NATIONAL GUARD WEAPONS OF MASS DESTRUCTION CIVIL SUPPORT TEAMS: PERFORMING AS REQUIRED?

A Monograph
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Abstract

NATIONAL GUARD WEAPONS OF MASS DESTRUCTION CIVIL SUPPORT TEAMS: PERFORMING AS REQUIRED? by MAJ Sven C. Erichsen, USA, 52 pages.

The Department of Defense is also in the process of reevaluating its contribution to homeland security in the aftermath of the September 11 attacks. Of particular concern is the DoD plan for assisting civilian authorities in consequence management – the measures taken to protect public health, safety, and the environment, to restore essential government services, and to provide emergency relief to governments businesses and individuals affected by the consequences of terrorism. A significant DoD contribution to the consequence management aspect of homeland security has been the development of the National Guard Weapons of Mass Destruction – Civil Support Team (WMD-CST), a new type of unit designed to provide civilian authorities military support in response to WMD attacks involving the use of nuclear, biological, chemical, or radiological (NBCR) weapons.

The development of the WMD-CST concept has raised considerable debate over the merits of the new organization. Previous authors argued that the WMD-CST is incapable of providing timely support to local authorities. Others take the criticism of the WMD-CST a step further, calling into question the ability of the Department of Defense to provide personnel sufficiently trained to provide meaningful support to civilian first responders. Positive reviews emphasized the WMD-CSTs' ability to respond rapidly to events, because of their ability to operate under Title 32 or Title 10 authority.

This monograph determines whether the National Guard Weapons of Mass Destruction Civil Support Team (WMD-CST) is an effective organization for conducting Military Support to Civilian Authorities in response to a WMD attack in the United States. The determination is made by evaluating the actual performance of WMD-CSTs against the required capabilities specified in the original Presidential Decision Directives, legislation, Federal regulations, and Department of Defense initiatives that shaped the national consequence management strategy: specifically: 1) Defense Reform Initiative #25 (the Tiger Team report); 2) the Nunn-Lugar-Domenici Defense Against Weapons of Mass Destruction Act of 1996; 3) Presidential Decision Directives 39 and 62; and 4) the Federal Emergency Management Agency (FEMA) Federal Response Plan of 1998. The results of audits of the WMD-CST program and the actual performance of WMD-CSTs since September 2001 are compared to their required performance. The analysis identifies where the WMD-CSTs fell short of accomplishing the required missions, and recommends solutions for the shortfalls.

This study finds that the WMD-CSTs will never be able to perform as required, mainly because they will not be able to arrive on the scene of a WMD attack in time. The inability of the WMD-CST to perform as required is due to the flawed nature of the employment concept outlined in the Tiger Team report that created the WMD-CST. The WMD-CST employment concept fails because it relies on the invalid assumption that four hours is a rapid enough response time for a WMD attack. The employment concept implied in the Tiger Team report requires the WMD-CST to perform first responder missions that must be performed within an hour of a WMD attack in order to be of value in minimizing civilian casualties s in order to be useful, yet positions the WMD-CST in a manner more appropriate to a follow-on support unit. Because the WMD-CST is a regional asset that requires state-level approval to be employed, it cannot respond in time to perform these functions.

This study recommends that the WMD-CST mission and structure be redefined to remove the requirement to perform first-responder missions, and to emphasize pre-incident and post incident support to civilian emergency responders to facilitate DoD consequence management in the event of a WMD attack. The mission of the WMD-CST should be reduced to pre-incident coordination and post-incident consequence management support to first responders.

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CHAPTER 1

INTRODUCTION

In response to the terrorist attacks of September 11, 2001, and the subsequent mail-borne biological attacks, the United States is reevaluating its preparedness to respond to weapons of mass destruction (WMD) attacks in the homeland. President Bush's appointment of Pennsylvania Governor Tom Ridge to the newly created post of Director of Homeland Security highlighted that the mission of deterring and managing the consequences of terrorist attacks against the homeland is now a total national effort. Federal, state, and local authorities must now reevaluate their plans for combating terrorism to ensure that all agencies work in concert towards the common goal of deterring terrorism, and minimizing its effects.

The Department of Defense is also in the process of reevaluating its contribution to homeland security in the aftermath of the September 11 attacks. Of particular concern is the DoD plan for assisting civilian authorities in consequence management – the measures taken to protect public health, safety, and the environment, to restore essential government services, and to provide emergency relief to governments businesses and individuals affected by the consequences of terrorism[1]. A significant DoD contribution to the consequence management aspect of homeland security has been the development of the National Guard Weapons of Mass Destruction – Civil Support Team (WMD-CST), a new type of unit designed to provide civilian authorities military support in response to WMD attacks involving the use of nuclear, biological, chemical, or radiological (NBCR) weapons.

In June of 1995, President Clinton issued Presidential Decision Directive 39 (PDD/NSC 39) *U.S. Policy on Counterterrorism,* a document that outlined the federal government's

[1] Federal Bureau of Investigation, *Weapons of Mass Destruction Incident Contingency Plan (WMDICP),* 26 August 1998. Washington D.C.: 1998

responsibility to prepare for and respond to acts of terrorism in the United States[2]. Three terrorist acts caused President Clinton to issue PDD 39: the bombing of the World Trade Center in 1993, the release of Sarin gas in a Tokyo subway in March of 1995, and the bombing of the A.P. Murrah Federal Building in Oklahoma City in April of 1995. That two of the three incidents occurred on U.S. soil highlighted the increased threat of terrorism to the U.S. population. PDD 39 placed special emphasis on the threat of terrorist use of weapons of mass destruction, and directed the federal government to reduce domestic vulnerability to weapons of mass destruction that involve nuclear, biological, chemical, or radiological (NBCR) means[3].

President Clinton issued another directive in May 1998, PDD/NSC 62 *Protection Against Unconventional Threats to the Homeland and Americans Overseas*, that established a National Coordinator for Security, Infrastructure Protection, and Counterterrorism.[4] In addition to further clarifying Federal roles and responsibilities, PDD 62 called for the creation of Chemical-Biological (CB) Terrorism Rapid Response Team.[5]

Congress authorized the commitment of resources to domestic preparedness for WMD attacks with the passage of the *Defense Against Weapons of Mass Destruction Act of 1996* (the Act), sponsored by Senators Samuel Nunn of Georgia, Richard Lugar of Indiana, and Pete Domenici of New Mexico, in 1996[6]. The Act was intended to enhance domestic preparedness to prevent and respond to terrorist attacks involving WMD, including the use of NBCR weapons. Central to the Act was the authorization to procure resources required to improve the ability of local, state, and federal authorities – including the DoD—to prevent and respond to WMD/NBCR

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[2] Clinton, President William J. *Presidential Decision Directive 39, US policy on Counterterrorism*. Washington D.C.: 1996
[3] Ibid.
[4] Clinton, President William J., *Presidential Decision Directive 62, Protection Against Unconventional Threats to the Homeland and Americans Overseas*, Washington D.C.: 1998
[5] Ibid.
[6] United States Congress. *Defense Against Weapons of Mass Destruction Act of 1996*, Washington D.C.: GPO, 1996

terrorist attacks[7]. The DoD designated the Secretary of the Army the Executive Agent for developing and implementing the DoD programs to fulfill the military requirements of the Act. A major program that resulted was the National Guard WMD-CST.

The development of the WMD-CST concept can be traced back to 17 October 1997. The Defense Review Board requested that the Assistant Secretary of the Army for Installations, Logistics, and Environment (ILE) integrate the Reserves and National Guard into the WMD domestic preparedness programs. In January of 1998, an Integrated Concept Team (known as the "Tiger Team") produced a report entitled *Department of Defense Plan for Integrating National Guard and Reserve Component Support for Response to Attacks Using Weapons of Mass Destruction*[8,9]. The Tiger Team report identified what capabilities the U.S. military should prepare to provide to local, state, and federal authorities in response to a WMD attack. The report also described in detail the concept, program model, and funding required to produce a new kind of military unit designed to assist civilian authorities in responding to NBCR WMD attacks: the Rapid Assessment and Initial Detection (RAID) Team. The RAID Team (now called Weapons of Mass Destruction Civil Support Team, or WMD-CST) was intended to assist the local response to NBCR WMD attacks by rapidly assessing the NBCR hazard, advising local authorities on what measures need to be taken to minimize the consequences of such attacks, and facilitating the arrival of follow-on federal support, if required. The Tiger Team report called for ten such teams, each aligned with one of the ten FEMA regions. Since the teams were part of the National Guard, they could respond to WMD attacks at the state level, under Title 32, or at the federal level, under

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[7] Taylor, J. *The National Guard Weapons of Mass Destruction Civil Support Teams – Structured for Success or Failure?* Fort Leavenworth, KS: School of Advanced Military Studies, 2000 Monograph, 2.

[8] Department of Defense. *Department of Defense Plan for Integrating National Guard and Reserve Component Support for Response to Attacks Using Weapons Of Mass Destruction.* Washington D.C.: Department of Defense, 1998 Internet, accessed 1/17/02 http://www.defenselink.mil/pubs/wmdresponse/index.html

[9] The Tiger Team was lead by BG Roger Schulz, the Deputy Director of Operations, Mobilization, and Readiness. Team members included representatives from the joint services, FEMA, FBI, NGB, TRADOC, SBCOM, FORSCOM, DOMS, and DOT.

Title 10. The recommendations of the Tiger Team were accepted by the Secretary of Defense and published as part of Defense Reform Initiative 25, *Integration of the National Guard and Reserves Reserve Component Support for Response to Attacks Using Weapons of Mass Destruction,* published in January 1998.[10]

The development of the WMD-CST concept has raised considerable debate over the merits of the new organization. Major James E. Taylor, in a May 2000 monograph entitled *The National Guard Weapons of Mass Destruction Civil Support Team – Structured for Success or Failure?* argued that the WMD-CST was incapable of providing timely support to local authorities[11]. M. Colpo, and Larson and Peters of RAND Corporation reached similar conclusions[12,13]. Amy E. Smithson and Leslie-Anne Levy of the Stimson Center take the criticism of the WMD-CST a step further, calling into question the ability of the Department of Defense to provide personnel sufficiently trained to provide meaningful support to civilian first responders.[14] Positive reviews emphasized the WMD-CSTs' ability to respond rapidly to events, because of their ability to operate under Title 32 or Title 10 authority. However, up until March of 2001 no evaluations of the WMD-CST program based on actual performance were available.

In 2001, three performance-based measures became available to evaluate the effectiveness of WMD-CSTs. In March, the Office of the Inspector General, Department of

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[10] Department of Defense. *Department of Defense Reform Initiative Directive #25: DoD Plan for Integration of the National Guard and Reserve Component into Domestic Weapons of Mass Destruction Terrorism.* Washington D.C.: Department of Defense, 1998

[11] Taylor, J. *The National Guard Weapons of Mass Destruction Civil Support Teams – Structured for Success or Failure?,* 37.

[12] Colpo, M. *Smell the Coffee: Military Support to Civilian Authorities and Homeland Defense Here and Now.* Carlisle Barracks, PA: U.S. Army War College, 1999, Strategy Research Project

[13] Larson, E.; Peters, J. *Preparing the U.S. Army for Homeland Security: Concepts, Issues, and Options.* Arlington, VA: RAND 2001

[14] Smithson, Amy E.; Levy, Leslie-Anne: *Ataxia: The Chemical and Biological Terrorism Threat and the U.S. Response.* Stimson Center Report No. 35, Washington, D.C.: Henry L. Stimson Center, 2000, 227.

