



CAPTURED ENEMY AMMUNITION AND COALITION MUNITIONS CLEARANCE MISSION, 2003-2008



“There is more ammunition in Iraq than any place I’ve ever been in my life, and it is not all securable.”

**THE US ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
CAPTURED ENEMY AMMUNITION AND COALITION MUNITIONS
CLEARANCE MISSION, 2003-2008**



**“THERE IS MORE AMMUNITION IN IRAQ THAN ANY PLACE I’VE
EVER BEEN IN MY LIFE, AND IT IS NOT ALL SECURABLE”**

**THE US ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
CAPTURED ENEMY AMMUNITION AND COALITION MUNITIONS
CLEARANCE MISSION, 2003-2008**

Prepared for:

The US Army Engineering and Support Center, Huntsville

Contract No. W91278-07-D-0111

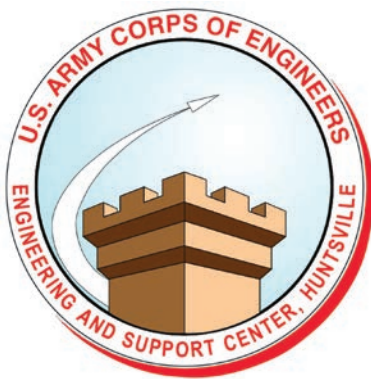
Task Order ZW02

Prepared by:

Edward G. Salo, PhD, and F. Patricia Stallings, MA

Senior Historians

2013



BrockingtonSM
CULTURAL RESOURCES CONSULTING

ACKNOWLEDGMENTS

Many individuals contributed to the successful completion of this history. The staff of the US Army Engineering and Support Center, Huntsville, Ordnance and Explosives Directorate, International Operations program took the lead for this effort. Acknowledgement is given to Brenda Hatley, who served as Project Manager for this historical study and who served as Project Manager for the Coalition Munitions Clearance program when it ended. Michelle Harlan also played a significant role in preparing this history project.

Additionally, the US Army Engineering and Support Center, Huntsville, Public Affairs Office provided ample historical data to get the project off to a great beginning. We are also grateful to the numerous employees—Government and contractor, both active and retired—who took time for these interviews.

Keith Angles
Bob Britton
Angela Caudle
David Crossley
David Douthat
Glenn Earhart
Wayne Galloway
David Groell
Nick Iaiennaro
COL (RET) Larry McCallister
Brad McCowan
Phil Nixon
John Potter
Dusty Rhodes
Scott Rider
COL (RET) John Rivenburgh
Sandy Rudolph
Bill Sargent
COL (RET) Harry Spear
Bill Stephenson
Jimmy Walker
John Younghans

Finally, this document is dedicated to the contractors who served and gave their lives in Iraq during the CEA/CMC Program (Appendix A). Thank you.

TABLE OF CONTENTS

ACKNOWLEDGMENTS.....	I
TABLE OF CONTENTS	III
LIST OF FIGURES	V
LIST OF TABLES	VII
1.0 INTRODUCTION.....	1
2.0 CEA/CMC’S HISTORIC FOUNDATION: PREVIOUS EFFORTS IN DISPOSAL OF CAPTURED ENEMY ORDNANCE.....	11
3.0 OPERATION IRAQI FREEDOM AND THE NEED FOR THE CEA MISSION...17	
4.0 INITIAL SETUP OF THE CEA/CMC MISSION	27
5.0 SETTING UP THE MISSION IN IRAQ (AUGUST AND SEPTEMBER 2003)...35	
6.0 AMMUNITION SUPPLY POINTS IN NORTHERN IRAQ: ARLINGTON AND JAGUAR DEPOTS.....	41
7.0 AMMUNITION SUPPLY POINTS IN CENTRAL IRAQ: TAJI, PALADIN, AND BUCKMASTER DEPOTS	51
8.0 AMMUNITION SUPPLY POINTS IN SOUTHERN IRAQ: AN NAJAF, AZ ZUBAYR, AND AL ASHRAF DEPOTS	75
9.0 TRANSITION FROM CAPTURED ENEMY AMMUNITION TO COALITION MUNITIONS CLEARANCE.....	85
10.0 DEMILITARIZATION AT UNSECURED REMOTE LOCATIONS: CMC MOBILE TEAM OPERATIONS	91
11.0 LOGISTICS AND MISSION SUPPORT	105

12.0 CREATION OF THE LEGACY DEPOTS: ARMING THE IRAQI MILITARY.....	119
13.0 HANDOVER OF BAYJI NATIONAL AMMUNITION DEPOT	127
14.0 LESSONS LEARNED.....	133
15.0 SUMMARY.....	139
LIST OF ACRONYMS	143
REFERENCES	147
APPENDIX A: NAMES OF THOSE CONTRACTORS WHO DIED DURING THE CEA/CMC PROGRAM	
APPENDIX B: RESEARCH DESIGN	

