquisition and use of chemical agents or biological pathogens due to their availability, lethality and difficulty in diagnosis.

USNORTHCOM

U.S. Northern Command (USNORTHCOM) was established following the terrorist attacks of September 11, 2001 “to conduct homeland defense, civil support and security cooperation to defend and secure the United States and its interests.”²⁸ The civil support mission includes “managing the consequences of a terrorist event employing a weapon of mass destruction [by providing] assistance to a Primary Agency when tasked by DOD.”²⁹ To the maximum extent practicable, USNORTHCOM seeks to deter and prevent terrorist activity, but it is stated in national strategies, joint doctrine and almost universally accepted that security measures will not stop every attack. Despite exhaustive planning, future terrorism will occur against the U.S., and whether conducted by domestic or international violent extremists, is very likely to employ chemical or biological weapons.

USNORTHCOM has a family of concept of operations plans (CONPLAN), based on the Guidance for Employment of the Force and the Joint Strategic Capabilities Plan, which address the CBRNE threat. CONPLANS 3400, Homeland Defense, 3407, Defense Support to Prevent a Chemical, Biological, Radiological, Nuclear or High-Yield Explosives (CBRNE) Attack in the Homeland, 3501, Defense Support to Civil Authorities (DSCA), 3591, Theater Response Plan for Pandemic Influenza and Infectious Diseases, and 3500, CBRN Response, support the terminology and guidance provided in Presidential Policy Directive-8 (PPD-8), National Preparedness. They further align with Joint Publication (JP) 3-41, Chemical, Biological, Radiological, and Nuclear Consequence Management, as well as the National Response Framework (NRF), Department of Homeland Security (DHS) and Federal Emergency Management Agency (FEMA) incident response planning objectives and phases.³⁰ CONPLAN 3407-12, CBRNE Prevent, is classified and therefore not covered in further detail.³¹

CONPLAN 3500-11, CBRN Response is over 500 pages and outlines USNORTHCOM's responsibilities and intentions for Phases 0-5, as well as directs service components to develop supporting plans. The first key assumption is, "There will be little or no warning before a CBRN incident."³² The plan further states that DoD response to a CBRN incident will be in a supporting role to a designated lead federal agency (LFA), and must be based on a Secretary of Defense-approved request for assistance from a LFA. However, USNORTHCOM does not currently have sufficient forces and resources assigned, and those it does have are under-trained and equipped for a major CB attack.

The CBRN Response Enterprise is composed of both Active (Title 10) and Reserve (Title 32) Component forces which are divided into state assigned/resourced units and teams,

and allocated federal response forces.³³ Forces assigned to state National Guard command and control include 57 Weapons of Mass Destruction – Civil Support Teams (WMD-CSTs) with 22 personnel in each, with one in every state (two in FL, CA and NY), plus one in the District of Columbia and each of the U.S. territories within NORTHCOM’s AOR. There are also 17 CBRNE Enhanced Response Force Packages (CERFPs), and 10 Homeland Response Forces (HRFs). The federal response force includes the Defense CBRN Response Force (DCRF) and the Command and Control CBRN Response Element (C2CRE).

USNORTHCOM conducts an annual exercise, VIBRANT RESPONSE for the Title 10 forces, regional VIGILANT GUARD exercises and external evaluations (ExEvals) for proficiency training and validation of National Guard (NG) elements.³⁴ Joint Task Force Civil Support (JTF-CS) is the USNORTHCOM command and control element for CBRN response operations.³⁵

Review of the different CONPLANS and their apparent linkage to other federal government response plans through interagency coordination under the NRF indicates a comprehensive defense strategy and robust capability to manage CB events. Any incident of CB terrorism will initially be managed with local and possibly regional emergency response, law enforcement and upon request, NG forces. WMD-CSTs, CERFP, and HRFs are dispersed around the country in all 10 FEMA regions and every state NG, ready to deploy at the direction of the governor to integrate under the on-scene incident commander in support of the civilian LFA. Title 10 allocated forces would deploy on USNORTHCOM order to further augment local teams.

The flaws in this regime, however, are numerous. A CB attack will likely produce mass casualties at ground zero; local civilian response forces may be quickly overwhelmed

and unable to meet the demand for evacuation, treatment, decontamination and isolation of affected personnel. Civilian hospitals will rapidly reach capacity to treat the victims, and most emergency departments are simply not trained nor equipped to manage CB treatment. Medical facilities will be subject to hordes of people who are both symptomatic and those who fear exposure but are unsure of their actual condition. If the attack involves chemical agents or pathogens that cause breathing problems, available supplies of automated respirators will not fulfill requirements. Manual respiration with a bag-valve mask and cardiopulmonary resuscitation (CPR) are manpower intensive which prevents treatment of other patients and quickly results in physical exhaustion of medical staff. Navy deployable units like P-3 squadrons typically qualify all hands in CPR, but shore duty stations like U.S. Fleet Forces Command do not. CBRN awareness training is not mandated at either.³⁶

Law enforcement will be unable to maintain order or provide security for civilian medical personnel, who may be affected or elect to stay home to safeguard themselves and their families. Upon diagnosis of the agent or disease, increased fear and panic by victims unable to get access to civilian medical care, as well as those who were not near the outbreak or release site (if known), may choose to attempt forceful access to military bases and facilities for treatment and safety. Most of these, at a normal force protection posture with limited security forces under service control, will be unable to secure their installations against an onslaught of public panic. Limited supplies of vaccinations could escalate violence, and many installations do not have enough small arms to issue to all personnel. Communications will be affected as cell phone providers exceed their capacity to maintain service with a massive spike in wireless traffic, severely degrading the capability and effectiveness of interagency coordination upon which the federal response depends.

Captain Mark Lyles, VADM Joel T. Boone Professor of Health and Security Studies of the Naval War College noted, “NORTHCOM is totally unprepared to handle a breakdown in social services, [and] by the way, the bad guys are not going to hit [us] with just one bug/agent.”³⁷ He believes that terrorists will use multiple (at least two) agents/pathogens either simultaneously or with a planned interval, to defeat countermeasures such as Mission Oriented Protective Posture (MOPP) gear, confuse or delay diagnosis and treatment and exponentially increase fatalities. Where a single agent/pathogen may not initially produce a high mortality rate, it may degrade protective equipment, facilitate perceived patient recovery, weaken the immune system, and ultimately result in death from exposure to a second source.³⁸ Moreover, commercial air travel will virtually ensure that infectious disease pathogens with an incubation period of a few days prior to manifestation of symptoms, will spread across the country in 24 hours and to the four corners of the earth before it is diagnosed, precluding any hope of containment or isolation.

Despite subordination to a supporting role, military forces are assigned the homeland defense mission and as the federal entity with the most personnel and resources, will probably assume the majority of responsibility for both medical treatment and security during a CB event. Planning, training, coordination and resource issues have been the subject of more than ten Government Accountability Office (GAO) reports since 2008. The most recent report stated that NORTHCOM officials reported updates to existing civil support plans were in progress; however, anticipated delays in identification of specific capabilities until FEMA completed its regional planning in 2018.³⁹ The idea that USNORTHCOM is deliberately waiting until 2018 for input from FEMA is contrary to the core principle of military defense strategy to be ready to counter identified threats.

Insufficient forces are assigned to the CBRN Response Enterprise to accomplish the mission. One of three CONPLAN 3500 key facts states, “A catastrophic CBRN incident will require significant follow-on forces in addition to the CBRN Response Enterprise.”⁴⁰ Three elements, the WMD-CSTs, CERFPs and HRFs totaling over 10,000 personnel are assigned to the NG and disbursed across the FEMA regions under State control. The remaining two, DCRF and C2CREs, total 8,200 and are allocated to USNORTHCOM for planning purposes, but are not assigned. By definition, this means those forces may be deployed or tasked to other theaters and be unavailable when needed. JP-40, Combating WMD assigns Commander, U.S. Joint Forces Command (CDRUSJFCOM) as the Joint Force Provider for CBRN response forces, and this is repeated in CONPLAN 3500-11.⁴¹ Additionally, CBRN training and readiness for both the response and unassigned forces is wholly inadequate.

Lifesaving medical and technical procedures are perishable skills that require regular practice to maintain proficiency. Consider that a layperson who takes a course to become certified in CPR is required to renew on an annual basis. However, if he/she fails to review or practice the skills semi-regularly, one can argue that they will forget critical steps in performance after only six months.⁴² CBRN response encompasses a range of technical and medical skills which demand consistent practice to maintain proficiency. One annual exercise is insufficient to sustain response and lifesaving capabilities, as are the ExEvals, spaced at 18 and 36 month intervals for the WMD-CSTs and HRF/CERFPs, respectively.⁴³

Additionally VIBRANT RESPONSE concentrates the response efforts in a single location; preparation for multiple simultaneous attacks or outbreaks, as is likely to occur in the absence of early detection, is not practiced. Response force prioritization for multiple CB events in two or more distant locations is also untested, and the most recent CB war game

was conducted in 2010.⁴⁴ CBRN Response Enterprise forces do not receive adequate training to maintain readiness, and other continental U.S. (CONUS) based forces (unassigned) receive virtually no CB training, leaving them as unprepared as the civilian population. The Navy's annual Anti-terrorism exercise SOLID CURTAIN-CITADEL SHIELD 2014 included no scenarios for chemical or biological attacks.⁴⁵

Beyond training and readiness shortfalls, two other items of concern are readily apparent in the USNORTHCOM plan; the lack of an early detection capability, and dispersal of the supposed trained and assigned (available) CBRN Response forces. Currently, no CB surveillance/early detection program exists. The technology for detection and early warning is resident within the NG forces' mobile units and individual hand-held test kits and sensors, but these are not deployed until after a suspected CB agent release. Furthermore, the current distribution of WMD-CSTs, CERFPs, and HRFs at single NG or FEMA sites in large states, does not assure rapid response to all locations. CONPLAN 3500-11 states, "Due to nature of event, and limited and sporadic surveillance programs, detection of disease outbreaks may not occur until large numbers of victims are affected."⁴⁶ USNORTHCOM accepts the risks of no early warning system capability.