Defense published an audit of the management of the WMD-CST program through FY 2000.[15] On September 11, the 2d WMD-CST from Scotia, New York was called to assist in the response to the terrorist attacks on the World Trade Center. Finally, the 3d WMD-CST from the Pennsylvania National Guard was called on to assist in the response to mail-borne anthrax attacks in Maryland. The availability of objective measures of WMD-CST performance gives analysts the ability to evaluate the effectiveness of the WMD-CSTs in the field, and determine if the WMD-CSTs are able to deliver the consequence management support they were designed to provide.

It is critical to evaluate the effectiveness of the WMD-CST concept prior to expanding the program further, in that it may prevent the Army from wasting resources. In FY 1999 and FY 2000, the DoD committed $143 million to the WMD-CST program, with a planned expansion to 32 teams overall. The WMD-CST program represents a long-term commitment of DoD capital and manpower. New demands will be placed on the Army to equip, man, train, and sustain the WMD-CSTs. The long-term consequences of this commitment are immense: success will save lives, but committing scarce resources to a potentially flawed concept could end up costing the federal government credibility, and ultimately result in lost lives.

This monograph determines whether the National Guard Weapons of Mass Destruction Civil Support Team (WMD-CST) is an effective organization for conducting Military Support to Civilian Authorities in response to a WMD attack in the United States by evaluating the actual performance of WMD-CSTs against the required capabilities specified in: 1) the Tiger Team report; 2) the Nunn-Lugar-Domenici Act of 1996; 3) Presidential Decision Directives 39 and 62; and 4) the Federal Emergency Management Agency (FEMA) Federal Response Plan of 1998.

[15] Office of the Inspector General, Department of Defense. *Management of National Guard Weapons of Mass Destruction – Civil Support Teams*. Report to ASD, report D-2001-043. Washington, D.C.: Department of Defense, 2001

The results of the Inspector General Audit of the WMD-CST program and the actual performance of WMD-CSTs since September 2001 are compared to their required performance. The analysis identifies where the WMD-CSTs fell short of accomplishing their required missions, and recommends solutions for the shortfalls.

The analysis begins in Chapter 2 with a review of the functions and required capabilities of the WMD-CST in homeland defense, as laid out in PDDs 39 and 62, the Nunn-Lugar-Domenici Act, the FEMA Federal Response plan, and the DoD Tiger Team Report. Later in the monograph, these requirements are used as criteria to evaluate the actual performance of WMD-CSTs in the field. This review shows that it is possible to generate a general set of WMD-CST performance requirements, but only by synthesizing vague requirements spread out over several documents: there is no one approved doctrinal publication that spells out precisely what a WMD-CST is supposed to do.

Chapter 3 describes how the WMD-CST is structured to meet the requirements identified in Chapter 2. The structure, functions, and capabilities of the WMD-CSTs are be matched to the DoD requirements for consequence management as laid out in the Tiger Team Report, the FEMA Federal Response plan, the Nunn-Lugar-Domenici Act, and PDDs 39 and 62. The review shows that the WMD-CSTs are structured to meet most, but not all, of the defined performance requirements.

Chapter 4 evaluates the actual performance of WMD-CSTs by comparing the results of the January 2001 Inspector General Audit and actual operations of WMD-CSTs in the field to the required capabilities identified in Chapter 2 of the monograph, thus determining whether or not the WMD-CSTs have performed as required. This review shows that the WMD-CSTs have met performance requirements in some areas, but not others. In particular, this chapter shows that some of the consequence management missions assigned to the WMD-CST more properly belong

to civilian first responders. Chapter 5 uses the conclusions of this and the preceding chapter to produce a valid unit structure for the WMD-CST.

The final chapter uses the conclusions of Chapters 3 and 4 to test the validity of the employment concept established for the WMD-CST by the Tiger Team Report, in order to determine whether or not the WMD-CST, as conceived, is capable of providing meaningful consequence management support in response to a NBCR WMD event. This chapter concludes that the WMD-CST employment concept is invalid because it requires the WMD-CST to perform first responder missions, even though it is incapable of deploying in time to perform them. This chapter concludes the monograph by recommending that the WMD-CST mission and unit structure be redefined to one more in line with it's deployment capabilities, in order to ensure that the DoD's contribution to NBCR WMD consequence management provides meaningful support to civilian authorities.

CHAPTER 2

Required Capabilities of WMD-CSTs

In order to determine whether or not the WMD-CST is an effective organization for providing military support to civilian authorities, one must first identify just what WMD-CSTs are supposed to be able to do: in other words, establish the required capabilities of the WMD-CSTs.

For most military organizations this would be a straightforward process: the required capabilities are written in the appropriate doctrinal manuals for the unit. However, no approved doctrine covering the WMD-CST, save for one Mission Training Plan (MTP), has been published as of this writing (February 2002)[16]. In order to determine the specific capabilities WMD-CSTs are required to possess, one must review the Executive, Legislative, and administrative documents published during the formation of the original WMD-CST concept.

This chapter identifies the required capabilities of the WMD-CST by reviewing Presidential Decision Directives (PDD) 39 and 62; The Nunn-Lugar-Domenici *Defense Against Weapons of Mass Destruction Act of 1996* (the Act); the FEMA Federal Response Plan (FRP); and Defense Reform Initiative #25, which implemented the Tiger Team Report. The review shows that the required capabilities for the RAID teams that were specified in the Tiger Team Report meet the intent of all legislation, directives, and regulations that preceded it. This chapter concludes by listing the required capabilities of the RAID teams, and establishes them as criteria for evaluating WMD-CSTs in later chapters.

[16] United States Department of the Army, *ARTEP 3-627-35-MTP, Mission Training Plan for Weapons of Mass Destruction (WMD) – Civil Support Team (CST)*, Washington D.C.: Office of the Chief of Staff of the Army, 22 June 2001

Presidential Decision Directives 39 and 62

PDD 39 was written in response to incidents of terrorism overseas (Aum Shinriko in Japan) and in the continental United States (World Trade Center bombing in 1993, and the A.P. Murrah Federal Building in 1995). It established a federal requirement to "detect, prevent, defeat, and manage the consequences of nuclear, biological, and chemical weapons use by terrorists."[17] It established the FBI as the crisis management Lead Federal Agency (LFA) for terrorist WMD attacks (the "detect, prevent, defeat" part), and designated FEMA as the consequence management LFA.

Clinton published PDD 62 in May of 1998. In it, he expanded on PDD 39 by further clarifying roles and responsibilities for combating terrorism involving the use of WMD. PDD 62 established the office of National Director for Security, Infrastructure Protection, and Counterterrorism, the responsibilities of which included coordinating the federal consequence management effort. It also directed the DoD to continue its program of training civilian first responders to manage the consequences of attacks involving the use of chemical or biological agents. Most notably, PDD 62 directed the formation of a chemical – biological (CB) terrorism rapid response team – but did not specify which federal agency would head up the effort.[18] Thus, PDD 62 directed the development of a federal WMD rapid response capability, but did not specify the utilization of DoD assets.

The Nunn-Lugar-Domenici *Defense Against Weapons of Mass Destruction Act of 1996*

The Nunn-Lugar-Domenici Act, part of the 1997 Defense Appropriations Bill spelled out the elements of the Domestic Preparedness Program (DPP). The DPP was intended to guide federal efforts to assist state and local first responders in preparing to respond to terrorist WMD

[17] Clinton, President William J. *Presidential Decision Directive 39. US policy on Counterterrorism*. Washington D.C.: 1997

attacks. The Act required DoD to share its expertise and experience in responding to chemical and biological weapons and material by providing training to local emergency first responders, as part of the DPP.

Section 1414 of the Act required the DoD to establish at least one CB Emergency Response Team. Specifically, the Secretary of Defense

> "..shall develop and maintain at least one domestic terrorism rapid response team composed of members of the Armed Forces and employees of DoD who are capable of aiding Federal, state, and local officials in the detection, neutralization, containment, dismantlement, and disposal of weapons of mass destruction containing chemical, biological, or related materials." [19].

Section 1414 was later used to justify the creation of the WMD-CST.[20] However, the authors of the Act were careful to note that Section 1414 did not imply the creation of a new unit: the legislation points out that the DoD already had many assets already existing that could fit the requirements of the legislation, the USMC Chemical-Biological Incident Response Force (CBIRF) and the Army's Technical Escort Units (TEU) among them.[21] The language of Section 1414 also seems to focus on the disabling of WMD weapons – which is a crisis management function -- and not on consequence management. Thus, while the Nunn-Lugar-Domenici Act required the DoD to provide expertise and support to the national consequence management effort, it did not specify that new units had to be created to do so.

FEMA Federal Response Plan (FRP)

The FRP was written in the aftermath of Hurricane Hugo, when the natural disaster overwhelmed the capability of FEMA to respond in a timely manner.[22] The FRP identified 12

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[18] Smithson, A.; Levy, L. *Ataxia*, 120
[19] United States Congress. *Defense Against Weapons of Mass Destruction Act of 1996*
[20] Department of Defense. *Department of Defense Plan for Integrating National Guard and Reserve Component Support for Response to Attacks Using Weapons Of Mass Destruction*, chapter 3, page 5
[21] Ibid.
[22] Smithson, Levy. *Ataxia*, 116

Emergency Support Functions (ESF) that the federal government may be required to provide in the aftermath of a natural disaster.[23]

The Nunn-Lugar-Domenici Act required the President to update the FRP to account for WMD consequence management, and FEMA responded with the Terrorism Annex to the FRP, published February 1997.[24] The terrorism annex mostly addressed the responsibilities of the lead agencies for each ESF. The FRP did not direct the DoD to develop a new team for WMD consequence management. The requirement for the DoD was limited to one paragraph requiring the provision of DoD "technical operations capability" to support the federal response to NBC/WMD terrorism, but did not specify any required capabilities that the DoD must fulfill.[25]

Defense Reform Initiative #25 and the Tiger Team Report

The first agency to specify the creation of a new unit to support consequence management in the aftermath of CB WMD terrorism was the DoD, in Defense Reform Initiative #25, the genesis of the WMD-CST. DRI #25 was the DoD initiative to integrate National Guard and Reserve Component support into the consequence management plan.[26] The heart of DRI #25 was the report of a "Tiger Team" of experts in the area of chemical and biological defense. The team was joint, with heavy representation from the Army, and included civilians and first responders. The charter of the team was to develop the DoD consequence management model, integrating capabilities in the DoD to accomplish the following: establish an operational response

[23] Federal Emergency Management Agency. *Federal Response Plan.* Washington D.C.: Federal Emergency Management Agency, 1997. The 12 ESFs are: transportation, communications, public works and engineering, firefighting, information and planning, mass care, resource support, health and medical services, urban search and rescue, hazardous materials, food, and energy materials. Of the 12 ESFs, the DoD had lead for one (public works and engineering) and a supporting role in all.
[24] Ibid.
[25] Ibid.
[26] Department of Defense. *Department of Defense Reform Initiative Directive #25: DoD Plan for Integration of the National Guard and Reserve Component Support to Response to Domestic Weapons of Mass Destruction Terrorism*. Washington D.C., Department of Defense 1998

capability in the DoD; leverage existing National Guard and Reserve Component capabilities into the consequence management effort; and enhance local, state, and federal access to DoD consequence management capabilities.[27]

The recommendation of the Tiger Team was the establishment of a five-year program to establish and integrate the National Guard and Reserves into the DoD consequence management effort. The first recommendation of the report was to establish a Consequence Management Program Integration Office (CoMPIO), responsible for oversight and integration of the DoD effort. The report identified 31 separate tasks for the CoMPIO to accomplish over the five-year program. One of the critical tasks to be accomplished in the first year of the program was the establishment of a new kind of unit designed specifically for consequence management – the National Guard Rapid Assessment and Initial Detection unit, or RAID for short.[28]

The RAID (later renamed WMD-CST) was intended to be the first deploying military unit, operating under Title 32 or Title 10, of a Response Task Force to support state or local authorities in the event of a CB/WMD terrorism attack. The Tiger Team envisioned the RAID team as having the capability to rapidly deploy (on-scene within four hours was the stated "goal"), detect and identify the presence of NBC agents, assess the situation from a CB perspective, and advise state and local authorities as to what measures need to be taken to protect the population. [29] The RAID was also to be able to define further consequence management support requirements and facilitate the arrival of federal assets. The wartime mission of the RAID included force protection actions in and around DoD bases used for force projection.[30] The required capabilities for the RAID teams are summarized as the following:

1) Rapidly deploy to the scene of a WMD attack within 4 hours.