LIST OF FIGURES

Figure 1.1 Map of Iraq showing the locations of the munitions disposal sites and depots.	4
Figure 1.2 Map showing CEA/CMC depots and mobile team sites.	5
Figure 1.3 Organization chart for the CMC program, 2005.	6
Figure 3.1 Remains of a munitions storage site.....	20
Figure 3.2 Typical Iraqi army munitions magazine (courtesy of USAE).....	20
Figure 3.3 Interior of Iraqi munitions storage site. Note the disarray canisters and loose propellant.....	21
Figure 3.4 Weapons cache located by Coalition forces.....	21
Figure 4.1 Initial living conditions at Camp Victory, 2003.	30
Figure 4.2 CEA/CMC headquarters at Camp Victory.....	31
Figure 4.3 Results of disposal shot in Iraq (location and time not available).	32
Figure 5.1 Chain of command for CEA/CMC mission.....	36
Figure 6.1 A looted bunker at Jaguar ASP.....	43
Figure 6.2 Portion of an Iraqi anti-aircraft missile.	44
Figure 7.1 Iraqi FROG missile.	52
Figure 7.2 Storage cells at Paladin (courtesy of EODT).....	56
Figure 7.3 Examples of poor munitions storage at Camp Fallujah.	56
Figure 7.4 Tents at Paladin (courtesy of EODT).....	57
Figure 7.5 Iraqi storage location for artillery projectiles (courtesy of Huntsville Center and EODT).	59
Figure 7.6 Preparing a disposal shot (courtesy of EODT.).....	60
Figure 7.7 Stacking the munitions with donor mines.	61
Figure 7.8 Various sizes of Iraqi mortar shells (courtesy of EODT).	63
Figure 7.9 French Exocet missile.....	63
Figure 8.1 Example of a bombed-out Iraqi warehouse.....	76
Figure 8.2 Example of disposal shot (courtesy of TTFWI).	79
Figure 8.3 Iraqi nationals assisting in the preparation of disposal shot (courtesy of TTFWI).....	81
Figure 9.1 Organization chart for the CEA/CMC mission, October 2004.	88
Figure 10.1 Results of an IED attack on a Stryker vehicle (US Army photo).	92
Figure 10.2 Local nationals provided valued assistance to the CMC mobile teams.....	93
Figure 10.3 UXO technicians performing a surface sweep at a mobile site.	94
Figure 10.4 Bunker before clearance.....	95
Figure 10.5 Bunker after clearance.	96
Figure 10.6 Collapsed ammunition storage bunker.	97
Figure 10.7 “Blow-and-go” tactics often resulted in ordnance buried beneath tons of concrete rubble and steel rebar.	98
Figure 10.8 UXO scattered by Coalition air campaign, at an unsecured location.	98
Figure 10.9 Arched steel magazine at Camp Wolf.	99
Figure 10.10 Typical block warehouse.....	100
Figure 10.11 Site CMC-126, surface-exposed mortars.	101

<i>Figure 11.1 Prefabricated housing units.....</i>	<i>108</i>
<i>Figure 11.2 Support facilities included latrines and showers.....</i>	<i>108</i>
<i>Figure 11.3 A string of IEDs intended for a roadside attack.....</i>	<i>111</i>
<i>Figure 11.4 Mobile Eagle Eye system.....</i>	<i>112</i>
<i>Figure 11.5 Fully armored Casspir used for transportation.....</i>	<i>114</i>

LIST OF TABLES

Table 5.1 Resources Diverted from the Original Plan3	38
Table 9.1 CEA Final Statistics as of 30 September 2004.....	87

1.0 INTRODUCTION

On 11 September 2001, Al Qaeda terrorists hijacked four commercial planes and attacked the two World Trade Center towers in New York City and the Pentagon in Washington, DC. The attacks resulted in nearly 3,000 deaths and billions of dollars in damage. Passengers on the fourth plane attempted to overwhelm their captors and the plane ultimately crashed it into an unoccupied field in Pennsylvania. In response to these attacks, President George W. Bush launched the Global War on Terrorism (GWOT).¹ First the United States (US) quickly struck against Osama bin Laden's Islamic extremist group Al Qaeda, the group responsible for the 9/11 attacks along with car bombings of American embassies in Kenya and Tanzania and a suicide attack against the USS *Cole*. Since the late 1990s, Bin Laden and Al Qaeda had found refuge in Afghanistan, led by the fundamentalist Taliban regime. On 7 October 2001, the United States began air and missile strikes against the Taliban, initiating Operation Enduring Freedom. Using primarily Special Operations Forces, the United States and allies in the Northern Alliance toppled the Taliban.²