Senior military and civilian leaders would likely judge that WMD collectively receive 'due regard' in plans and security strategies. It has often been argued that threats of WMD and CB in particular, are over-hyped. A Strategic Studies Institute (SSI) monograph claimed that the significance of the biological threat was deliberately exaggerated, concluding that it was both less urgent and less likely to occur than proponents of increased biodefense frequently suggest. The assessment asserted that few States possess the capacity to manufacture or use CB weapons; that the technical and scientific challenges of acquisition,

production, weaponization, storage, transport and delivery of CB agents are beyond the limited capabilities of most adversaries and terrorist groups.⁴⁷ Indeed the most often cited example of ‘failure’ to achieve significant effects with a chemical or biological weapon is the Japanese Aum Shinrikyo organization. Several unsuccessful attempts preceded the 1995 attack, when sarin gas was released in the Tokyo subway system. The attack produced only 12 fatalities, but 5,000 people had to be treated for exposure. That it failed to yield mass casualties was due in part to a poor delivery system and the quality of the chemical agent.⁴⁸

CONCLUSIONS

Terrorist attack with a chemical or biological weapon on the U.S. is not a question of if it will happen; it is a question of when. USNORTHCOM is currently not prepared to accomplish its homeland defense mission to protect the U.S. from a CB event. Determined adversaries will find ways to circumvent the most detailed security measures. The Tokyo subway attack was 19 years ago, and terrorists have improved their comprehension of technology, as evidenced by their prolific use of the internet and ever more sophisticated (smaller size and more powerful) improvised explosive devices (IED). The SSI opinion is based largely on faulty assumptions; namely citing known quantities and previous failures. It neglects the unknown and perhaps more dangerously presumes an absence of capability and intent (therefore reduced threat) based on historical examples. Chemical and biological agents are capable of producing mass casualties, are easy to procure and terrorist groups have a long history of demonstrating significant interest in their use.

USNORTHCOM’s CONPLANS designed to defend against chemical and biological attacks do not provide the command relationships or the resources to protect the nation against this threat. Anti-terrorism and Counterterrorism experts agree that it is simply not

possible to prevent every attack. Prevention is a positive goal, but the operational objective must be protection through response and recovery when deterrence fails. Protection against the CB threat requires investments in systems and personnel to enhance intelligence, situational awareness, C2, interagency coordination and sustainment. Early warning, redundancy and resiliency are the keys to mitigating the CB threat and saving lives.

RECOMMENDATIONS

In order to be prepared to protect the homeland from a catastrophic CB attack, USNORTHCOM requires forces assigned and dedicated to the threat. The withdrawal from Afghanistan and the 'rebalance to Asia' have implications for DoD, but it is essential that prior to downsizing the military, the gaps in homeland defense be filled. First, USNORTHCOM should be assigned forces to meet the HD and CS missions. While NORTHCOM may not require the same level of forces as Central or Pacific Command, the need to protect the U.S. against asymmetric threats such as CB demands a substantially larger assigned force than the DCRF. Concurrently, the force structure needs to be changed to correct deficiencies identified by the GAO and left by the 2010 QDR. Any major CB event will be classified as a complex catastrophe requiring a national response, and C2 roles, responsibilities and relationships should be designed to facilitate unified command and seamless interagency cooperation under federal authorities rather than under State C2.

USNORTHCOM should create a CB Detection Task Force (CB-DTF) to mitigate the threat of a CB incident.⁴⁹ In a domain as complex as CB, a dedicated Task Force is not only appropriate, but indicated by the special nature of the threat and spectrum of operational challenges of CB detection and response at multiple simultaneous locations across the nation. The DCRF and C2CRE should be *assigned* to USNORTHCOM and placed under JTF-CS.

Assigned forces must be evenly dispersed to facilitate rapid response to coincident events. CB-DTF elements could be integrated with FBI Joint Terrorism Task Forces (JTTF), or within state and regional intelligence fusions centers such as the Maryland Coordination and Analysis Center and Arizona Fusion Center.⁵⁰ Distribution should provide coverage across the 10 FEMA regions, and synchronization with the WMD-CST/CERFPs/ HRFs.

Protection begins with early recognition, and hundreds, possibly thousands of lives can be saved if the threat is detected and the public alerted before “large numbers of victims are affected.”⁵¹ Integrated defense is required; this entails resourcing for CB surveillance and detection systems in CONUS. Technology exists today which is capable of detecting pathogens and chemical agents. While costs certainly prohibit deploying sensors on every rooftop and street corner, there is a logical and budget-conscious balance that could be found to emplace them at strategic and high value locations, including military bases, airports, hospitals, government buildings in major cities and large public venues. CB-DTF must integrate with Regional and State Intelligence Fusion centers for detection and response.⁵²

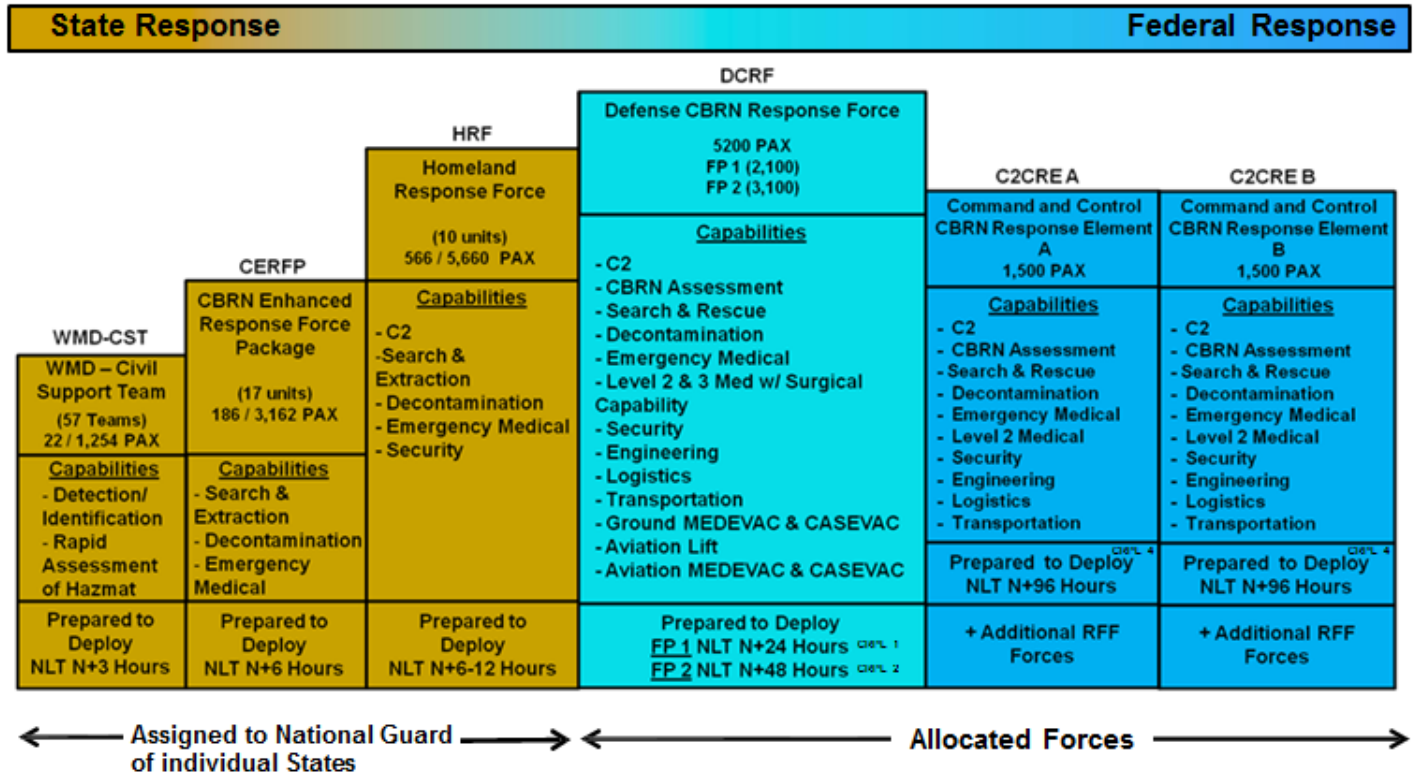
Under the recommended force structure, training for all elements of the CBRN Response Force Enterprise would be the responsibility of the JTF-CS, coordinating overall certification, validation and evaluation requirements. As previously mentioned, 18 or 36 month interval periodic evaluation is insufficient to maintain proficiency. Semi-annual VIBRANT RESPONSE exercises should be implemented with participation by all assigned forces, with regional training in between coordinated through the NG elements. Scenarios should expand to include concurrent attacks/ outbreaks in distinct locations, and forces should actually deploy to enable assessment of response times and lessons learned.