[27] Ibid.
[28] Ibid.
[29] Ibid., chapter 5 page 2

2) Detect WMD attacks

3) Assess the nature of the attack and conduct hazard prediction

4) Advise the Incident Commander as to measures required to protect the population

5) Facilitate the identification and employment of follow-on DoD consequence management support

It is not clear how the Tiger Team determined the requirement to arrive on the scene of a WMD attack in four hours. The "detect, assess, advise, facilitate" capabilities are arrived at straightforwardly: chapter 2 of the report identifies these capabilities as shortcomings in the current domestic response capability, and chapter 4 shows that the RAID was designed to meet those shortcomings. The four-hour response requirement, by contrast, appears as an afterthought. It is mentioned once, as a "goal." There is no analysis anywhere in the report that justifies the 4-hour response objective.

A review of chemical agent behavior reveals the four-hour deployment requirement established by the Tiger Team report to be unrealistic, and inadequate for meeting the rapid response requirement stated in PDD 62 and the Nunn-Lugar-Domenici Act. Chemical agents have immediate effects and can spread quickly, necessitating rapid action to protect the population. For example Sarin, the nerve agent used in the Tokyo subway attack, can kill unprotect people within 15 to 30 minutes if properly delivered.[31] With a six mile-per-hour breeze, a nerve agent vapor cloud could move 1.5 miles downwind in 15 minutes: in an urban environment, many unprotected people would be at risk. Under the Tiger Team concept, by the

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[30] Ibid.
[31] United States Department of the Army. *FM 8-9 NATO Hnadbook On The Medical Aspects of NBC Defense Operations*, Washington, D.C.: Office of the Chief of Staff of the Army, 01 February 1996, page 2-211.

time the RAID team would begin to arrive, the initial victims of a Sarin attack would have been dead for over three hours, and the agent vapor cloud would have spread as far as 24 miles downwind. From this example, it is obvious that a four-hour response time is too late to manage the consequences of a chemical attack: emergency response experts cite a 1-to-2-hour response time as closer to the true requirement.[32]

It is important to note that the RAID team was not intended as a fully developed DoD response capability. It was intended to be the vanguard of a much more robust effort that drew on all DoD assets capable of providing consequence management support[33]. It was to be the first, but not the only, unit that DoD would provide to state and local first responders. The centerpiece of the Tiger Team plan was the five-year program, managed by CoMPIO, to bring other DoD capabilities into the consequence management effort as part of a tailorable Response Task Force package[34]. In no way did the Tiger Team intend its report to be final word as to the required performance of the RAID team. The report itself gave CoMPIO the task to publish RAID doctrine concurrently with the fielding of the first RAID teams – which CoMPIO failed to do.[35,.36]

Emerging WMD-CST Doctrine

As of February 2002, the only approved doctrinal document for WMD-CSTs is ARTEP 3-627-35-MTP, Mission Training Plan for Weapons of Mass Destruction (WMD) – Civil Support Team (CST), which does not describe employment principles, but describes standards by which to evaluate unit training levels. The MTP was published two years after the first WMD-CSTs

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[32] United States General Accounting Office. *Combating Terrorism: Use of National Guard Response Teams is Unclear*. Report to Congressional Requestors, GAO/NSIAD-99-110. Washington D.C.: GPO, 1999, 18.
[33] Department of Defense. *Department of Defense Reform Initiative Directive #25*, chapter 5, page 1
[34] Ibid.
[35] Ibid.
[36] Office of the Inspector General, Department of Defense. *Management of National Guard Weapons of Mass Destruction – Civil Support Teams*. Report to ASD, report D-2001-043. Washington, D.C.: Department of Defense, 2001, 4.

were fielded, and without the benefit of any approved doctrine that described the unit mission. The resulting document relied heavily on existing doctrine for NBC reconnaissance units, Technical Escort Units, and hazardous materials control.[37] However, the MTP does provide some additional detail to the "detect, assess, advise, facilitate" requirements identified in the Tiger Team report. From Chapter 5 of the MTP, the following additional performance requirements emerge:

Detect: Upon arrival, the WMD-CST must establish an operations center, begin survey operations within 90 minutes of assuming the mission, and be capable of identifying chemical and biological samples on site.

Assess: The WMD-CST must be capable of conducting NBC hazard prediction and modeling, using reach-back capability to access the hazard prediction programs used by Federal and DoD agencies, and of recommending measures to protect the population and minimize the consequences of the WMD attack.

Advise: The WMD-CST must be capable of providing advice to local medical care providers as to the nature of the threat and what measures are required to protect the population.

Facilitate: The WMD-CST must conduct liaison with local, state, and federal civilian agencies, and facilitate the arrival of follow-on state, federal, and DoD assets to support the consequence management effort. The WMD-CST must maintain communications with Federal agencies through a communications link to TROJAN SPIRIT at Fort Belvoir, VA.

A non-doctrinal publication that is circulating as a working draft is *Civil Support Team Operations Manual Number 911 (Interim)*. Published by the National Guard Bureau, the draft

[37] United States Department of the Army, *ARTEP 3-627-35-MTP, Mission Training Plan for Weapons of Mass Destruction (WMD) – Civil Support Team (CST)*, Washington D.C.: Office of the Chief of Staff of the Army, 22 June 2001

manual describes general operating principles for WMD-CSTs, which the National Guard Bureau terms "the Governor's 911 force for WMD."[38] Chapter 4 of the document discusses how the NGB envisions WMD-CSTs being employed. Specifically, the document expands the role of the WMD-CST from one of after the fact response to WMD attacks, to a more proactive coordinating role, extending the assess-advise-facilitate functions to the pre-attack phase. While *Civil Support Team Operations Manual Number 911* is not approved doctrine, its principles are working their way into doctrine currently under development by the US Army Chemical School, the doctrinal proponent for WMD-CSTs.

Conclusion: The Required Capabilities of WMD-CSTs

Comparing the capabilities specified for the RAID team in the Tiger Team report to the requirements of PDDs 39 and 62, the Nunn-Lugar-Domenici legislation (the Act), and the Federal Response Plan (FRP) shows that the Tiger Team report met the intent of the President, Congress, and FEMA when it designed the RAID team. From the required capabilities identified in the Tiger Team report and the MTP, it is possible to establish a set of criteria to use in evaluating the performance of WMD-CSTs.

Combining the requirements of the PDD 39, PDD 62, the Act, and the FRP produces requirement that might be listed as follows:

1) Create a rapid-response team (PDD 62)
2) Utilize DoD assets and WMD consequence management expertise (Nunn-Lugar-Domenici)
3) Leverage DoD technical capabilities to assist the federal response effort (FEMA FRP)

[38] National Guard Bureau, Departments of the Army and Air Force, *Civil Support Team Operations Manual Number 911 (Interim)*, National Guard Bureau, Departments of the Army and Air Force. Washington, D.C.: 1 October 2001, 10.

The required capabilities of the WMD-CSTs, as specified in the Tiger Team report and expanded on in the MTP, are as follows:

1) Deploy to the scene of a WMD attack within 4 hours.
2) Detect and identify chemical, biological, nuclear, and radiological hazards.
3) Assess the consequences, and predict the hazard area.
4) Advise the local civilian authorities on measures to protect the population and minimize damage to infrastructure.
5) Facilitate the arrival of follow-on state, federal, and DoD support.

The required capabilities for WMD-CSTs clearly meet the requirements of PDDs 39 and 62, the Act, and the FRP, and can be used as the outline of an employment concept for the WMD-CST: in other words, the Tiger Team report should spell out completely what a RAID team is supposed to be able to do. However, it has been shown that the requirement to deploy in four hours is invalid, and that a one-hour deployment capability is a more realistic requirement. Therefore, the following required capabilities emerge:

1) Deploy to the scene of a WMD attack within 1 hour.
2) Detect and identify chemical, biological, nuclear, and radiological hazards.
3) Assess the consequences, and predict the hazard area.
4) Advise the local civilian authorities on measures to protect the population and minimize damage to infrastructure.
5) Facilitate the arrival of follow-on state, federal, and DoD support.

The five required capabilities listed above represent the outline of an employment concept for the WMD-CST, and therefore can be used as a set of criteria for use in evaluating whether or not WMD-CSTs are capable of performing as required. The following two chapters

use the criteria identified above to establish whether or not WMD-CSTs are structured to perform as required, and whether or not they have performed as required.

CHAPTER 3

Structure of WMD-CSTs

The previous chapter summarized what performance standards WMD-CSTs were intended to meet in providing consequence management support in response to terrorist use of weapons of mass destruction. This chapter reviews the structure of WMD-CSTs, in terms of personnel, equipment, and unit stationing, in order to determine if the WMD-CSTs are manned, equipped, and stationed to meet the performance criteria established in chapter 2.

The review of the WMD-CST unit structure begins with a summary of the initial RAID team organization outlined in the initial Tiger Team report, followed by a more in-depth look at the current structure of the WMD-CST, identifying it capabilities and limitations. Finally, the capabilities of the WMD-CST are compared to the performance criteria established in Chapter 2.

This comparison shows that the WMD-CST is structured to meet most, but not all, performance requirements. The WMD-CST cannot meet the requirement to deploy to the scene of a WMD attack within one hour. The capability of the WMD-CST to meet the other performance requirements is subject to strict limitations. Only a limited capability exists in the WMD-CST to meet each required function, and next to no capability exists to perform missions beyond those limits.