In addition to attacking terrorists in Afghanistan, the Bush administration turned its attention to nations suspected of aiding terrorists.³ Alleged ties to Al Qaeda, accusations of abuses of rival ethnic and religious groups carried out by Iraqi leader Saddam Hussein, and the belief that Hussein possessed and would use weapons of mass destruction led President Bush to continue and strengthen the Clinton administration's policy of regime change in Iraq.⁴ After months of political and diplomatic maneuvers, on 20 March 2003, the US military and its Coalition allies launched Operation Iraqi Freedom (OIF) with a series of air strikes, followed by a massive ground offensive. Based on the military doctrine called "Shock and Awe," the initial Coalition assault moved rapidly across Iraq and achieved its objective, the overthrow of the Iraqi government, in less than one month.⁵ Following the end of major combat operations, Coalition forces under Combined Joint Task Force-7 (CJTF-7) moved to address a multitude of post-combat reconstruction tasks. These "Phase IV operations" focused on stabilizing security, providing humanitarian aid, and rebuilding the Iraqi infrastructure as means to aid in the creation of a stable democratic state. Phase IV operations are also commonly referred to as "nation building," or civil affairs operations.

After approximately 20 years of war, Hussein had allowed the Iraqi infrastructure to decay while he continued to stockpile an extraordinary collection of conventional munitions to equip his military, which was the key to his remaining in power. Allied forces discovered munitions stockpiles that "dwarfed any reasonable conventional combat doctrine" and had been stored in "every conceivable place," including

schools, homes, hospitals, mosques, and cemeteries.⁶ Initially, the OIF war planners did not view the Iraqi conventional munitions as a major threat to Iraqi postwar stability and planned to utilize surrendered Iraqi army units to secure depots and any weapons caches. However, while Coalition forces expected to find weapons of mass destruction, they vastly underestimated both the type and amount of conventional munitions accumulated by the Ba'athist regime, and they did not foresee the potential uses of the munitions in the insurgency that would develop.⁷ The decision by the US government to disband the Iraqi military also resulted in a major change in the plan to deal with the conventional munitions.

By fall 2003, US commanders estimated that former Iraqi military sites contained between 650,000 and one million tons of munitions, an estimate that did not include undiscovered weapons caches at nonmilitary locations that intelligence knew probably existed. The amount of Iraqi munitions being captured by the Coalition was overwhelming. For example, during initial combat operations in April 2003, the US Third Infantry Division captured approximately 3.1 million small-arms rounds, 13,700 grenades, 50,000 rocket-propelled grenades (RPGs), 7,700 artillery rounds, and 19,000 mines from sites around Baghdad. As the US military shifted its focus from combat operations to Phase IV stabilization operations throughout the country, military and political officials soon realized that the current troop levels were inadequate to conduct their military duties in addition to securing identified ammunition sites as well as other Phase IV missions. Later, while testifying before the US Senate Committee on Appropriations, Central Command (CENTCOM) Commander General John P. Abizaid remarked, "There is more ammunition in Iraq than any place I've ever been in my life, and it is all not securable."⁸

Moreover, because of the speed of their advance in the early days of the war, Coalition forces used "blow-and-go" tactics to destroy any captured enemy ammunition. In addition, because CENTCOM planners had not anticipated such massive stockpiles of munitions, they did not have the necessary combat engineering units with the training to dispose properly of the captured materiel in the theater of operation. Many times the "blow-and-go" tactics resulted in scattering the contents of the weapons cache, leaving a larger area to clean up later. Because of the size of the weapons caches, US explosive ordnance disposal (EOD) units were swamped and could not keep up with the required mission. Even after the liberation of Iraq, much of the former Iraqi military munitions remained in unsecured sites or scattered by inappropriate disposal. After the disintegration of the Iraqi government, a black market for both the brass and the explosives needed by insurgents in the making of improvised explosive devices (IEDs) developed.⁹ The situation in Iraq related to the military's munitions was rapidly deteriorating.

The US Department of Defense (DoD) quickly realized that a huge amount of captured enemy ammunition was stockpiled and had to be secured and demilitarized. One of the chief weapons of the insurgents was the IEDs, which the Iraqi could assemble from munitions obtained from unguarded caches of weapons or from explosives they hid during the war.¹⁰ In October 2003, the *New York Times* published an article that described the state of the Iraqi resistance to the US military. Reporter Michael Gordon argued, "Insurgents appear to be as determined as ever. Their attacks have become more sophisticated while terrorist bombings have emerged as a major threat."¹¹ The

unguarded caches were providing the growing number of insurgents a plethora of equipment and weapons.