Non-assigned CONUS forces retained by the services should have some basic first responder (CPR) and formal CB training as well. The U.S. Marine Corps fields the CBRNE Installation Protection Program, a comprehensive multi-day course delivered by a Mobile Training Team which covers all aspects of awareness, detection, decontamination, and protective equipment. Navy Knowledge Online (NKO) has eight CBRNE online courses, and Joint Knowledge Online (JKO) has ten, none of which are mandatory. DoD personnel take annual Anti-terrorism training online and Active Shooter courses have recently been mandated to mitigate those threats. Individual warfighters should have at least some basic knowledge of the CB threat and be prepared to respond. The Joint and Service Educational Institutions should incorporate annual CB war games into their planning activities. The U.S. military must be ready to respond to catastrophic CB events, and prudent preparation demands that, 'we train like we fight.' Deterrence is significantly enhanced through hardening measures. The time to establish integrated defense for protection of the homeland is before an attack occurs, not after it suffers a chemical or biological September 11th.



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CBRN Response Enterprise



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Figure 1 (USNORTHCOM CBRN Response Enterprise)



USNORTHCOM AOR

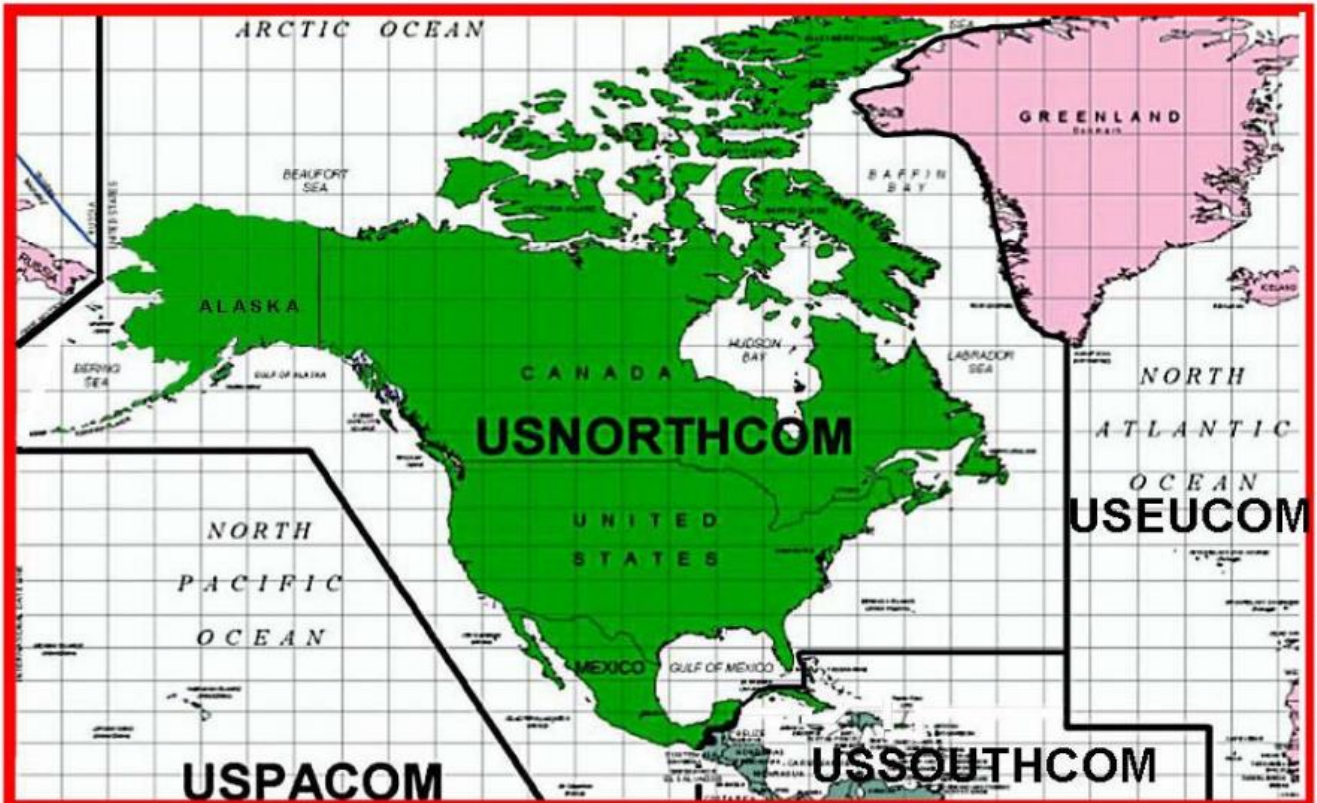


Figure 2 (USNORTHCOM JTF-CS 101 Brief)

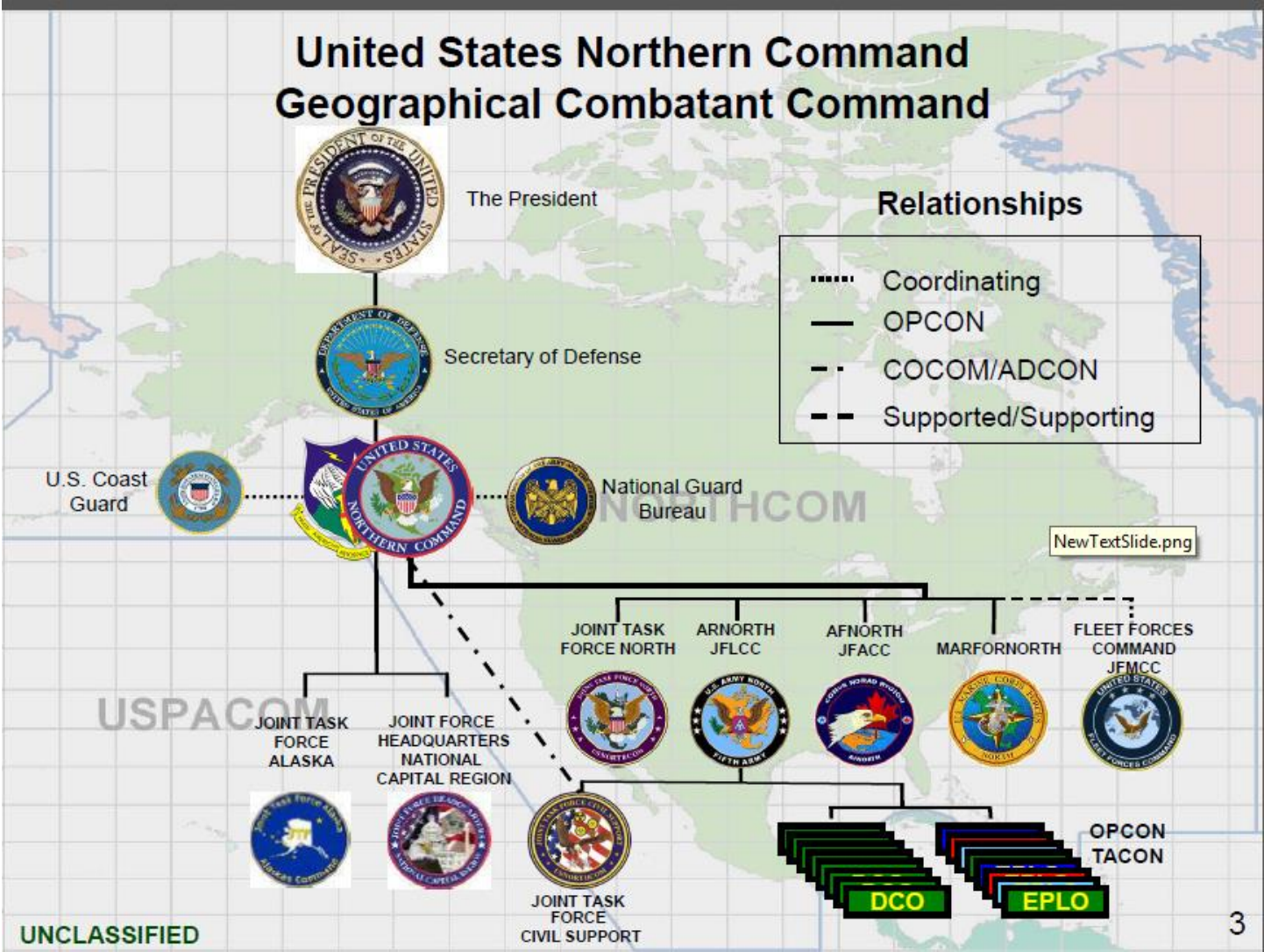


Figure 3 (USNORTHCOM JTF-CS 101 Brief)