RAID Team structure

The original RAID team structure, as outlined in the Tiger Team report, called for a 22 personnel team organized into seven sections (see figure 1).[39] Each section was given a brief, one

[39] Department of Defense. *Department of Defense Reform Initiative Directive #25*, chap 5 page 2

or two sentence description of its personnel requirements and function. The report identified the structure as an initial estimate, and tasked CoMPIO to further refine the organization of the team. The recommended RAID team organization was described as follows (see fig. 1 for rank structure):

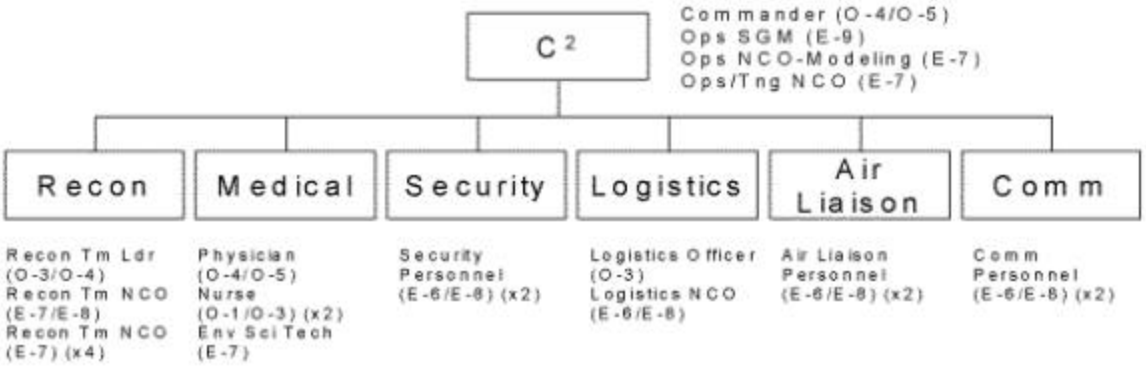

Figure 1. Structure of RAID Team. Source: *Department of Defense Plan for Integrating National Guard and Reserve Component Support for Response to Attacks Using Weapons Of Mass Destruction*. Washington D.C..: Department of Defense Tiger Team, 1998

The structure identified by the Tiger Team was an initial attempt to meet the vague performance requirements identified for the RAID teams. The report tasked CoMPIO to further refine the manning, equipping, and stationing of the RAID teams as the program matured. The RAID teams, now redesignated as WMD-CSTs, evolved into its current structure, detailed in the following section.

WMD-CST Structure

The initial structure of the WMD-CST, as described in the Tiger Team report, has changed somewhat in terms of personnel and equipment authorizations. The personnel requirement remains 22 personnel, but the team is now organized into six sections instead of seven, and the rank structure has changed. The equipment authorization for the WMD-CST is more detailed, and addresses newer detection and communication technology. Some variation between WMD-CSTs occurs as the newer teams are fielded with newer equipment, but the basic

structure of the teams is the same. It is important to note, however, that the WMD-CSTs are operating from a draft TDA document: as of 31 Jan 2001, the Army had not approved a TDA for WMD-CSTs.[40]

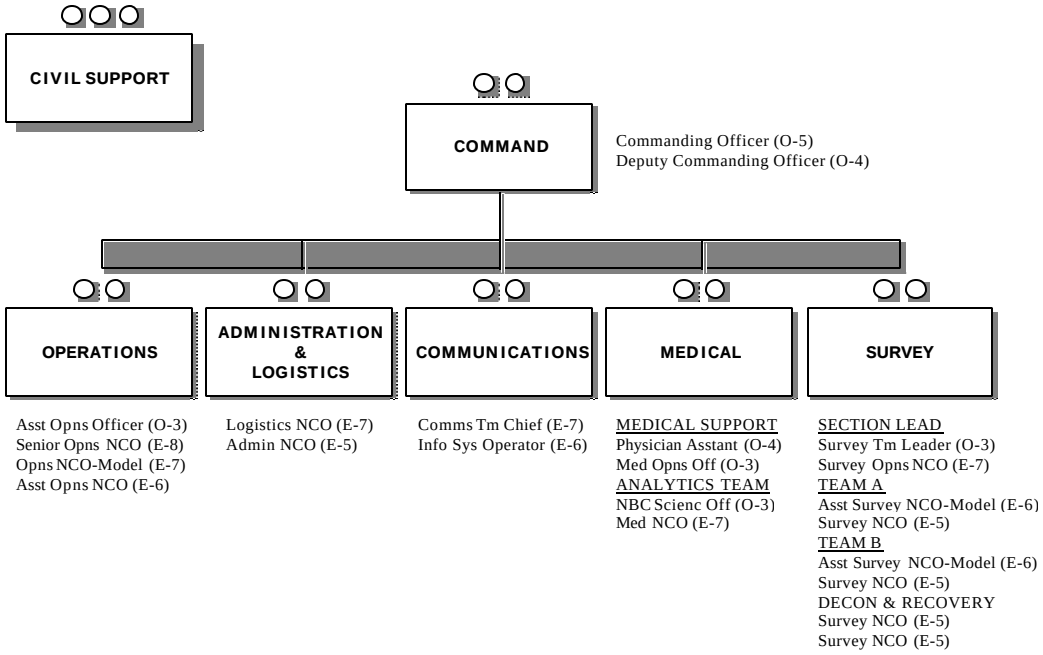

Figure 2. Current structure of the WMD-CST. Source: National Guard Bureau, Departments of the Army and Air Force, *Civil Support Team Operations Manual Number 911 (Interim)*, National Guard Bureau, Departments of the Army and Air Force. Washington, D.C.: 1 October 2001

Personnel. The WMD-CST is organized into a 22-personnel, six section team (see figure 2). The composition and missions of each section are as follows:

Command and Control: The C2 section consists of a branch-immaterial O5 team commander, and an O4 deputy commander (D.C.O). The commander and D.C.O are selected based on their expertise in emergency response. The C2 section is responsible for overall command of the team, and is primarily responsible for the "advise" and "facilitate" functions of

[40]Office of the Inspector General, Department of Defense. *Management of National Guard Weapons of Mass Destruction – Civil Support Teams*, 13.

the WMD-CST. The commander and D.C.O are expected to conduct liaison with the civilian first responders in the pre-incident phase, in order to establish working relationships and determine response procedures for WMD attacks. The C2 section also oversees the "reach back" function of the WMD-CST, and coordinates with higher DoD headquarters to facilitate the arrival of follow-on DoD consequence management assets. The section advises the local authorities on the nature of the hazard, what measures need to be taken to protect the population, and what follow-on support is required to sustain consequence management operations.

Operations: The operations team consists of four personnel: a branch-immaterial O3 operations officer, an NBC operations-qualified E8, an E7 operations NCO, and an E6 assistant operations NCO. The operations cell is responsible for establishing the operations center for the WMD-CST, gathering meteorological data, coordinating and directing survey operations, conducting hazard plume analysis, and conducting WMD vulnerability analysis. The operations cell is also responsible for developing the concept and plan for the arrival of follow-on consequence management support from state or federal assets.

Medical: The medical cell consists of four personnel: one O4 section leader, an O3 medical operations officer, an O3 NBC science officer, and an E7 medical NCO. The O4 section leader can be an Army Medical Service Officer, a Nurse Practitioner, a Physician's Assistant, or the Air Force equivalent. The medical cell performs two functions. First, it monitors the medical status of the WMD-CST survey teams. Second, the medical section analyzes samples collected from the attack site to gain a presumptive[*] identification of the chemical or biological hazard, and advises local medical authorities as to what measures are requires to protect the population.

Communications: The two-man communications section consists of a Communications

[*] A presumptive identification is one that is reached through use of a test that has a reasonable probability of accuracy, but does not use technology identified as the "gold standard" for identifying a particular chemical or biological agent.

NCO (E7), and an E6 Information Systems NCO. The section maintains internal and external communications capability for the team, to include communications with civilian responding agencies, higher military headquarters and follow-on consequence management assets. The communications section also establishes the voice and data links required to execute reach-back to national-level agent identification and hazard modeling assets.

Survey Section: The survey section consists of eight soldiers: one O3 Chemical Officer, one E7 Chemical NCO, two E6 Chemical NCOs, and four E6 Chemical NCOs. The Mission of the section is to 1) enter an area of suspected contamination, 2) obtain a tentative identification of the hazard and mark its boundaries, 3) collect samples of the suspected agent, and 4) conduct decontamination of survey team members. The section is capable of operating as two teams of three members, or three teams of two members.

Administration / Logistics section: The Admin/Log section consists of an E7 Unit Logistics NCO and one E5 Administrative NCO. This section is responsible for logistical sustainment of the CST, to include coordinating air deployment of the team.

The WMD-CST's personnel structure provides the team a great deal of technical expertise, but little depth for sustained operations. WMD-CST personnel receive 600 hours of specialized training prior to duty with the unit, in addition to the training required to meet state training requirements for emergency responders.[41] However, lack of depth in key positions calls into question the ability of the WMD-CST to conduct sustained operations. The operations cell is only four personnel deep, which equates to two-man shifts during continuous operations. With responsibilities that include hazard analysis, control of current operations, coordination with other responding organizations, and planning future support operations, the cell might not be able to sustain operations without augmentation.

[41] National Guard Bureau: *Civil Support Team Operations Manual Number 911 (Interim)*, 1

Equipment. The WMD-CST has a large complement of military and commercial off-the-shelf (COTS) equipment that enable it to accomplish its mission. The equipment array ranges from standard military NBC detection gear, to commercially available laboratory instruments, to state-of-the-art hazard prediction software. The capabilities and limitations of the major items of equipment are described below. Equipment authorizations are taken *Civil Support Team Operations Manual Number 911(Interim)*, which provides an extract of the current draft WMD-CST TDA.[42]

Detection Equipment: The detection equipment available to the Survey teams is primarily military NBC detection equipment. None of the detection equipment described below is new or experimental. All are exceedingly simple to use, requiring no specialized training.

M22 ACADA: The M22 Automatic Chemical Agent Detector Alarm (ACADA) is a portable chemical agent alarm that detects nerve and blister agent vapors. It is designed to be emplaced upwind of a friendly unit's position in order to provide advance warning of the approach of a chemical agent cloud. It sounds an alarm in the presence of nerve and blister agent vapors, but does not provide any chemical agent identification capability to the team.

M256 Chemical Detection Kit: The familiar M256 Kit is a tool used to detect the presence of G-series nerve agent vapors, blister agent vapors, blood agent, and choking agents. It uses wet chemistry tests that take approximately 12 minutes to complete.

Chemical Agent Monitor (CAM): The CAM is a handheld agent detector designed to detect the presence of nerve agent or mustard agent on a surface: i.e., to confirm or deny that a patch of liquid on a vehicle or a wall is a chemical agent. It has the capability to determine relative concentrations of agent vapors. The military use for the CAM is to determine if

[42]Ibid., chapter 5

decontamination operations are successful or not, or during chemical reconnaissance operations to confirm or deny the presence of contamination.

Bio-immunoassay ticket: The Bio-immunoassay ticket (bio-ticket) is the WMD-CSTs sole capability for detecting biological agents in the field.[43] The bio-tickets, produced by the Joint Program Office for Biological Defense (JPO-BIO), are a handheld detection kit that detects the presence of biological agents and produces a presumptive identification. The reliability of the bio-ticket is questionable, because tests conducted at the West Test Center at Dugway Proving Grounds revealed high rates of false positive and false negative tests.

Radiac Set AN/VDR-2: The AN/VDR-2 is a radiation detector that detects alpha, beta, and gamma radiation. It can be used to monitor for fallout from a nuclear explosion, or to determine the limits and intensity of nuclear contamination.