Faced with the dilemma of huge amounts of unguarded munitions that were supplying the insurgents with weapons, the US Army enlisted the support of the US Army Engineering and Support Center, Huntsville (hereafter referred to as CEHNC) to assist with the Iraq demilitarization effort. CEHNC has served as the US Army Corps of Engineers' (USACE) center of expertise for military munitions response and cleanup. CEHNC was well positioned for the mission because it had contracts in place with unexploded ordnance (UXO) contractors, most staffed with retired EOD-trained civilians. After initial planning and start-up operations, CEHNC began demilitarization on 11 September 2003 and was in full-scale operations by 1 December 2003. By the end of December 2003, Brigadier General Robert L. Davis, CJTF-7, C-7, reported, "In the last three weeks alone, recently deployed private civilian contractors have destroyed more than 2.5 million pounds of ammunition, whereas US soldiers were able to destroy only 1 million pounds in the last six months." Figures 1.1 and 1.2 provide maps of Iraq showing the locations of the munitions disposal sites and depots.

The CEHNC's Ordnance and Explosives Directorate stood up the Captured Enemy Ammunition (CEA)¹² program, and later the program shifted to the Coalition Munitions Clearance (CMC) program for the demilitarization of munitions in Iraq. The CEA team consisted of members of the CJTF-7 (reflagged Multi-National Corps-Iraq [MNC-I] in late 2004), CEHNC employees, commercial UXO contractors and logistics providers, and US Army Quality Assurance Specialists Ammunitions Surveillance (QASAS) personnel. The Army's mission objectives for the CEA/CMC program were:

- Replace active military personnel with retired EOD-trained civilian personnel
- Establish self-sufficient logistics and CEA Demilitarization/UXO operations by 1 December 2003
- Provide cradle-to-grave management of CEA
- Receive, transport, segregate, and destroy captured or any other munitions posing a danger in Iraq
- Hire and train local Iraqi laborers¹³

During the conduct of its mission, the CEA/CMC faced several factors that influenced the mission's efficiency. These included:

- Insurgent threats and attacks against Coalition forces
- Insurgent threats and attacks on local Iraqi contractors supporting the mission
- Security of the Ammunition Supply Points and satellite collection points
- Restrictions on demolition sites¹⁴



Figure 1.1 Map of Iraq showing the locations of the munitions disposal sites and depots.

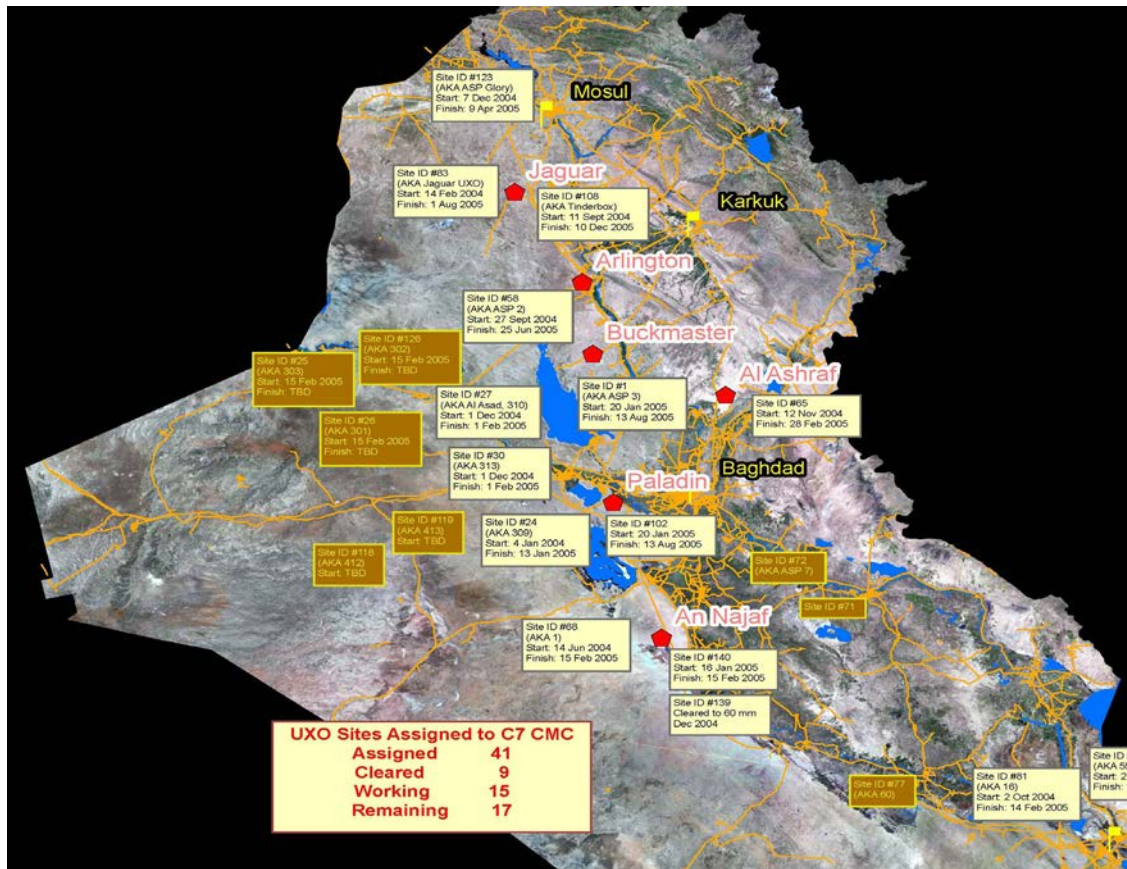


Figure 1.2 Map showing CEA/CMC depots and mobile team sites.