JOINT TASK FORCE CIVIL SUPPORT

CBRN Response Enterprise Elements

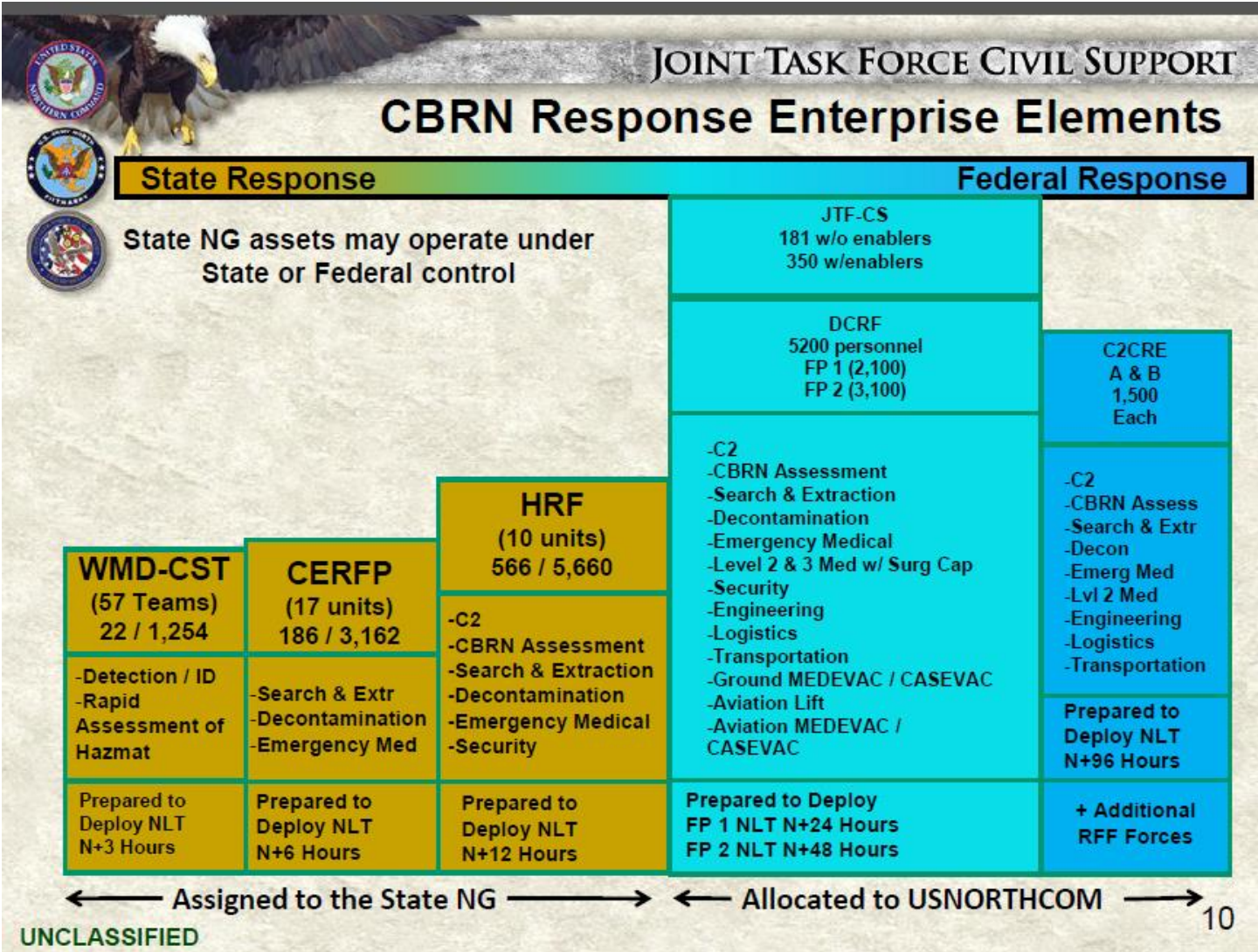


Figure 4 (USNORTHCOM JTF-CS 101 Brief)



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CBRN Response Enterprise Forces

(U) NATIONAL GUARD FORCES (Title 32 – Commanded by state Adjutants General)



(U) **WMD-CST:** Weapons of Mass Destruction Civil Support Team.

57 Units/22 PAX ea
Prepared to Deploy at N+3 hrs

(U//FOUO) **CERFP:** CBRN Enhanced Response Force Package.

Regional. 17 Units/186 PAX ea
Prepared to Deploy at N+6 hrs

(U//FOUO) **HRF:** Homeland Response Force.

10 Units/556 PAX ea
Prepared to Deploy at N+ 12 (ADVON) and N+24 (Main Body)

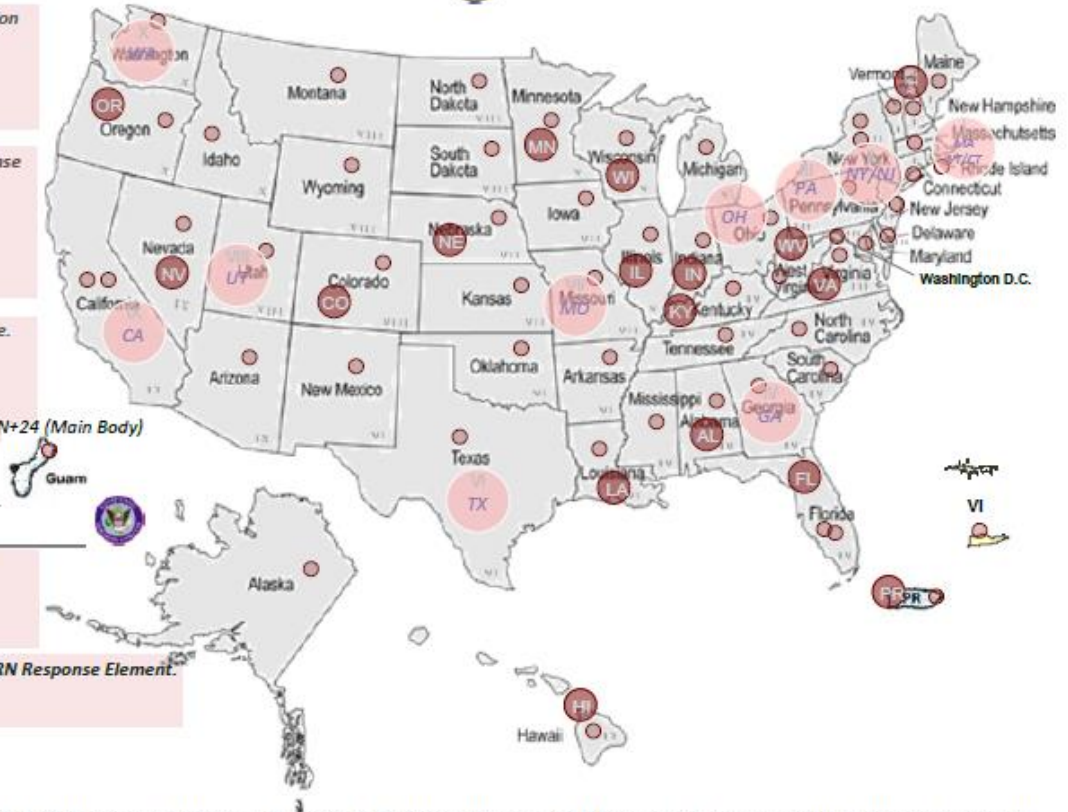
(U) **FEDERAL FORCES** (Title 10 Active Duty – Commanded by USNORTHCOM)

(U) **DCRF:** Defense CBRN Response Force.

1 Unit/5200 PAX
Prepared to Deploy at N+24 hrs (FP1) & N+48 hrs (FP2).

(U) **C2CRE A/B:** Command and Control CBRN Response Element.

2 Units/1570 PAX (Total)
Prepared to Deploy at N+96 hrs



(U) US Military forces task-organized and given the mission to respond to domestic chemical, biological, radiological, or nuclear incidents.

Figure 5 (USNORTHCOM CBRN Response Enterprise)



WMD-CST Overview

MISSION: Support civil authorities at a domestic CBRNE incident site by **identifying** CBRNE agents and substances, **assessing** current and projected consequences, **advising** on response measures, and **assisting** with appropriate requests for additional support.

NDA FY07 expanded the mission set to include responses to intentional or unintentional releases of Toxic Industrial Chemicals (TICs) and Materials (TIMs), and natural or man-made disasters in the United States that result, or could result, in catastrophic loss of life or property.

WMD-CST KEY CHARACTERISTICS:

- Established in Law
- 57 WMD-CSTs certified by the SECDEF
- Operate only in US and Territories
- 22 Full-time, T32 AGR Personnel, Jointly manned w/ ARNG and ANG personnel
- 80% Non-standard equipment
- Sophisticated Reach back System
- Interoperable with First Responders
- All WMD-CST personnel are HAZMAT TECH certified

22 Individuals



Unified Communications Suite (UCS)

- Radios:
 - UHF/VHF
 - SATCOM
 - INMARSAT
- Phones:
 - DSN
 - Commercial
- Data:
 - NIPRNET
 - SIPRNET
- Video



Analytical Laboratory System (ALS)

- Refrigerator
- Glove Box
- GC/MS
- Immunoassay Tickets
- Gamma Spectrometer
- Fluorescent Microscope
- PCR
- FTIR
- Digital transmission link to UCS

Figure 6 (National Guard Bureau)