Identification and Assessment Equipment. The WMD-CST is equipped with an array of mobile laboratory equipment and analytic software designed to give the team the capability to identify chemical and biological agents, and to assess the hazard and risk to the population. The equipment is mounted in a Ford panel van, and is called the Mobile Analytic Laboratory System, or MALS. The MALS is not used to detect chemical or biological agents, but to identify sample of suspected agents that survey teams bring out of the contamination zone. The subsystems of the MALS are as follows:

HAPSITE: The HAPSITE is a gas chromatograph / mass spectrometer (GC/MS) that is used to analyze and identify volatile organic compounds. It is self-contained and field portable. Field-portable GC/MS machines are a proven technology – such technology has been resident in

[43] Office of the Inspector General, Department of Defense. *Management of National Guard Weapons of Mass Destruction – Civil Support Teams,* 24

the Fox Nuclear, Biological, and Chemical Reconnaissance System for over 15 years. However, the HAPSITE GC/MS that was fielded to the WMD-CSTs has required modification, because it did not heat samples to the high enough temperatures required to identify persistent chemical agents.[44] Further, some WMD-CSTs have noted the HAPSITE to be unreliable, with one team repeatedly listing the item as non-mission capable.[45] Until the HAPSITE reliability issue is resolved, the WMD-CST will only have a marginal capability to identify chemical agents.

Bio-identification capability: The MALS biological agent identification capability continues to improve as field-portable biodetection instrumentation develops. Currently, the WMD-CST possesses the fluorescent microscope as it's sole identification capability for biological agents.[46,47] The fluorescent microscope allows the medical section to analyze and identify biological samples collected by survey teams. The reach-back capability of the WMD-CST allows images from the fluorescent microscope to be viewed by medical experts at DoD and federal medical labs in order to assist in identifying potential agents. Within the next two years, the MALS biological identification capability will be upgraded to include polymerase chain reaction (DNA fingerprinting) and enzyme-linked immunoabsorbent assay (ELISA) technology – equivalent to the "gold standard" technology used by the U.S. Army Medical Research Institute of Infectious Diseases to identify biological agents.[48]

Hazard assessment capability. Once survey and field analysis confirm the presence of an NBC threat, the WMD-CST operations section uses a suite of hazard-prediction programs to assess the size of the hazard area, and to predict how weather effects, such as wind and temperature, will affect the hazard area over time. These hazard predictions, in turn, are used to

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[44] Ibid., 22
[45] Ibid., 22
[46] Ibid., 24
[47] National Guard Bureau, *Civil Support Team Operations Manual Number 911 (Interim)*, Chapter 5
[48] Office of the Inspector General, Department of Defense. *Management of National Guard Weapons of Mass Destruction – Civil Support Teams,* 24.

advise the incident commander as to what portions of the population are at risk form the effects of the attack. The hazard prediction programs used by the WMD-CST are the Consequences Assessment Tool Set (CATS), Hazard Prediction and Assessment Capability (HPAC), and Joint Assessment of Catastrophic Events (JACE). These programs provide the WMD-CST operations cell with its capability to assess the effects of WMD on lives and property. The capabilities and limitations of each set of programs are described below.

Consequences Assessment Tool Set (CATS): CATS is a package of programs that combines hazard prediction, consequence assessment, and emergency management decision-making capabilities. Developed by the Defense Threat Reduction Agency (DTRA) and FEMA, CATS is designed to give emergency managers the capability to predict the hazard resulting from attacks involving WMD, the effects of HAZMAT releases not as a result of terrorist activity, the effects of natural occurrences such as hurricanes, storm surges, and earthquakes.[49] Using databases of terrain, infrastructure, and population, CATS has the capability to not only predict the size of a hazard area, but also to predict the effects of a hazard on the population and infrastructure over time. Finally, CATS has the capability to assist emergency managers in designing mitigation strategies on response to hazards.[50]

Hazard Prediction and Assessment Capability (HPAC). Part of the overall CATS software package, HPAC is a program that predicts the effects of the release of hazardous material into the atmosphere. It has the capability to model nuclear, biological, chemical, and radiological hazards resulting from conventional strikes on WMD storage sites, from accidental release of HAZMAT, or from actual WMD attacks.[51] The HPAC program relies on

[49] Defense Threat Reduction Agency, *DTRA Factsheet: Consequences Assessment Tool Set (CATS)* Internet, accessed 3/24/2002. Available from http://www.dtra.mil/td/hpac/td_cats_fact.html
[50] Ibid.
[51] Defense Threat Reduction Agency, *DTRA Factsheet: Hazard Prediction and Assessment Capability (HPAC)* Internet, accessed 3/24/2002. Available from http://www.dtra.mil/td/hpac/td_hpac_fact.html

meteorological data from DTRA's Meteorological Data Server (MDS), which HPAC can access via the Internet.[52] Given sufficiently detailed data, HPAC is capable of producing hazard predictions down to a 1-km level of resolution.[53] However, the highest resolution weather data that the DTRA MDS can provide on a routine basis has a 27-km level of fidelity – updated every twelve hours, which may not be accurate or recent enough to be useful in consequence management.[54] Higher levels of resolution are possible, but only for much smaller coverage areas.

Joint Assessment of Catastrophic Events (JACE). JACE is a web based modeling resource that provides qualified users with consolidated threat intelligence, local infrastructure data, WMD damage and hazard assessment models, and access to certain databases and tools estimate the consequences involving the release of nuclear, biological, chemical, or radiological material. JACE is system that allows access to CATS. It is produced by the Nation Ground Intelligence Center.[55]

Command and Control Equipment: In addition to maintaining command and control over team members, the WMD-CST must be capable of maintaining communications with local and state emergency response agencies, and of maintaining communications with federal agencies and supporting military headquarters. The Unified Command Suite (UCS) provides those capabilities to the WMD-CST. The UCS provides voice, data, and video connectivity between the CST, local and state responders, and facilitates reach back to federal assets and follow-on DoD activities.[56]

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[52] Defense Threat Reduction Agency, *DTRA Factsheet: Weather Capability Supporting HPAC and CATS* Internet, accessed 3/24/2002. Available from http://www.dtra.mil/td/hpac/td_weather_fact.html
[53] Defense Threat Reduction Agency, *Hazard Prediction and Assessment Capability (HPAC)*
[54] Defense Threat Reduction Agency, *Weather Capability Supporting HPAC and CATS*
[55] Kaul, Dean, *Joint Assessment of Catastrophic Events* Internet, Internet, accessed 3/24/2002. Available from http://www.esri.com/library/userconf/proc00/professional/abstracts/a713.htm
[56] National Guard Bureau, *National Guard Fact Sheet: Unified Command Suite*. Internet, accessed 3/28/2002. Available from http://www.ngb.dtic.mil/fact_sheets/ucs_factsheet.shtml

The WMD-CST is equipped to detect chemical, biological, or nuclear contamination; to assess the nature and effects of an attack involving those agents; and to coordinate with local, state, and federal consequence management agencies. However, these capabilities are subject to certain limitations. The field test for biological agents is unreliable. The software used to conduct hazard prediction and consequence assessment relies on an external link to weather data that may be too imprecise and too old to be meaningful.

The capability to identify chemical and biological agents using the Mobile Analytical Laboratory System is powerful, but depends on the ability of the survey teams to detect these agents in the field. The survey teams must be able to detect the WMD agent, and bring a sample back to the MALS van for analysis: if the survey teams lack the proper detection equipment, then the MALS has nothing to identify. This seems a statement of the obvious, but it highlights the fact that the critical equipment for the WMD-CST is not the MALS van, but the alarms and detection kits used by the survey teams.

Stationing. The Tiger Team report established a goal for the RAID teams to be able to deploy to a site with four hours of a WMD attack. In order to meet his goal, the teams were intended to be stationed within 250 miles of major U.S. population centers, and in close proximity to Air Guard or Reserve Air Force bases, in order to facilitate air deployment of the CST.[57,58] In practice, this concept has not been strictly adhered to. For example, the Missouri National Guard's 7th WMD-CST is stationed at Fort Leonard Wood, Missouri, but the Missouri Air Guard's C-130 transport aircraft are stationed in St Joseph. Similarly, the Florida National Guard's WMD-CST is stationed in Camp Blanding, Fla., over 350 miles from Miami, a major U.S. population center.[59] The separation of WMD-CSTs from air transport, and from major

[57] Department of Defense. *Department of Defense Reform Initiative Directive #25*, Chap. 5, page 10
[58] Office of the Inspector General, Department of Defense. *Management of National Guard Weapons of Mass Destruction – Civil Support Teams*, 5.
[59] Ibid., 5.

population centers, could adversely affect the ability to deploy within the four hours specified in the Tiger Team report. It follows that the WMD-CST will be extremely challenged to meet the more realistic requirement to deploy in one hour.

Comparison of WMD-CST Capabilities to Requirements

As the previous section shows, the WMD-CST has an impressive array of equipment, and is staffed with highly trained, highly capable personnel. However, in order to determine if the WMD-CST is properly structured to meet mission requirement, it is necessary to list the required capabilities of WMD-CSTs, and identify whether or not the WMD-CST structure – in terms of personnel or equipment – meets the requirement.

Deploy to the scene of a WMD attack within 1 hour: The WMD-CST faces major challenges in being able to meet the goal of a four-hour deployment. The capability to deploy to a WMD attack site within one hour is not always within the capability of the WMD-CST. The WMD-CST's capability to deploy to the site of a WMD attack within four hours – specified in the original concept – depends on the stationing of WMD-CST within 250 miles of population centers, and close to airbases with transport aircraft on standby. However, the requirement for aircraft dedicated to the WMD-CST is no longer part of doctrine being drafted for the WMD-CST.[60] Thus, not only will the WMD-CST be challenged to meet the realistic one-hour requirement, but the original four-hour requirement as well.

Detect and identify chemical, biological, nuclear, and radiological hazards: The WMD-CST is structured to detect the presence of chemical, biological, or radiological agents or weapons. However, this capability is limited by the small number of the survey teams and the limitations of the detection equipment fielded to the teams. The WMD-CST is only capable of fielding three two-man survey teams – two if one teams is held in reserve to conduct

decontamination of the other two teams. This is not a constraint in the most likely scenario for employing the survey teams: a point reconnaissance in which the mission is to collect a sample from a known point and return. This does become a limiting factor if the survey teams are called upon to conduct an area reconnaissance to determine the limits of a contaminated area: depending on the agent and delivery means, the area of ground contamination from a chemical attack may extend over a mile downwind. The equipment that the survey teams use is capable of detecting only the standard forms of chemical agents. The capability to detect biological agents in the field is limited by the fact that the WMD-CST does not possess an air-sampling biological agent detector. The biological detection capability on hand is unreliable. While the capability resident in the MALS van to identify chemical and biological agents is powerful, it is dependent upon the survey team bringing a sample back to the MALS van, and therefore upon the capability of the survey team to detect agents in the field.

Assess the consequences, and predict the hazard area: The WMD-CST's ability to predict the hazard area associated with a WMD attack is marginal. The HPAC hazard prediction software used to assess the likely spread of agent clouds is of limited utility, in that it is dependent upon weather data fed from an external source that may be up to 12 hours old, and is of too low a resolution to be meaningful.

Advise the local civilian authorities on measures to protect the population and minimize damage to infrastructure: The WMD-CST is structured to meet this requirement. The highly trained personnel assigned to the WMD-CST, enhanced by the ability to "reach back" to national-level WMD expertise using the connectivity provided by the UCS, provide the WMD-CST with a knowledge base from which to gain advice on the effects of a WMD attack. The decision-making tools in the CATS consequence management software package, combined with the knowledge

[60] Ibid., 5

resident in the personnel assigned to the WMD-CST, can provide the local incident commander with access to a tremendous amount of advice regarding the proper course of action in the wake of a WMD attack.