The Army integrated the CEA/CMC into its existing command structure in Iraq. Figure 1.3 presents an organization chart for the CMC program. The Army's CENTCOM oversaw all operations, including the CEA/CMC, in its Area of Responsibility (AOR). The MNC-I, previously CJTF-7, executed command and control for all operations in the Iraqi Theater of Operations. The Commander, MNC-I assigned CEA/CMC operations to the Staff Engineer, the C-7. An Ordnance Corps Officer (Colonel or Lieutenant Colonel) was detailed from the Joint Munitions Command to serve as the C-7 CEA/CMC Officer. This officer managed the CEA/CMC section and provided direction to CEHNC for CEA/CMC operations. The command structure for the program changed over the course of its operation, but this was the basic chain of command.¹⁵

In addition to skilled personnel, the CEA/CMC mission required large tracts of land in unpopulated areas for demolition ranges for the demilitarization of weapons. Because many weapons cache sites were located in populated areas, the Army could not destroy the munitions "in place," and therefore the munitions were in easy reach of insurgents. The CJTF-7 ordered the transportation of munitions to the designated Ammunition Storage Points (ASPs) for secured storage prior to demilitarization. The double handling of the munitions affected the rate at which it could be demilitarized and placed the local haulers and military escorts at risk of being attacked on the highways. Many of the ASPs grew into depots that stored serviceable munitions for the reconstructed Iraqi military.¹⁶