Weapons of Mass Destruction Civil Support Team (WMD-CST) Organization

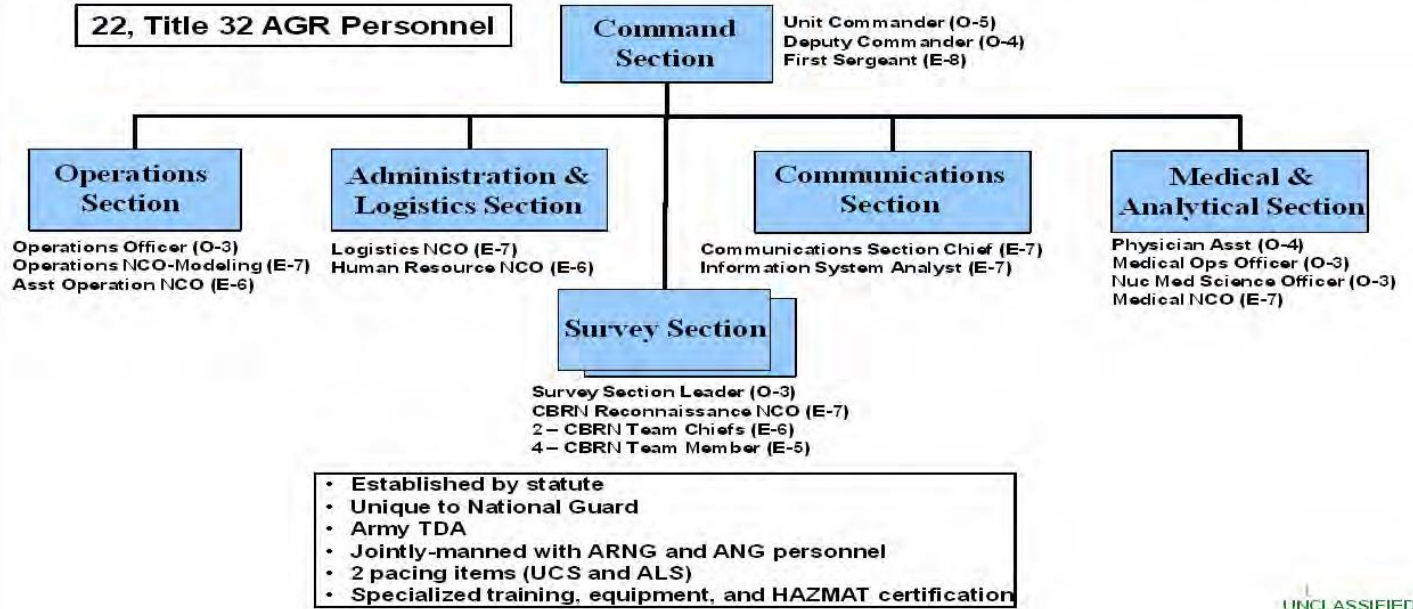


Figure 7 (USNORTHCOM CONPLAN 3500-11)



57 WMD-CST Locations/Sectors

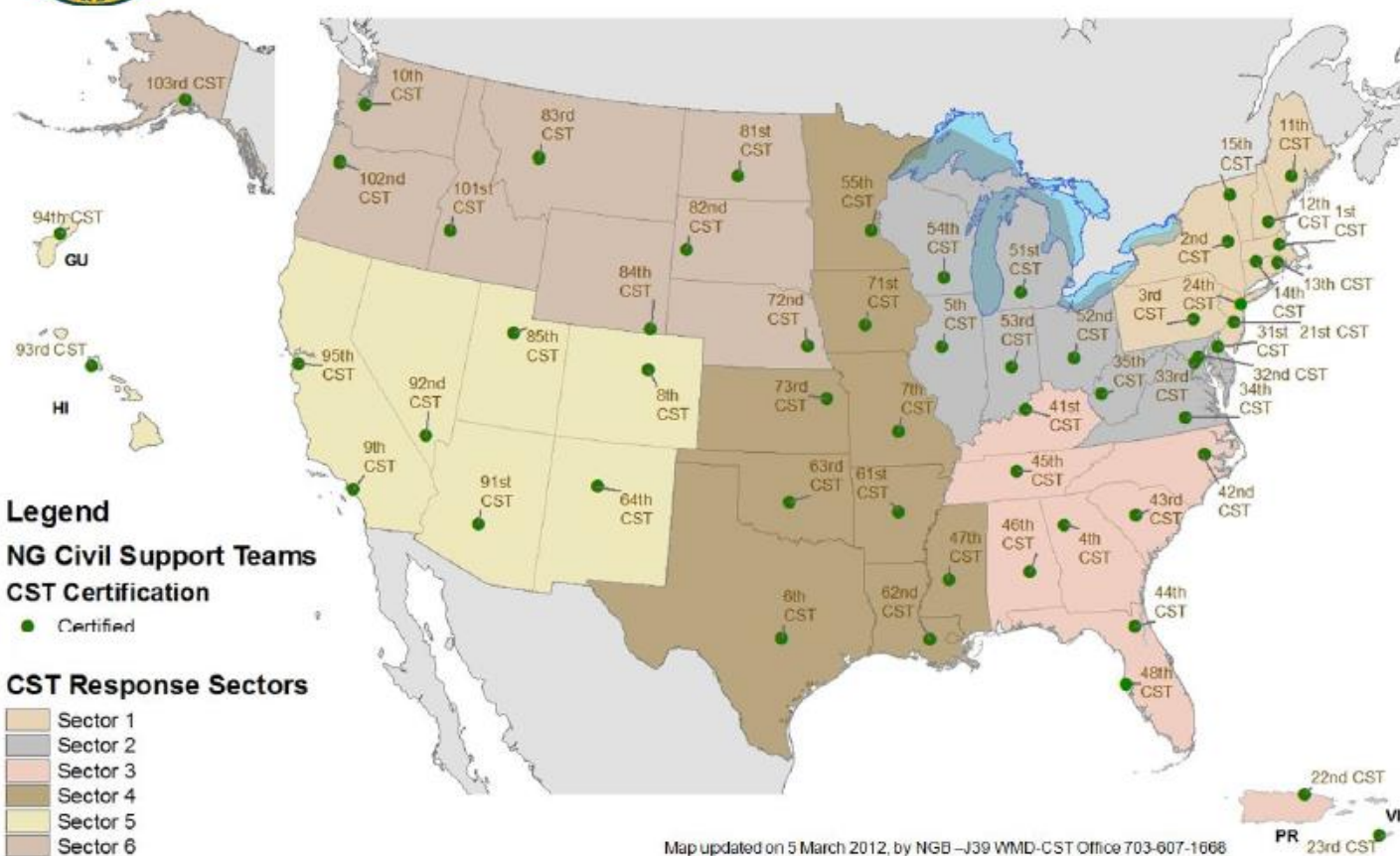
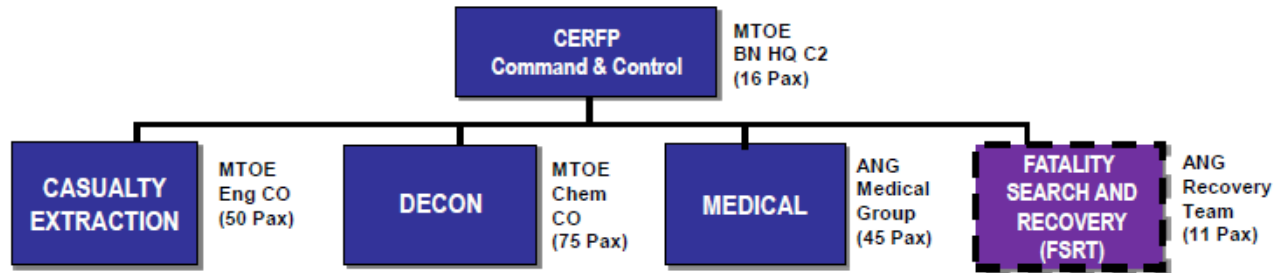


Figure 8 (National Guard Bureau)



CBRN Enhanced Response Force Package

MISSION: O/O responds to chemical, biological, radiological, or nuclear (CBRN) incident and assists local, state, and federal agencies in conducting consequence management by providing capabilities to conduct patient /mass casualty decontamination, emergency medical services, and casualty search and extraction.



KEY CHARACTERISTICS:

- Dual missioned and modular
- Must Pass an external evaluation every 24-36 Months
- Comprised of NG Army and Air personnel
- On M-Day status until activated
- 186 M-Day and five Title 32 full time AGR personnel (Additional 11 M-Day Airmen-FSRT- per team)
- Specialized training for a WMD environment, equipment meets NIOSH/OSHA standards
- Can be utilized in SAD, Title 32 or Title 10

As of: 14 Mar 2012
 COL Heinrich Reyes
 703-607-5307

Figure 9 (National Guard Bureau)



Homeland Response Force

	Personnel	Function
X BDE Battle Staff	180	Regional C2
[]	200	Security
HQ	16	C2
[]	50	Search and Extraction
[]	75	Decontamination
[]	45	Medical Triage

Identical to CERFPPS

MISSION: When directed by proper authority and upon consent of the Governor(s), the Homeland Response Force (HRF) alerts and assembles within six hours; on order, deploys and conducts command and control; security; search and extraction; decontamination; and medical triage as needed in order to save lives and mitigate human suffering; on order, transitions operations to civil authorities and redeploys.