Facilitate the arrival of follow-on state, federal, and DoD support: Although it lacks the depth of personnel required to support sustained operations, the WMD-CST is structured to meet the requirement to facilitate the arrival of follow-on support from DoD and federal assets. This capability is greatly enhanced by the UCS. Sustained operations to facilitate follow-on support may be difficult: lack of depth in the operations cell of the WMD-CST may cause the cell to become overwhelmed, especially during continuous operations.

Conclusion

The WMD-CST structure narrowly meets the identified requirements: at least some capability exists in each functional area, with the exception of the requirement to deploy in one hour. This shortfall in capability is critical, because the ability to deploy quickly is the capability which the WMD-CST must have in order to be relevant: if the WMD-CST cannot deploy to an attack site within the required time frame, it cannot perform its "detect, assess, advise, facilitate" mission in time to be useful. This is, of course, a statement of the obvious – but it appears to have been ignored as the WMD-CSTs were developed and fielded.

The WMD-CST possesses at least marginal capabilities in the remainder of its requirements. Even in these areas, however, the WMD-CST is not a robust organization, in that it is able to perform only within a certain narrow set of conditions. For example, the survey teams are capable of detecting chemical and biological agents in the field – but only the most likely ones. The operations section of the WMD-CST is capable of performing hazard prediction, but only if provided accurate weather data from an outside source. The effect is to produce a unit that performs as required only if the conditions are just right.

CHAPTER 4

Performance of WMD-CSTs in the Field

A major problem in conducting performance-based evaluations of WMD-CSTs is the lack of published data from tests conducted during the development of the unit. The WMD-CSTs were intended to be developed using a shortened force development process termed "spiral development", which was intended to accelerate the fielding of the WMD-CSTs by developing the doctrine simultaneously with the fielding of the teams. Lessons learned from the initial fielding of the WMD-CST were to be fed back into the doctrine development process, and revised doctrine and TTPs would return to field to generate another cycle of testing and revision.[61, 62] The Consequence Management Program Integration Office (CoMPIO), the agency created by Defense Reform Initiative #25 specifically for this purpose, failed to accomplish this task.[63] The WMD-CSTs were essentially fielded as specified in the Tiger Team Report, with no testing or evaluation. One result of CoMPIO's failure to execute the called-for testing of the WMD-CST concept has been the lack of documented measures of WMD-CST performance prior to 2000. To

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[61] National Guard Bureau: *Civil Support Team Operations Manual Number 911 (Interim)*, 9.

[62] "Spiral development" is term frequently misused by those in the periphery of the force development community. It is actually the name of a model for software development described by Carnegie-Mellon University's Barry Boehm in 1988, in an article entitled ""A Spiral Model of Software Development and Enhancement."(*Computer*, May 1988). Boehm's definition of spiral development is "a ***risk***-driven ***process model*** generator. It is used to guide multi-stakeholder concurrent engineering of software-intensive systems. It has two main distinguishing features. One is a ***cyclic*** approach for incrementally growing a system's degree of definition and implementation while decreasing its degree of risk. The other is a set of ***anchor point milestones*** for ensuring stakeholder commitment to feasible and mutually satisfactory system solutions." (*Spiral Development: Experience, Principles, and Refinement* B. Boehm, edited by Wilfred J. Hansen, Special Report CMU/SEI-00-SR-08, ESC-SR-00-08, June, 2000. http://www.sei.cmu.edu/cbs/spiral2000/Boehmaccessed 4/9/2002) While use of the term has become widespread (an internet query of "spiral development" returned over 2300 responses), it is frequently misunderstood. A review of spiral development theory is beyond the scope of this monograph. Suffice it to say that spiral development is a collaborative, non-linear process, and in order for it to work, there must be a constant flow of information back and forth between force developers and the field.

[63] Office of the Inspector General, Department of Defense. *Management of National Guard Weapons of Mass Destruction – Civil Support Teams*, 4.

that point, no WMD-CSTs had undergone certifications, and no tests of the WMD-CST employment concept had been conducted.[64]

Because of the lack of developmental testing, there were no objective test results available to inform the debate over the utility of WMD-CSTs. Arguments in support of or against WMD-CSTs were limited to critiques of the concept, reinforced by anecdotal evidence. In a monograph entitled *The Campaign for Homeland Defense – What Do We Really Need?*, LTC Russell A. Bucy claims that the WMD-CSTs suffer from the same problem as many other non-local consequence management assets: they will arrive too late to be of use.[65] In a later monograph, MAJ James Taylor agrees, and adds that, the WMD-CSTs are understaffed and will require significant augmentation in order to coordinate with the many civilian response agencies involved in WMD consequence management.[66] Taylor also points out that the liaison officers normally assigned by state National Guards to emergency operations centers perform many of the "facilitating" functions that WMD-CSTs are supposed to do.[67] Smithson and Levy are totally dismissive of the WMD-CST program, classifying it as what happens when "elected officials eager to authorize a program to show they are "doing something" concrete about a problem collide with an organization [i.e., the National Guard] in search of missions."[68] In response to the criticism, proponents of the WMD-CST program highlight the extensive training provided to members of the teams, and emphasize that because the WMD-CSTs are a state asset, they will arrive on the scene of a WMD attack faster than any federal support.[69] However, all the claims

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[64] Ibid.
[65] Bucy, Russell A. *The Campaign for Homeland Defense – What Do We Really Need?* Fort Leavenworth, KS: School of Advanced Military Studies, 1999 Monograph, 26.
[66] Taylor, J. *The National Guard Weapons of Mass Destruction Civil Support Teams – Structured for Success or Failure?* Fort Leavenworth, KS: School of Advanced Military Studies, 2000 Monograph, 33,35.
[67] Ibid., 34.
[68] Smithson, Amy E.; Levy, Leslie-Anne: *Ataxia*, 291
[69] Cragin, Charles L. *Defense Leaders Commentary: The Facts on WMD Civil Support Teams* Internet, accessed 2/10/2002. Available from http://www.infowar.com/wmd/00/wmd_040600a_j.shtml

were based upon assessments of the WMD-CST concept, not on actual performance in the field: prior to 2001, there were no objective measures of WMD-CST performance upon which to base any of the arguments.

Events since May 2001 provide the first "data points" that allow an assessment of the WMD-CST concept based on performance in the field. In May of 2001, the Department of Defense Inspector General (DoD IG) published an audit report entitled *Management of National Guard Weapons of Mass Destruction – Civil Support Teams* that evaluated the effectiveness with which the program was managed, went into significant detail in describing the capabilities of the WMD-CSTs to accomplish their mission.[70] This audit report (hereafter referred to as the IG Audit) went beyond previous efforts in that it identified shortfalls in equipment capabilities and unit stationing that would prevent the WMD-CSTs from performing as required. Most significantly, since September 11, 2001, the WMD-CSTs have been operationally employed in support of the war on terrorism: in response to the September 11 attacks on the World Trade Center and the Pentagon; in response to anthrax attacks in October 2001; and in support of security operations for special events such as the World Series, the New York Marathon, and the 2002 Olympics. An examination of the DoD IG report, and the deployments of WMD-CSTs since September 11, will show that while the WMD-CST provides useful capabilities to the incident commander, they are unlikely to provide timely support unless pre-positioned with the first responders.

Trends Prior to 2001

The IG Audit was published on 31 January, 2001, as part of an ongoing evaluation of the management of National Guard and Reserve CB defense resources.[71] The findings of the IG

[70] Office of the Inspector General, Department of Defense. *Management of National Guard Weapons of Mass Destruction – Civil Support Teams*.
[71] Ibid., 3

Audit were that the WMD-CSTs were fielded with significant shortfalls in capability due to ineffective management of the program by CoMPIO.[72] According to the IG Audit, because CoMPIO failed to first ensure the publication of doctrinal and operational requirements for the WMD-CSTs, they were improperly stationed, and were fielded equipment that did not meet mission requirements.[73]

A primary cause of the shortfalls in capability was CoMPIO's failure to produce doctrinal publications that clearly defined the mission and required capabilities for the WMD-CSTs.[74] According to the IG Audit, the lack of finalized doctrine created an environment of constant change, in which operational concepts and mission requirements were subject to interpretation and varying levels of emphasis.[75] One example cited by the IG Audit involved the air transportation and stationing of the WMD-CSTs. The Tiger Team report called for WMD-CSTs to be stationed within 250 miles of major population centers, and in close proximity to Air National Guard or Air Force Reserve air bases in order to be able to meet the Tiger Team requirement to be on-site within four hours. The IG Audit points out that both requirements are not emphasized in practice. The Florida WMD-CST is stationed in Camp Blanding, 350 miles away from Miami, and the latest draft of WMD-CST doctrine does not include the air transportability guidance, but states that the primary method of deployment is self- deployment via ground.[76] The combination of remote locations, and potential lack of air transport calls into question the ability of the WMD-CSTs to deploy to a site within one hour.

The IG Audit also shows that the lack of approved doctrine has caused confusion as to how the WMD-CST interacts with other DoD and federal agencies. The Audit cites as an example the lack of clarity over how the WMD-CSTs mission of collecting samples for

[72] Ibid., 4
[73] Ibid., 4
[74] Ibid., 5
[75] Ibid. 5

identification is in conflict with the FBI's need to control access to what it terms a crime scene: while the WMD-CSTs consequence management imperative is identify the agent, in order to warn the population, the FBI's focus is on controlling the crime scene and gathering evidence.[77] Because the FBI, as the lead federal agency for crisis management, has initial control of the site of a terrorist attack, the lack of coordination could seriously hamper the WMD-CSTs ability to detect and identify chemical and biological agents.

According to the IG Audit, the non-standard manner in which CoMPIO acquired equipment for the WMD-CSTs resulted in units being fielded equipment that was not certified as meeting mission requirements. CoMPIO managed the development of the WMD-CST Table of Distribution and Allowances (TDA) on it's own, without a clear set of operational requirements for the WMD-CST, and without assistance from the force development subject matter experts within the Army.[78] CoMPIO placed items on the TDA, and then fielded them to units, without ensuring that the items would provide the needed capability to the units. A prime example cited is the HAPSITE GC/MS, a critical item of equipment for identifying potential chemical agent samples. Connectivity between the HAPSITE computer and the UCS is required in to identify chemical compounds via reachback. However, because the HAPSITE computer fielded is Windows-98 based and the UCS is Windows-NT based, data transfer between the two is not accommodated, thus negating reachback.[79] As mentioned in chapter 3, the HAPSITE GC/MS also required modification in order to be able to heat compounds high enough temperatures for analysis. The IG Audit also documents WMD-CST shortfalls in biological detection capability, which have been described in chapter 3.

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[76] Ibid., 5.
[77] Ibid., 6.
[78] Ibid., 13.
[79] Ibid., 23.

The conclusion reached by the IG Audit is that because of CoMPIO's failure to develop the WMD-CST employment concept beyond the vague requirements of the Tiger Team report, and subsequent failure to publish equipment performance requirements, the teams were fielded with shortfalls in the required capabilities to deploy, detect and identify chemical and biological agents.[80]

Sep – Nov 2001: WTC attack and Anthrax

The WMD-CSTs were first tested on operational deployments in response to the terrorist attacks of 11 September 2001, and the anthrax attacks of October 2001. While no WMD-CST was involved in the actual detection of a chemical or biological agent, the deployments serve as real-world events from which conclusions of the WMD-CSTs capabilities can be drawn.