CMC PROGRAM ORGANIZATION CHART

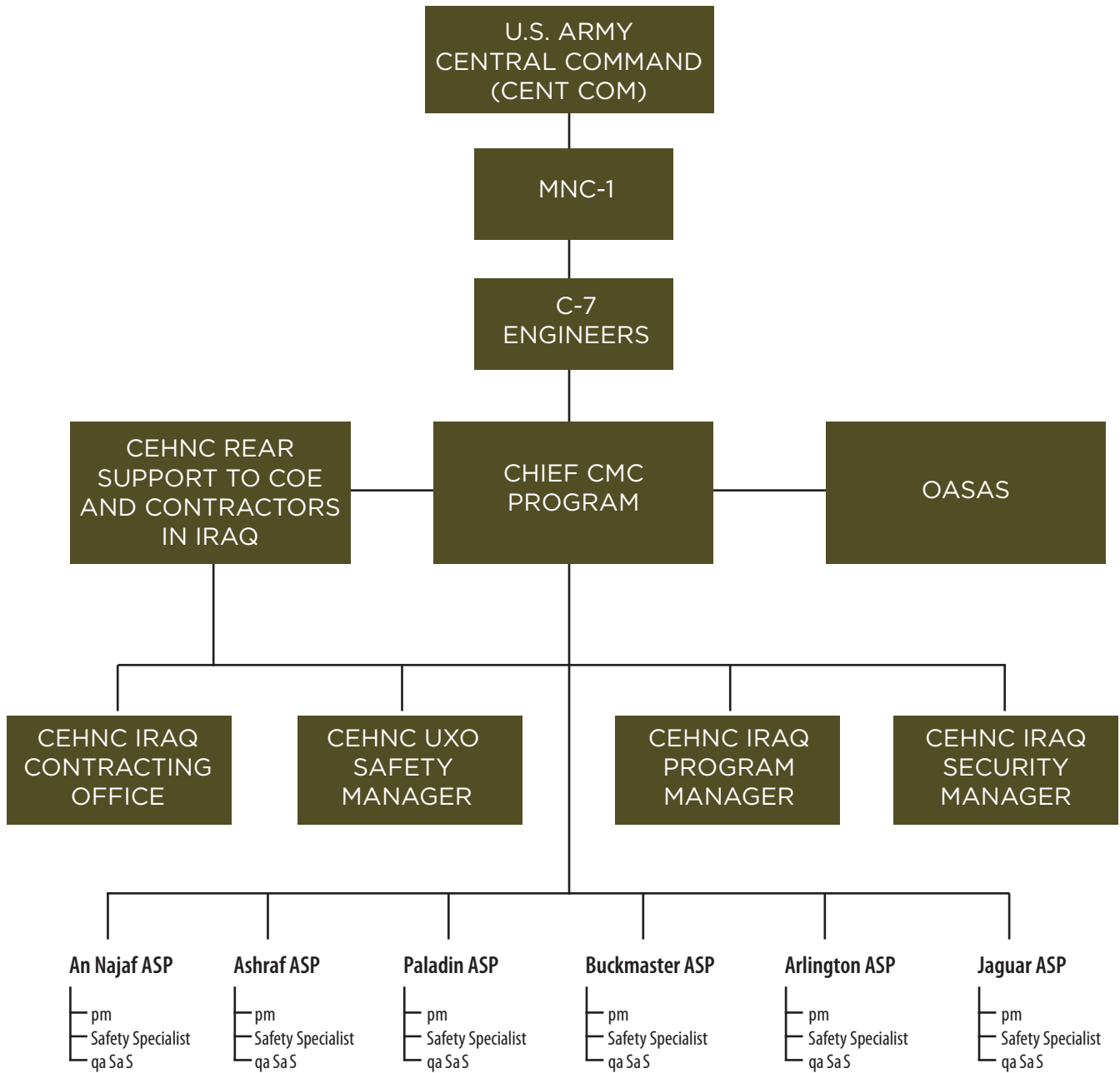


Figure 1.3 Organization chart for the CMC program, 2005.

Over the approximate five-year length of the program, the CEHNC's CEA/CMC program supported the CENTCOM in the destruction of over 346,000 tons of ammunition or other explosive remnants of war at 51 clearance sites, denying the enemy the use of these hazardous materials for IEDs. At the height of the program, CMC operated 18 mobile teams that cleared small caches and sites. As a means to integrate the mission into the local economy, CEA/CMC utilized local national laborers and subcontractors at each of the 51 clearing sites. Then Major Jeffery LaCaze, Chief, C-7, Multi-National Corps Iraq, described the program as a "long, deliberate and well planned effort that eliminated captured enemy ammunition out of possible enemy hands."¹⁷

The scale of the CEA/CMC mission was staggering. Using private contractors, CEHNC oversaw a \$1.5 billion program that worked with contractors and subcontractors to destroy more than 346,000 tons of explosives, "denying the enemy from using these hazardous materials for improved explosive devices that would have caused untold loss of life and property," according to then Colonel Scott "Rock" Donahue, Director, MNC-I, Engineers, C-7.¹⁸ The CEA/CMC represented the use of private contractors, with specific skill sets, to provide necessary support of Phase IV operations. CEHNC had to hire contractors and to provide all of the mission logistics. Using established contracts and relationships, CEHNC managed the successful mission primarily from Iraq, with support from personnel in Huntsville. The mission also required CEHNC to establish a separate operations center to manage the undertaking in Iraq.

CHAPTER 1 ENDNOTES

- 1 Richard W. Stewart, *American Military History, Volume II: The United States Army in a Global Era, 1917-2003* (Washington, DC: Center of Military History, 2005): 459-476. For a discussion of Al Qaeda, see Rohan Gunaratna, *Inside Al Qaeda: Global Network of Terror* (New York: Columbia University Press, 2002).
- 2 For a history of Operation Enduring Freedom, see Center of Military History, *Operation Enduring Freedom: October 2001-March 2002*. CMH pub. 70-83-1 (Washington, DC: US Army Center of Military History, 2004) and John G. Clement, *Operation Enduring Freedom as an Enabling Campaign in the War on Terrorism* (Ft. Leavenworth, KS, Army Command and General Staff College, 2003).
- 3 Bob Woodward, *Plan of Attack* (New York: Simon & Schuster, 2004).
- 4 On 31 October 1998, President Bill Clinton signed the Iraq Liberation Act of 1998, which stated that it was “the policy of the United States to support efforts to remove the regime headed by Saddam Hussein from power in Iraq and to promote the emergence of a democratic government to replace that regime.” Public Law 105-338.
- 5 For a discussion of the tenets of the Shock and Awe strategy, see Harlan Ullman, *Shock and Awe: Achieving Rapid Dominance* (Washington, DC: Center for Advanced Concepts and Technology, 1996).
- 6 Paul L. Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program: Operation Iraqi Freedom Phase IV Post-Combat Operations Captured Enemy Ammunition, August 2003-December 2004* (hereafter cited as *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*), 17-19. Unpublished manuscript available at the CEHNC.
- 7 For additional general program information, see COL George Zahaczewsky, “Destroying the Mother of All Arsenals: Captured Enemy Ammunition Operations in Iraq,” *Journal of Mine Action* (February 2006), unpaginated. Available at <http://maic.jmu.edu/journal/9.2/focus/zahaczewsky/zahaczewsky.htm>; US Army Engineering and Support Center, *Iraq Coalition Munitions Clearance Report to Congress-Unclassified* (May 2005).
- 8 The original CEA estimates proved high; however, by the end of 2007 officials revised their approximation to 500,000 tons. COL Mark D. Klingelhofer, *Captured Enemy Ammunition in Operation Iraqi Freedom and Its Strategic Importance in Post-Conflict Operations* (Carlisle Barracks, Pennsylvania: US Army War College, 2005), 2; US Government Accountability Office, *Operation Iraqi Freedom: DoD Should Apply Lessons Learned Concerning the Need for Security over Conventional Munitions Storage Sites to Future Operations Planning* (Report # GAO-07-444), 6-7. In addition, see Bill Sargent interview, 6 May 2008. Abizad served as CENTCOM Commander from 2003 to 2006. He served as the Deputy Commander (Forward), Combined Forces Command, CENTCOM during OIF.
- 9 Klingelhofer, *Captured Enemy Ammunition in Operation Iraqi Freedom and Its Strategic Importance in Post-Conflict Operations*, 6-7; Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 18-20.
- 10 Ibid.
- 11 Michael Gordon, “The Struggle for Iraq: The Resistance; Reality Check in Iraq: U.S. Faces a Long Stay,” *New York Times*, 19 October 2003. Available at <http://www.nytimes.com/2003/10/19/world/the-struggle-for-iraq-the-resistance-reality-check-in-iraq-us-faces-a-long-stay.html?pagewanted=1>. Accessed 23 March 2009.
- 12 The use of the term CEA is a bit confusing. CEA can refer to the CEHNC mission or can describe captured enemy ammunitions. For clarity, the authors use CEA only to mean the CEHNC mission.
- 13 US Army Engineering and Support Center, *Iraq Coalition Munitions Clearance Report to Congress-Unclassified* (May 2005).
- 14 Ibid.