KEY CHARACTERISTICS:

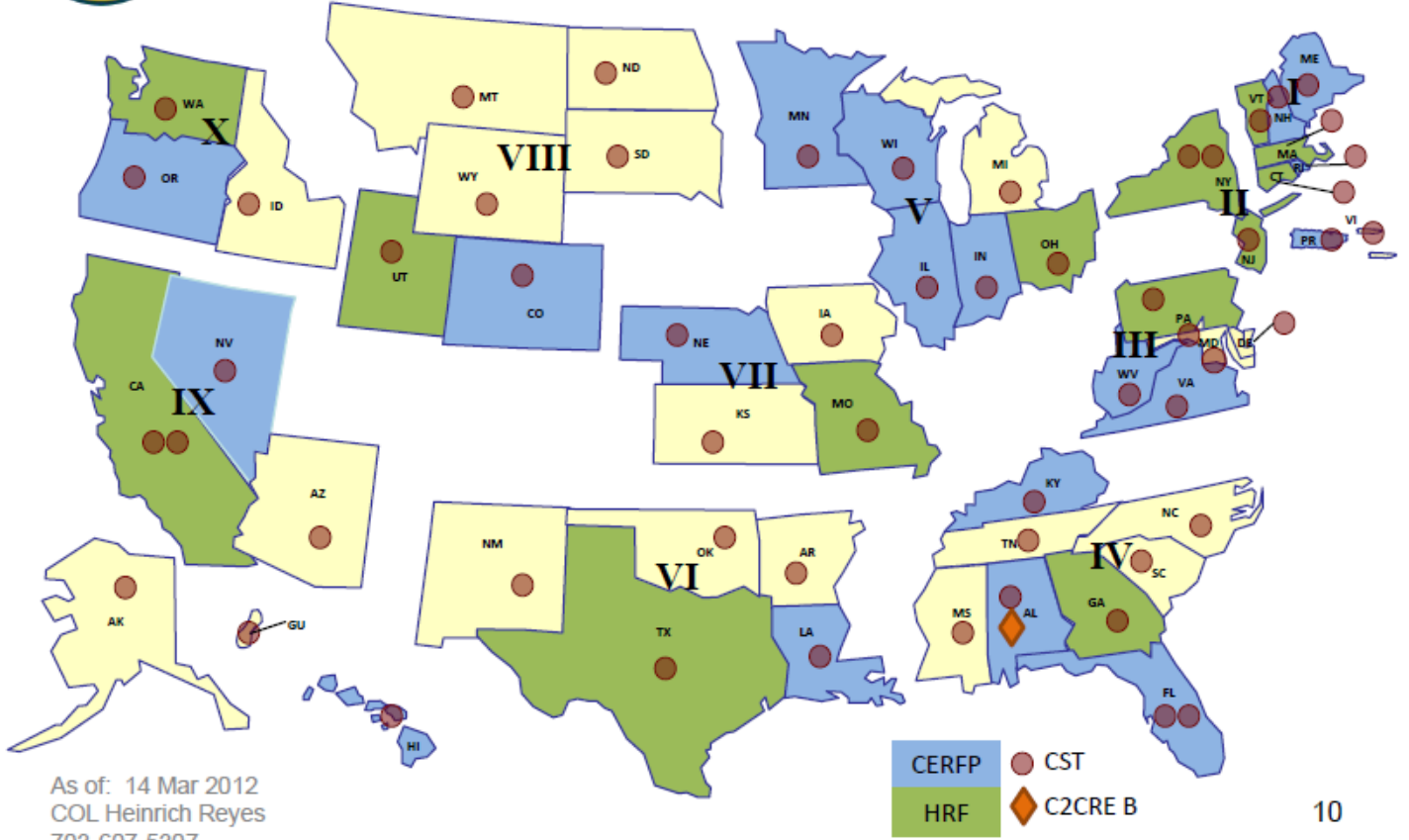
- Provides a regionalized, distributed, life saving CBRN response capability
- Bridges a gap between initial NG response and Title 10 capabilities
- Improves C2 and Common Operating Picture (COP) of deployed NG CBRN forces

As of: 14 Mar 2012
COL Heinrich Reyes
703-607-5307

Figure 10 (National Guard Bureau)



Title 32 CBRN Enterprise - 1 OCT 12

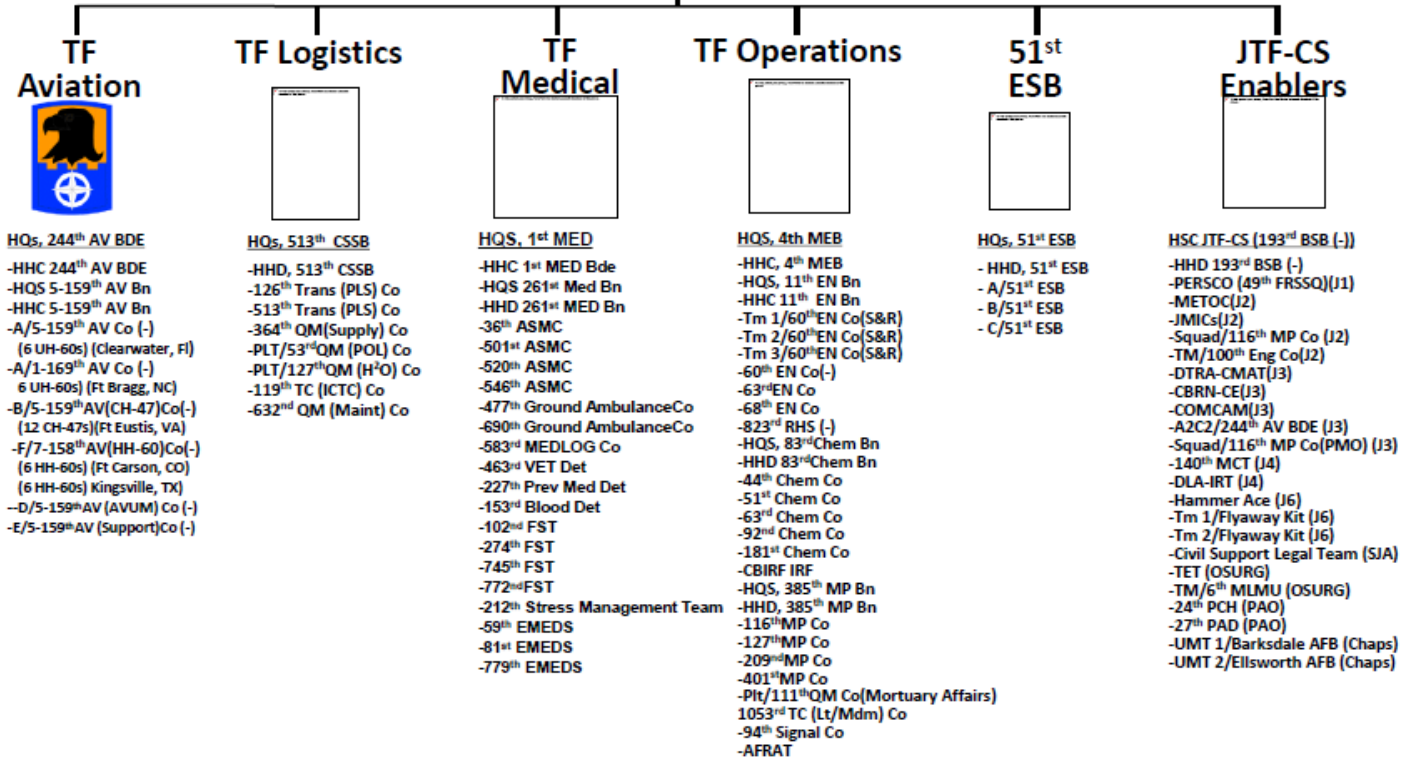


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Figure 11 (National Guard Bureau)

FY14 DCRF Task Organization

Joint Task Force Civil Support



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Figure 12 (USNORTHCOM JTF-CS 101 Brief)