New York's 2d WMD-CST responded to the attacks on the World Trade Center. The CST was able to assemble 18 of 22 member within 90 minutes of notification and commence movement from its home station in Albany to its planned staging area at Stewart Air National Guard Base – 107 miles away. After waiting for authorization from the Governor's office, the 2d CST deployed via ground vehicles to the attack site in Manhattan, establishing operations by nightfall on 11 September[81]. The CST conducted air sampling operations, and assisted the EPA and the New York State and New York City Departments of Environmental Conservation as they surveyed a 17-block area for possible contamination.[82] The team detected no chemical or biological agents, but remained on site, providing critical communications support: New York

[80] Ibid., 27
[81] Haskell, Bob, "*Civil Success*", National Guard Bureau: 2001 Internet, accessed 11/07/2001. Available from http://www.ngb.dtic.mil/news_center/2001/11/07/success.shtml
[82] Telephone interview with MAJ Adrian Bogart, National Guard Bureau, Civil Support Office, 20 Feb 2002. Major Bogart cites information compiled from debriefs of the 2d CST in the wake of the 11 September attacks. Official "lessons-learned" documents have not yet been published.

City's Incident Command System was destroyed in the collapse of the towers, and the 2d CST's UCS was employed to reestablish communications between local, state, and federal response agencies.[83]

The deployment of the 2d CST provides an insight into the capability of the WMD-CST to fulfill its mission requirements, and reveals a mixed verdict. The fact that the 2d CST took 11 hours to arrive and establish operations casts doubt on the capability of any CST to arrive on time. The total distance traveled by the 2d CST on its deployment was only 182 miles, which at a march rate of 45 miles per hour, equates to four hours travel time. However, march rates are only part of the deployment equation: the team was delayed not by road conditions, but by having to wait for the authorization to move in the first place. If a WMD-CST were to deploy to the site a terrorist chemical attack, the required response time may have passed before the team gets the authorization to move.

On the positive side, the WMD-CSTs capability to provide communications support, to reestablish command and control, and provide the incident commander assistance in coordinating response agencies was validated. The UCS was a critical asset in restoring communications to the site. Of particular benefit was the fact that the 2d CST had conducted extensive liaison with the NYC Office of Emergency Management prior to September 11, and was able to provide some continuity after that office was destroyed.[84] The events of September 11 seem to confirm the validity of the "advise" and "facilitate" functions of the WMD-CST.

WMD-CSTs also supported first responders in reacting to suspected anthrax attacks in October of 2001. Pennsylvania's CST deployed survey teams to Maryland to check mailrooms,

[83] Ibid.
[84] Ibid.

using their handheld biological assay tickets to test for anthrax spores.[85] Florida's 44th CST deployed its survey team from Camp Blanding to support the Palm Beach County Department of Emergency Management in surveying the anthrax-contaminated American Media Building in Boca Raton, and in responding to seven other incidents of suspected anthrax contamination.[86].

The deployments in Florida and Maryland validated the capability of the WMD-CST to sustain the initial efforts of civilian first responders. In both the Maryland and Florida cases, the WMD-CSTs were deployed only after the first responders became overwhelmed by the number of sites to be tested, in keeping with the model envisioned in the Federal Response Plan. In the Maryland case the WMD-CST, with its field-test for anthrax, provided a capability that no HAZMAT team in Maryland possessed.[87] From this deployment, it is possible to conclude that the WMD-CSTs capability to test for biological agents, however limited, is of value to the civilian emergency managers. From both cases, it is possible to conclude that a response to a biological agent attack will probably not require the WMD-CST to conduct a rapid deployment, for two reasons. First, biological agents, though deadly if untreated, do not pose an immediate threat to life. Second, as with the Boca Raton incident, biological attacks are most likely to be detected by health care providers as the victims seek treatment, long after the attack has occurred. Thus, a biological attack is not likely to require a one-hour deployment.

Support of Special Events

In the heightened security environment after the 11 September attacks, and the anthrax attacks, the WMD-CSTs were called upon to support security operations for several special events, beginning with the World Series and the New York Marathon, the 2002 Super Bowl in

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[85] Bor, Dewar *"Maryland sites to be tested for anthrax rise to 29"* Baltimore Sun, 26 October 2001. Internet, accessed 11/06/2001. Available from http://www.sunspot.net/news/custom/attack/bal-te.maryland
[86] Keilbasa, Thomas, *"Hot Zone Warriors Honored for Anthrax Crisis Duty"* 01/16/2002 http://www.ngb.dtic.mil/news_center/2002/01/16/hotzone.shtml
[87] [87] Bor, Dewar *"Maryland sites to be tested for anthrax rise to 29"*

New Orleans, and the 2002 Winter Olympic games in Salt Lake City.[88,89] CSTs were deployed in support of civilian authorities prior to the events, and checked stadiums, routes, and venues for contamination. In the case of the Salt Lake City Olympics, eight WMD-CSTS from five states deployed in support.[90]

What is of interest in these cases, however, is that the WMD-CSTs were utilized in a manner not envisioned in the Tiger Team's employment concept. Instead of deploying in response to a WMD attack, the WMD-CSTs were pre-positioned with the first responders, in order to cover a shortfall in first responder capability: the ability to detect chemical and biological agents. This demonstrates that civilian emergency first responders, if given the resources, would prefer to have the detection capabilities of the WMD-CST immediately at hand in the first responder echelon, instead of 250 miles away.

Comparison of WMD-CST Performance To Requirements

A review of the performance of the WMD-CSTs since 2000 returns a mixed report card: the CSTs performed well in certain areas, and did not meet requirements in others. In order to determine if the WMD-CSTs performed as required, it is necessary to list the required capabilities of WMD-CSTs, and identify whether or not the WMD-CSTs met the requirement in actual performance.

Deploy to the scene of a WMD attack within 1 hour. The WMD-CSTs will not be likely to arrive on the scene of a WMD attack within the 4 hours specified in the Tiger Team report. They will certainly be unable to meet the one-hour requirement. Pre-deploying the WMD-CST in support of special events – in effect placing them in the first responder echelon – is an emerging

[88] Haskell, Bob, "*Civil Success*"
[89] Haskell, Bob, "*The Mission: Guarding The Games*", National Guard Bureau, 02/09/2002, http://www.ngb.dtic.mil/news_center/2002/02/09/guarding_the_games.shtml
[90] Ibid.

practice that seeks to mitigate this shortcoming. While the lack of dedicated airlift is one contributing factor to this shortfall, another reason is the time required for the state to make the decision to deploy the WMD-CST.

Detect and identify chemical, biological, nuclear, and radiological hazards. The ability to detect and identify chemical and biological agents, though limited, is a unique capability that most first responders lack. Thus, it represents a significant contribution to consequence management efforts. Further, the pre-deployment of WMD-CSTs in support of special events supports the contention that the civilian first responders want to have that detection capability deployed *in the first responder echelon*, rather than 4 hours away.

Assess the consequences, and predict the hazard area. This capability was not tested, since no use of WMD was detected.

Advise the local civilian authorities on measures to protect the population and minimize damage to infrastructure. This capability is a strength of the WMD-CST. The highly trained personnel of the WMD-CST, plus the capability to "reach back" to national assets using the communications capability of the UCS, cause the WMD-CST to be a valuable consequence management "knowledge base". This contribution is enhanced when the WMD-CST conducts pre-event liaison with civilian first responders, as the actions of the 2d CST on September 11 show.

Facilitate the arrival of follow-on state, federal, and DoD support. This capability is also a strength of the WMD-CST. The UCS provides the capability to restore communications with local, state, and federal agencies, which proved invaluable in restoring command and control in the case of the World Trade Center attacks.

Conclusion

The performance of WMD-CSTs since 2000 suggest the following conclusions about the ability of the WMD-CSTs to provide the capabilities required in their original design. Improper stationing decisions prevent the WMD-CST from deploying in time to meet mission requirements. Poor equipment choices limit the ability of the WMD-CSTs to identify chemical or biological agents, and assess the effects of an attack. However, the employment of the WMD-CSTs in response to the anthrax attacks in Maryland and Florida, and the pre-positioning of the CSTs in support of special events indicate that, the WMD-CST's capability to detect and identify chemical and biological attacks – however limited – is a truly unique capability that civilian first responders in many cases do not have. The "advise" and "facilitate" missions of the WMD-CST seem to be valid and valuable contributions to consequence management efforts, as demonstrated during the response to the 11 Sep 2001 attack on the World Trade Center.

The field performance of the WMD-CSTs suggests that they are capable of performing some of their required missions – detect, advise, assess, and facilitate – but are challenged to meet the deployment requirement of arriving within one hour of a WMD attack. Emerging employment patterns that involve the pre-positioning of the WMD-CSTs in the first responder echelon seem to indicate that the WMD-CST capabilities to detect and assess the consequences of WMD attacks more properly belong in a first responder organization.

CHAPTER 5

Validity of WMD-CST Concept

The preceding three chapters defined the required capabilities of the WMD-CST, evaluated the structure of the unit, and evaluated the performance of WMD-CSTs in the field. This chapter examines the validity of the WMD-CST employment concept in light of the conclusions reached earlier, and recommends changes to the WMD-CST mission and organization in order to ensure the WMD-CST is capable of providing meaningful WMD consequence management support to civilian authorities.

The analysis of WMD-CST structure and their performance in the field shows that they will never be able to meet the required capabilities defined in chapter 2, mainly because they will not be able to arrive on the scene of a WMD attack in time. This inability to deploy within the required time frame, in turn, invalidates the WMD-CST employment concept. In order to provide effective consequence management support to civilian authorities, the mission and organization of the WMD-CST must be redefined.

The Ability of WMD-CSTs to Meet Required Capabilities

The following review of the conclusions of chapters 3 and 4 shows that the WMD-CSTs, as configured, are not capable of providing the consequence management support they were intended to. Their ability to detect chemical and biological agents, and to assess the hazards of WMD attacks is made irrelevant by the fact that by the time the WMD-CST arrives, the consequences of such an attack have already occurred. However, the WMD-CST can provide meaningful support in a pre-event and post-event coordination role.

Deploy to the scene of a WMD attack within 1 hour: The capability to deploy to the scene of a WMD attack within one hour is the one required capability that the WMD-CST cannot meet. Constraints in stationing the WMD-CSTs, a lack of dedicated aircraft to transport the WMD-CSTs, and the time required to make the decision to deploy the WMD-CSTs under Title 32 combine to ensure that the WMD-CSTs will arrive too late to the scene of a WMD attack to be useful. The ability to deploy is also critical capability upon which the detect, assess, and advise functions of the WMD-CST depend. Unless pre-deployed with first responders, as they were for the 2002 Winter Olympics, the WMD-CSTs cannot arrive in time to provide the consequence management support they were intended to.

Detect and identify chemical, biological, nuclear, and radiological hazards: The equipment of the WMD-CST provides a marginal capability to detect chemical and biological agents. However limited, the ability of the WMD-CST to detect chemical and biological agents is a capability that most civilian first responders lack. The capability to detect and identify is useful only if it is readily available to the first responders. The utility of the WMD-CST's detection and identification gear will be rendered meaningless by the inability of the WMD-CST to deploy in time. The emerging pattern of pre-deploying WMD-CSTs with first responders suggests that detection capabilities properly belong with first responders.