- 15 Ibid.
- 16 Ibid.
- 17 “Coalition Munitions Clearance Program Changes Mission, Reflects on Past Accomplishments. Multi-National Corps–Iraq PAO.” Release No. 20081123-10, 23 November 2008. Available at http://www.mnf-iraq.com/index.php?option=com_content&task=view&id=23942&Itemid=128. Accessed 6 April 2009.
- 18 “Munitions Clearance Program Complete,” *Huntsville Times*, 8 December 2008. Available at <http://www.al.com/news/huntsvilletimes/local.ssf?/base/news/1228747508112670.xml&coll=1>. Accessed 8 April 2009.

2.0 CEA/CMC'S HISTORIC FOUNDATION: PREVIOUS EFFORTS IN DISPOSAL OF CAPTURED ENEMY ORDNANCE

Before examining the planning and execution of the CEA/CMC missions, it is necessary to examine how the US Army previously dealt with the disposal of captured enemy ordnance after the end of a conflict. In the US Army, the Ordnance Corps has traditionally had the mission to “support the development, production, acquisition and sustainment of weapons systems and munitions, and to provide explosive ordnance disposal, during peace and war, to provide superior combat power to current and future forces of the United States Army.”¹⁹ In this mission statement is the implied responsibility to handle the disposal of enemy ordnance as well as American ordnance. This section will explore how the US Army dealt with the disposal of captured enemy munitions after the Civil War and World War II, and the planning for their disposal during the Cold War.

DISPOSAL OF ENEMY MUNITIONS DURING THE NINETEENTH CENTURY

For much of its military history, the US Army has not had to deal with the occupation and stabilization of a defeated nation. During the mid- and late nineteenth century, the US military primarily was involved in combat operations during the Civil War and the Indian Wars. During and after the Civil War, Union forces occupied Confederate arsenals and depots but did not destroy the munitions in a systematic manner. In fact, many of the arsenals liberated by the Union were previous War Department installations. The US government could use the captured weaponry and ordnance in its Reconstruction activities in the South.

DISPOSAL OF GERMAN AMMUNITION AFTER WORLD WAR II

The history of the US Army's modern efforts with EOD and UXO of captured enemy ammunition dates back to World War II. One reason is that pre-World War II ordnance was simplistic in design and posed little hazard to people when it failed to detonate. However, during the Battle of Britain in 1940, the German *Luftwaffe* used bombs with various types of fuzes, leading the British government to train engineers in bomb disposal. In September 1941, the Royal Engineers established a formal Army Bomb Disposal School in Donnington, England. Early training and equipment were rudimentary, and casualties from UXO remained high. Before the United States entered the war, American military leaders planned for bomb disposal to be a civilian function. In April 1941, the Office of Civilian Defense established the

Chemical Warfare School at Edgewood Arsenal, Maryland, which included a bomb disposal course. After the Japanese attack on Pearl Harbor, the War Department assigned the Office of Civilian Defense the responsibility for bomb disposal in the Zone of the Interior and assigned the Ordnance Department similar missions on military installations and overseas areas. Soon after, the Office of Civilian Defense was relieved of bomb disposal responsibilities in favor of the Ordnance Department, and the idea that civilians should conduct bomb disposal activities was dropped.²⁰

While the War Department planned how to deal with UXO, the US Army's manuals did not plan for the management of large amounts of captured enemy munitions on a foreign battlefield before World War II. The 1939 Ordnance Field Manual indicated that the Ordnance office was to prepare "proper plans... for the reception and storage of any captured enemy ammunition. The disposition of such ammunition will entail close liaison with the technical section of the ammunition battalion."²¹ While this plan would be sufficient for smaller caches, it would not handle the massive amounts of ordnance the Army would face after the defeat of Nazi Germany.