DCRF Phase 0 Functional Alignment

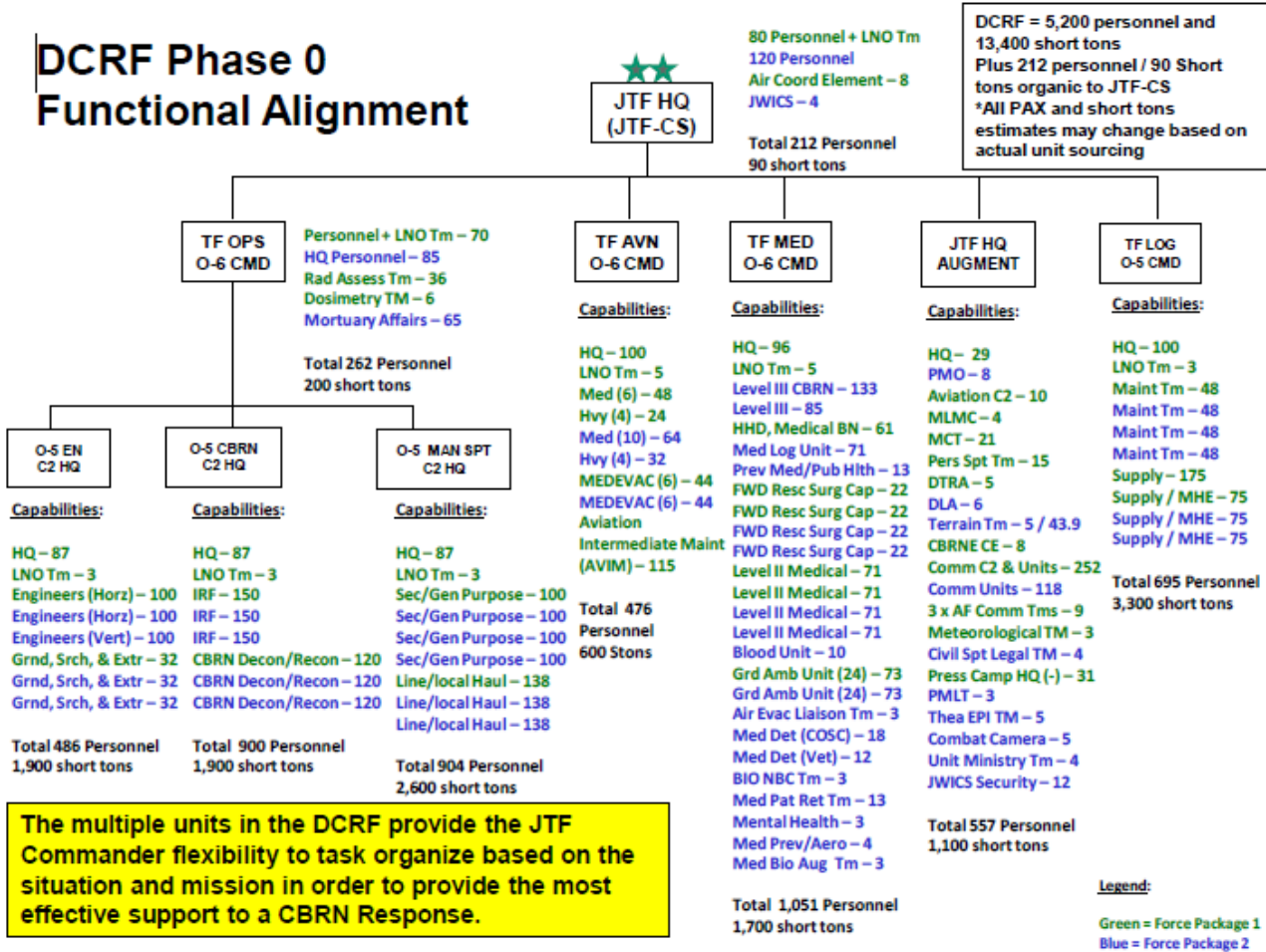
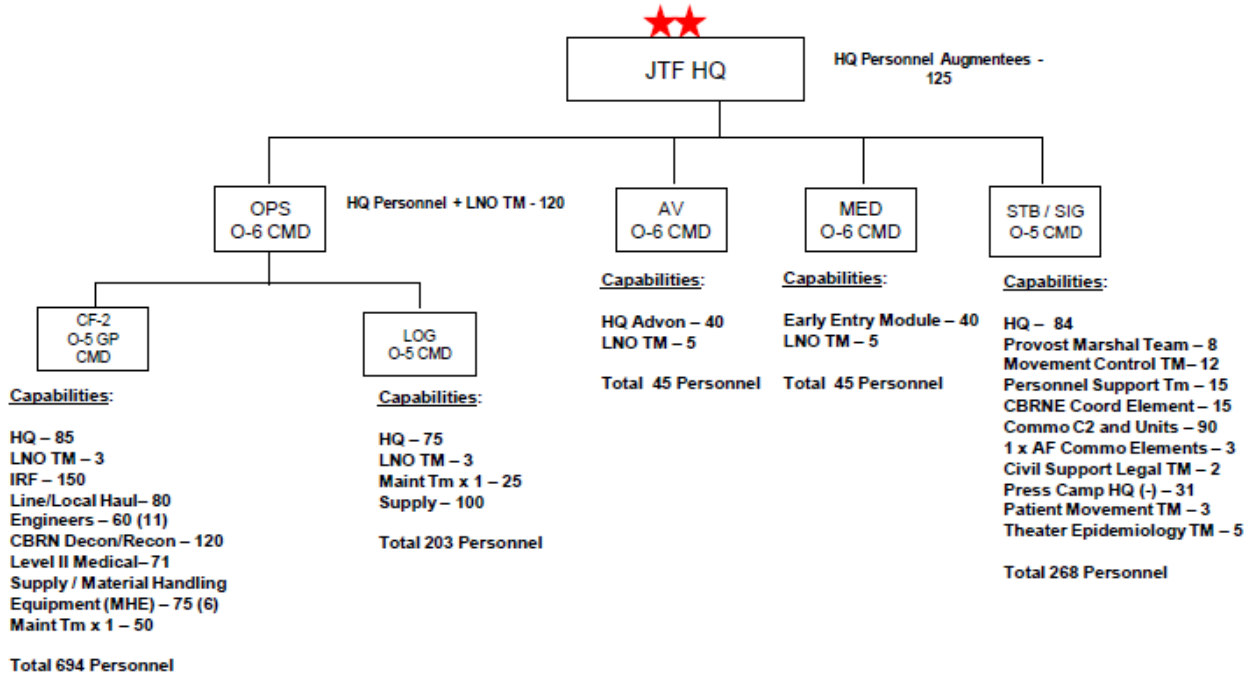


Figure A-4 DCRF Phase 0 Functional Alignment

Figure 13 (USNORTHCOM CONPLAN 3500-11)



C2CRE A & B = 1,500 personnel each

Figure A-5. HQ C2CRE A and B

Figure 14 (USNORTHCOM CONPLAN 3500-11)

FEMA Regions

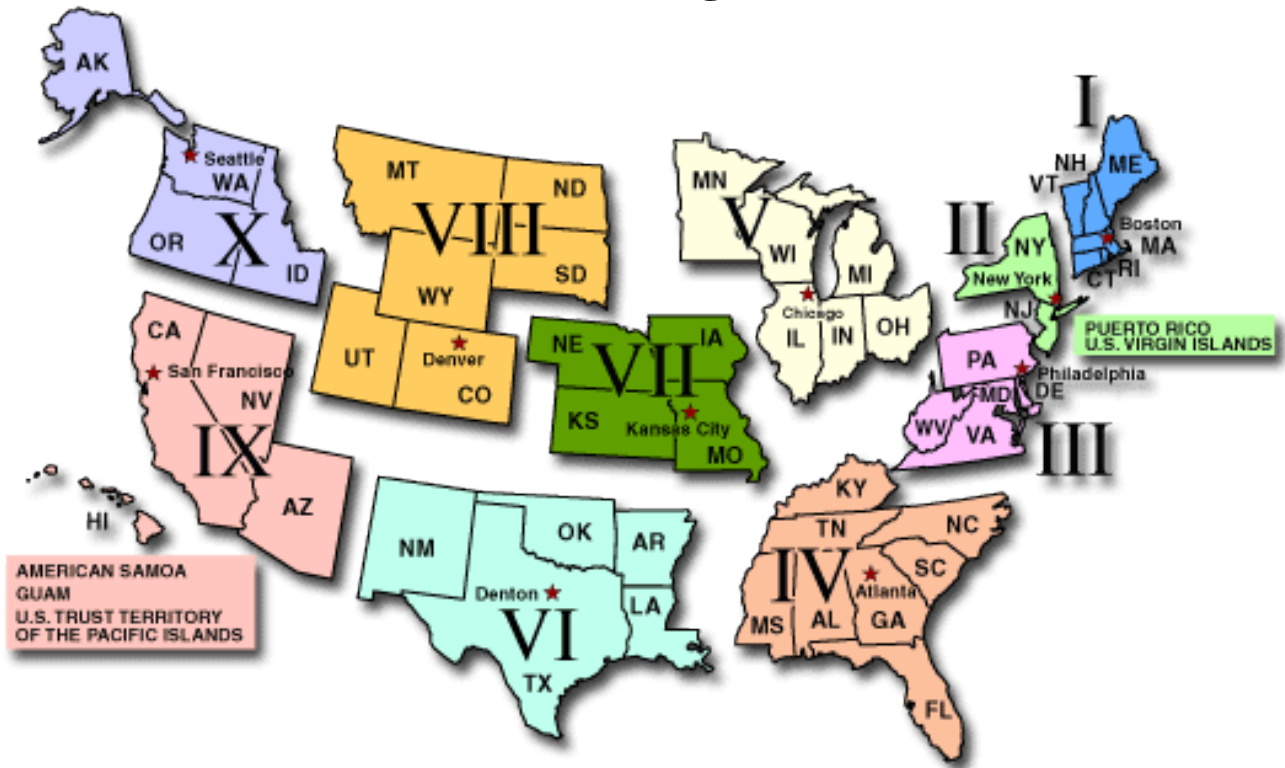


Figure 15

USNORTHCOM CBRN Response Phases

CBRN Response Phase

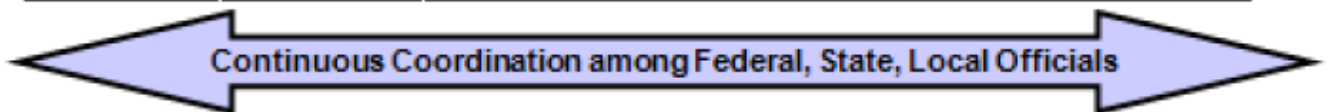
- 0 – Shape
- I – Anticipate
- II – Respond
- III – Operate, IV – Stabilize
- V - Transition

FEMA Response Phase

- 1 – Normal Operations
- 2a - Activation (Immediate Response)
- 2b – Deployment and Employment
- 2c – Sustained Response
- 3 – Recovery