Assess the consequences, and predict the hazard area: The WMD-CST marginally meets requirements in this area. The WMD-CST's capability to assess the immediate effects of a WMD attack and predict the resulting hazard area is limited by the low resolution of the weather data used in the hazard prediction software. As with the detection, the capability to provide meaningful hazard assessments depends on the ability to deploy: the inability of the WMD-CST to arrive within one hour prevents the WMD-CST from producing hazard assessments timely enough to be of use in reducing the casualties resulting from a WMD attack.

Advise the local civilian authorities on measures to protect the population and minimize damage to infrastructure: The WMD-CST meets requirements in this area. The training and expertise of the WMD-CST personnel provide a valuable resource to incident commanders in managing the consequences of WMD attacks. The ability of the WMD-CST to "reach back" to WMD consequence management expertise across state and federal levels using the UCS is unparalleled. Unlike the detect and assess functions, this capability is does not depend the ability of the WMD-CST to deploy within one hour.

Facilitate the arrival of follow-on state, federal, and DoD support: The WMD-CST clearly meets requirements in this area. The communications capability provided by the Unified Command System allows the WMD-CST to expedite the arrival of support from beyond the local area, and to restore command and control capability to the incident commander. Pre-event planning and coordination between the WMD-CST and emergency responders can greatly facilitate improved response to WMD attacks.

Analyzing the ability of the WMD-CST to meet each required consequence management capability, as above, shows that the WMD-CST meets most of the criteria identified in chapter 2, with one critical exception: the ability to deploy to the scene of a WMD attack within one hour. This shortfall is critical in that it prevents the WMD-CST from fulfilling other, time-sensitive consequence management functions: if the WMD-CST cannot meet the "deploy" requirement, then its capabilities to "detect", "assess", and "advise" are not useful, because they will be performed too late. In order to perform as intended, the WMD-CST must meet all of the performance criteria established in chapter 2. Clearly, it does not.

The inability of the WMD-CST to perform as required is due to the flawed nature of the employment concept outlined in the Tiger Team report. The employment concept implied in the Tiger Team report requires the WMD-CST to perform functions – "deploy", "detect", and

"assess" – that must be performed by first responders in order to be useful. However, the same employment concept positions the WMD-CST in a manner that is more appropriate to a follow-on support unit. The WMD-CST employment concept fails because it relies on the invalid assumption that four hours is a rapid enough response time for a WMD attack, when analysis of the threat indicates that one hour is more realistic. Of the five capabilities a WMD-CST must have, three – deploy, detect, and assess – are time sensitive: they must be performed within an hour of a WMD attack in order to be of value in minimizing civilian casualties. Because the WMD-CST is a regional asset that requires state-level, Title 32 approval to be employed, it cannot respond in time to perform these functions.

Suggested Revisions to the WMD-CST Employment Concept

The conclusion that WMD-CSTs are not capable of providing effective support to civilian first responders is a common one, but there is a wide variety of opinion as to how to solve the problem. The Government Accounting Office recommended that further expansion of the WMD-CST program be halted until the need for the teams is reassessed at the cabinet level – and that the DoD disband the teams if the need does not exist.[91] Smithson and Levy recommend an extreme solution: halt the WMD-CST program, deactivate the existing teams, and shift the resources currently allocated to the WMD-CSTs to the first responders in metropolitan areas.[92] Such a solution is simple in concept, but ignores the political difficulties involved in implementing such a solution. Taylor recommends a more moderate solution, that the primary mission of the WMD-CST be changed to that of a provider of consequence management training for local first responders.[93] Taylor's solution is more workable, but has been overtaken by events:

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[91] United States General Accounting Office. *Combating Terrorism: Use of National Guard Response Teams is Unclear,* 21.
[92] Smithson, Amy E.; Levy, Leslie-Anne: *Ataxia*, 295
[93] Taylor, J. *The National Guard Weapons of Mass Destruction Civil Support Teams – Structured for Success or Failure?,* 44.

the Department of Justice's Domestic Preparedness Program already performs this function. A solution that is midway between the ones offered above – neither so drastic as to eliminate the WMD-CST, but more specific than ordering a program review, is suggested by the way the employment concept for the WMD-CST has been informally evolving since the original concept was published in *Defense Reform Initiative #25.*

Comparing the employment concept for the WMD-CST articulated in the Tiger Team Report with the one in *Operations Manual 911* reveals differences in the expectation for how quickly the WMD-CST will deploy, and in what it is capable of doing once on the scene. In the emerging employment concept, the requirement to "deploy" and "detect" are de-emphasized. The Tiger Team Report provides the original mission statement of "detect, assess, advise, facilitate," and includes a deployment goal of 4 hours. *Operations Manual 911*, by contrast, does not include "detect" in the mission statement, and has a 3-to-5 hour deployment goal.[94] As documented in chapter 4, the Tiger Team Report requirement for WMD-CSTs to have immediate access to dedicated aircraft is not present in the current draft of WMD-CST doctrine. This subtle change – informally arrived at – is in one respect a recognition of the conclusions reached in this chapter: the capability to detect chemical and biological agents in the field is made irrelevant by the inability of the WMD-CST to deploy rapidly enough for the detection to be of value in preventing casualties. Thus, the "deploy" and "detect" capabilities receive less emphasis.

The removal of emphasis from the "deploy" and "detect" functions also serves to de-emphasize the importance of the "assess" function: if the WMD-CST cannot arrive in time to detect agents, then it cannot perform an assessment of the consequences, either. The only functions that are not affected are the less time-sensitive "advise" and "facilitate" functions, which were earlier identified as strengths of the WMD-CST. In effect, the evolving employment

[94] National Guard Bureau, *Civil Support Team Operations Manual Number 911 (Interim)*, chapter 5 page 3.

concept for the WMD-CST emphasizes the follow-on support capabilities of the WMD-CST, and de-emphasizes the first-responder capabilities. This change in emphasis suggests how the structure and mission of the WMD-CST might be redefined in order for it to become an effective unit for providing WMD consequence management support to civilian authorities. The next section recommends a possible solution.

Recommendation

The WMD-CST employment concept is dual-natured in that it requires the WMD-CST to be capable of performing both first responder and follow-on support consequence management functions. While it has been shown that the WMD-CST cannot the first responder functions, it is capable of providing useful support in the less time-sensitive follow-on support functions of "advise" and "facilitate". The WMD-CST mission and structure should be redefined to remove the requirement to perform first-responder missions, and to emphasize pre-incident and post incident support to civilian emergency responders to facilitate DoD consequence management in the event of a WMD attack. The required capabilities of the WMD-CST should be reduced to "advise" and "facilitate", in a pre-incident and post-incident consequence management support role. Specifically, the WMD-CST should be able to do the following:

1) Advise the local civilian authorities on measures to protect the population and minimize damage to infrastructure. In a pre-incident role: advise local, state, and regional emergency response planners of the characteristics of NBCR WMD weapons, the measures required to reduce the risk to the population and infrastructure, and of DoD consequence management support capabilities. In post-incident support, advise local, state, and regional emergency responders of the follow-on consequence management support required, and of the DoD's capability to provide consequence management support.

2) Facilitate the arrival of follow-on state, federal, and DoD support. In pre-incident coordination, facilitate DoD participation in local, state, and regional consequence management planning and exercises. In a post-incident role, facilitate reachback support to the incident commander, establish communications with state, regional, and Federal response agencies, and facilitate the integration of follow-on DoD consequence management support.

The personnel structure of the WMD-CST should be reduced to reflect smaller mission requirements, while retaining the capability to plan consequence management support operations, provide medical assessments, and operate the UCS. The logistics and survey sections should be eliminated from the unit structure. The medical section should be reduced to one physician specializing in public health, and one medical operations planner, to make medical assessments and plan DoD medical support to WMD consequence management operations. The currently authorized command and operations cells should be retained in order to perform the consequence management planning and coordination functions. The communications cells should be retained in order to operate the UCS.

The WMD-CST should retain the UCS and the Consequence Assessment Tool Set (CATS) software, in order to provide reachback capabilities, and to assist in planning consequence management support. The detection and identification equipment currently authorized would no longer be required.

The recommended changes to the WMD-CST mission and structure would allow the unit commander to focus his efforts on the consequence management functions that the WMD-CST is truly capable of performing, and will avoid committing resources to missions that the unit will not be able to perform. Focusing efforts on the integration of DoD support into WMD consequence

management response plans, and on facilitating the arrival of DoD consequence management support, is the best use of the WMD-CST.

Conclusion: Implications For The Role of DoD Assets in Consequence Management

The WMD-CST example illustrates a principle to be considered as DoD considers how to best provide consequence management support to civilian authorities. For emergency response planners, and incident commanders, the question for providers of consequence management support is not "what can you do?", but "how quickly can you get here?" No matter how well-trained or well-equipped a response team is, it must be capable of arriving in time to be useful. The personnel of the WMD-CST are well-trained, and their equipment, though limited, is better than what most emergency responders possess. They simply cannot meet the need for rapid response.

The example of the WMD-CST reveals the fallacy of committing state, regional, or Federal assets to a rapid response consequence management mission. By the time these assets are committed, the word "rapid" will no longer apply. The Tiger Team is not the first agency to commit this error: the Nunn-Lugar-Domenici Act and PDD 62 both recommended federal "rapid response" teams. The legislation and directives for such teams were well intentioned, and did place a great deal of emphasis on domestic preparedness for WMD attacks, but they were not informed by the facts.

The implication for DoD as it develops plans to support Homeland Defense – in particular, WMD consequence management – is straightforward. As the example of the WMD-CST shows, the first consideration before committing any assets to such missions should be the speed with which the asset can respond. While DoD possesses capable soldiers and equipment, the fact remains that the time required to deploy these assets is too long to be of use for anything other than immediate response missions in areas surrounding military installations. In the future,

the DoD should resist committing assets to missions they may be unable to accomplish. The best utilization of DoD assets is to provide follow-on support to sustain the consequence management actions of local emergency responders.

APPENDIX A

ACRONYM LIST

C2	Command and Control
C4	Command, Control, Communications, and Computers
C4I	Command, Control, Communications, Computers, and Intelligence
CBRNE	Chemical, Biological, Radiological, Nuclear, & High-Yield Explosive
C/BW	Chemical/Biological Warfare
CM	Consequence Management
CST	Civil Support Team (see WMD-CST)
D.C.O	Defense Coordinating Officer
DOD	Department of Defense
DOT	Department of Transportation
DTRA	Defense Threat Reduction Agency
EOD	Explosive Ordnance Disposal
EPA	Environmental Protection Agency
EPLO	Emergency Preparedness Liaison Officer
ESF	Emergency Support Function
FBI	Federal Bureau of Investigation
FCO	Federal Coordinating Officer
FEMA	Federal Emergency Management Agency
FRP	Federal Response Plan
HAZMAT	Hazardous Material
LFA	Lead Federal Agency
LNO	Liaison Officer
MACA	Military Assistance to Civilian Authorities
NGB	National Guard Bureau
NSSE	National Security Special Event
PDD	Presidential Decision Directive
RC	Reserve Component
RRT	Rapid Response Team
SMART	Special Medical Augmentation Teams
WMD	Weapons of Mass Destruction
WMD-CST	Weapons of Mass Destruction - Civil Support Team

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