Phase 0	Phase I	Phase II	Phase III	Phase IV	Phase V
<ul style="list-style-type: none"> • Maintain BA • Planning • Designate Forces • Training • Equipping • Validation • Interagency Liaison • Exercises • Mil Info 3pt Op • Public Affairs • Personnel • Medical • Readiness 	<ul style="list-style-type: none"> • ID Mission • Interagency Coord • Set Enablers • NGB Coord • Submit RFFc • Establish B8I • ID APODs • Deploy Info • Awar/Acc (IAA) • Establish JOA • Notification • Nuclear • Public Affairs • Perc Medical • Readiness 	<ul style="list-style-type: none"> • Liaison • C2 • Coordinate • IAA • Notification • Nuclear • Upload • Deploy Forces • JRSOI • JOA Opening • Logistics • Sustainment & Distribution • Health • Protection • Public Affairs 	<ul style="list-style-type: none"> • Liaison • C2 • Coordinate • Access • Search & Extract/Rescue • Patient Decon • Emerg Medical Triage/Treatment • MEDEVAC / CASEVAC • Logistics • Sustainment & Distribution • Security • Public Affairs 	<ul style="list-style-type: none"> • Liaison • C2 • Coordinate • Access • Emerg Medical Triage/Treatment • Patient Redict • Logistics • Sustainment & Distribution • Security • Minimize Suffer • Community • Recovery • Public Affairs 	<ul style="list-style-type: none"> • Transition • Accountability • Redeploy • Recet • Lessons Learned • Access • Public Affairs



The response may straddle different phases at certain times

CBRN Response Phasing Construct

Figure 16 (USNORTHCOM CONPLAN 3500-11)

CBRN Threat Spectrum

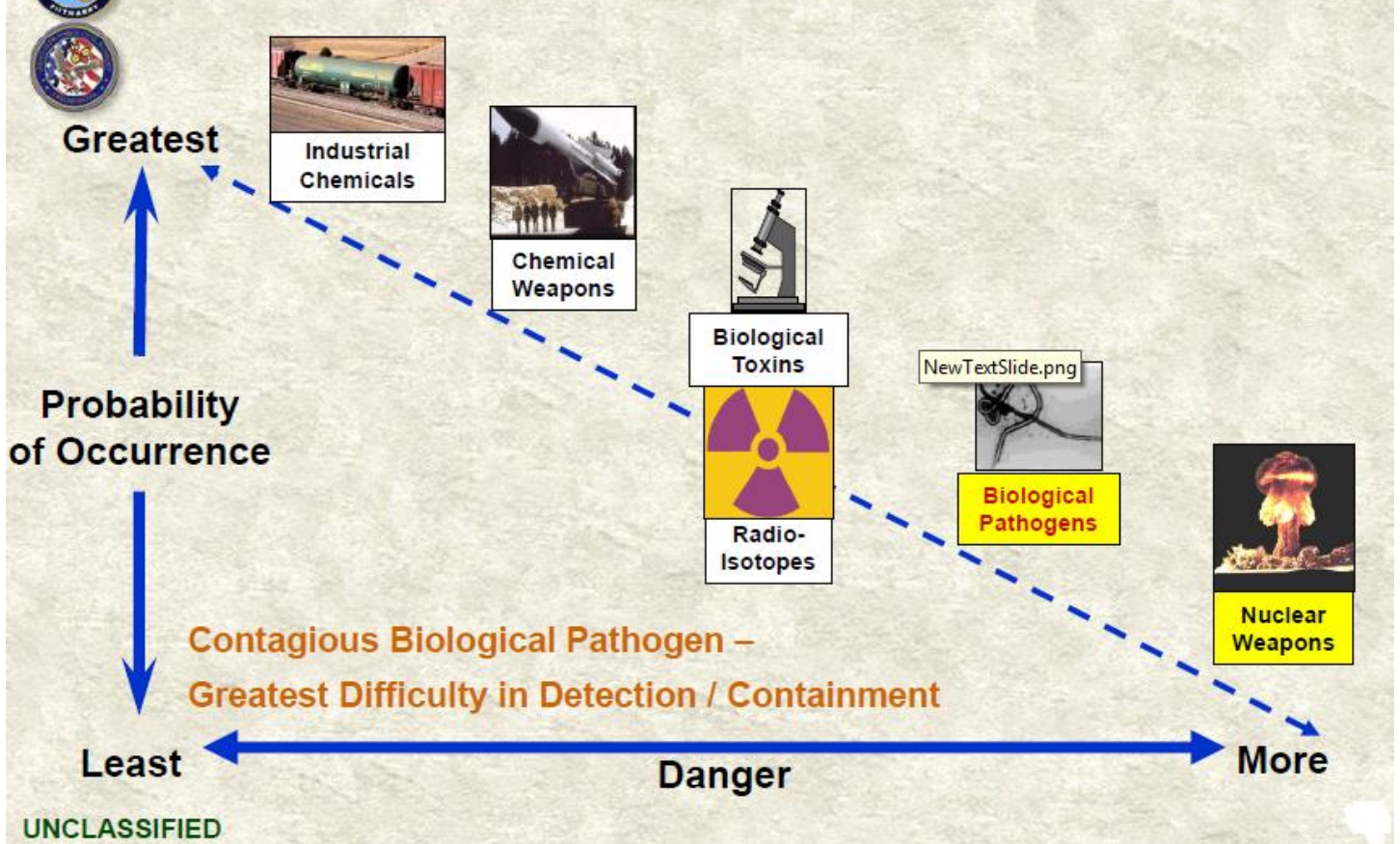


Figure 17 (USNORTHCOM JTF-CS 101 Brief)

Potential Biological Pathogen Impact on Military Readiness

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	Disease Severity		
	Severe	Moderate	Mild
Pandemic	High impact	Intermediate impact	Low impact
Regional epidemic	Intermediate impact*	Intermediate impact*	Low impact
Localized epidemic	Low impact*	Low impact	Negligible impact
Low level endemic	Low impact	Low impact	Negligible impact
Self-terminating (no sustained transmission)	Negligible impact	Negligible impact	Negligible impact

*While overall worldwide military impact is assessed as intermediate or low, the local impact to particular units within a geographic area may be substantial.

High-Res

(U) Overall impact of emerging infectious diseases on U.S. military readiness

Figure 18

(U) The levels of impact on U.S. military readiness are defined as follows:

- (U) **High impact:** Transmission affects the majority of units in multiple regions. Many individual units are not mission capable for more than 2 weeks. Attack rates exceed 10 percent per month in most units; disease is moderate or severe; local military medical care capacity likely is overwhelmed, including intensive care; significant fatalities are possible.
- (U) **Intermediate impact:** Transmission affects multiple units and multiple regions, but most units worldwide remain unaffected. Some individual units are not mission capable for up to 2 weeks: Attack rates exceed 10 percent per month in many units; disease is mild or moderate; minimal medical care is required for most; local military medical care capacity generally is not exceeded; rare fatalities occur.
- (U) **Low impact:** Transmission occurs in scattered units in specific areas. Mission capability is slightly degraded in the units worst affected: Typical attack rates are less than 10 percent per month; disease is mild (3-5 days lost); minimal medical care is required for most; local military medical care is not exceeded; very rare or no fatalities are expected.
- (U) **Negligible impact:** The majority of units worldwide can maintain normal operations even in the worst affected areas; illness rates are within historic norms. No fatalities are expected; hospitalizations are rare.

National Center for Medical Intelligence, Defense Intelligence Agency

<https://www.intelink.gov/ncmi/document.php?id=100905>

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30. Charles H. Jacoby, Commander, U.S. Northern Command, USNORTHCOM Concept Plan (CONPLAN) 3500-11, Chemical, Biological, Radiological, and Nuclear (CBRN) Response, 17 August, 2011, 3.

31. CONPLAN 3407 cannot assure prevention or protection against WMD attack.

32. Jacoby, v.

33. The forces assigned to the NG are under Title 32 authority, while those allocated (not assigned) for Title 10 are directed to Integrate under State C2 and with State and Federal civil response efforts and conduct critical lifesaving tasks. Ibid., 21.

34. WMD-CSTs are ready to deploy in 1.5 (initial elements) to 3 hours (main body). Capabilities include detection and identification of suspected or actual hazardous materials, rapid assessment, advising the incident commander. CERFPs, consist of 186 personnel each, capabilities are search and extraction, casualty decontamination, and emergency medical triage and treatment and they can deploy within 6 hours of notification. The HRFs, provide CBRN response capabilities within the 10 FEMA Regions, consist of 566 personnel each. Capabilities include search and extraction, casualty decontamination, emergency medical triage and treatment, security, and C2. HRFs are ready to deploy (RTD) within 6-12 hours. DCRF is 5,200 personnel and is divided into two Force Packages, RTD within 24 and 48 hours. C2CRE is 3,000 also divided into two elements, RTD in 96 hours. Jacoby, G-3-G-4.

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44. Lyles, 30 April 2014.

45. LCDR Kris Stonaker and Mr. Shannon Lovejoy (U.S. Fleet Forces Command, Force Protection Division, Norfolk, VA), phone call with author, 03 February 2014.

46. Jacoby, Q-4.

47. Milton Leitenberg, "Assessing the Biological Weapons and Bioterrorism Threat," Strategic Studies Institute, (December 2005). <http://www.strategicstudiesinstitute.army.mil/pubs/display.cfm?pubID=639> (accessed 8 May, 2014).

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50. The FBI has fielded JTTFs in 103 cities, which are coordinated through the National JTTF. Federal Bureau of Investigation, "Protecting America from Terrorist Attack: Our Joint Terrorism Task Forces," accessed 05 May, 2014, http://www.fbi.gov/about-us/investigate/terrorism/terrorism_jtfts.

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