Before the invasion of Normandy, the Ordnance manual still viewed the problems of captured enemy ordnance on a small scale. Ordnance officers were instructed to send CEA to the rear, or destroy it on the spot if it was dangerous. The manual dictated that the officers were to look for "new or unfamiliar types of enemy ammunition" and should report that to the ordnance intelligence officer.²²

After the Allied breakout of the Normandy peninsula in late June–early July 1944, the US Army began to deal with large areas that contained captured enemy ammunition. On 30 June 1944, Headquarters, European Theater of Operations issued instructions on the proper collection, salvage, and disposal of explosives munitions. The instructions pointed out that the Army commanders should only do enough disposal to accomplish the mission, and that they should use civil agencies and labor when possible to accomplish the work. This use of civilians indicates a desire by the military leadership not to use troops for a mission that could be handled by civilians. During the Winter Offensive of 1944, US forces actually used captured German ordnance, especially 155mm shells, when the American logistics train could not keep up with the needs of the forces.²³

However, from March to May 1945, the US Army began to capture small to large weapons depots in Germany. At the time, Headquarters, European Theater of Operations published no detailed procedures for the collection and disposal of enemy ordnance. The command placed responsibility for collection and disposal of the munitions with the Advance and Base Sections, Communications Zone, and the Army Commanders. Therefore, the different armies had different procedures and policies.²⁴

In securing German munitions, the US Army faced several factors that would reappear in Iraq. Because of the threats by the Nazi Party and the SS to create an insurgency, Headquarters, European Theater of Operations feared that saboteurs would use former German military ordnance against American forces. However, because of the large number of weapons storage facilities in Germany, the US Army did not have enough forces to guard all the facilities. The Army posted guards at

certain installations and used roving patrols at others. Furthermore, the presence of UXO around military bases, bridges, and other elements of the infrastructure slowed the reconstruction of the nation. The Army realized that it needed to speed up the process of disposing of the captured German ordnance.²⁵

The US Army developed a plan for the rapid disposal of the German ordnance. The plan divided the responsibility between the Advance and Base Sections of Communications Zone and Army Commanders. It called for using the maximum amount of civilian and prisoner-of-war labor to accomplish the mission, and the establishment of centralized depots. Because of the size of the operation, the Army felt that the disposal procedures should deviate from the methods in TM9-1900, Ordnance Safety Manual. The commanders determined that the procedures in the manuals took too much time. The Army soon developed other methods for the disposal of the munitions.²⁶

In addition to dealing with the actual CEA in the field, as part of the planning for the occupation of Germany, the Allies planned that the German High Command would retain the responsibility “for the administration and supply of all armed forces.” The Allies ordered the German High Command to order its forces not to destroy any war materiel, and that all war materiel was to be “properly maintained, [and] adequate care and maintenance parties will be left with every dump or depot.”²⁷ The ordnance and weapons that the Germans were to preserve included:

- Small arms, including carbines, rifles, pistols, machine pistols, revolvers, bayonets, daggers, etc.
- Machine guns, including carriages, mountings, and accessories
- Mortars, smoke projectors, and spigot projectors and accessories
- All types of flame throwers, their components, and accessories
- Infantry and artillery guns, including howitzers, rocket apparatus and breechless and recoilless guns, and all accessories, including all calibration and testing equipment
- Ammunition, including projectiles, fixed ammunition, cartridges, rockets, self-propelling projectiles, smoke charges, artificial mist charges, incendiary charges, chemical charges, filled or unfilled, together with all fuzes, tubes or contrivances to explode or operate them; propellants, explosives, liquefied gases and any components destined or suitable for the propulsion, explosion, charging, filling of, or use in connection with war material listed herein
- Grenades, mines, land torpedoes, and demolition charges²⁸

In addition to collecting and disposing of the German military’s weapons and ordnance, the Allies also oversaw the disposal of weapons in civilians’ hands that posed a threat to the occupation. During occupation of Germany, the Allies confiscated all weapons from the civilian population. This included shotguns, pistols, and other hunting weapons, as well as explosives. The Allies also conducted large-scale search operations in July and November 1945 to capture any caches or stockpiles. Searches continued on a smaller scale with continuously fewer items found.²⁹ By January 1946, the War Department had destroyed approximately 250,000 tons of German munitions and had another 400,000 tons left to destroy. To handle the large amount of munitions, Headquarters, European Theater of Operations ordered the delayed

release of German prisoners of war with ordnance background to aid to the effort. Allied leaders first attempted to scrap the munitions, but by 24 June 1946, the Office of Military Government received authority to oversee the demilitarization of the munitions. The Office completed the demilitarization in December 1948.³⁰

DISPOSAL OF AMMUNITION IN OCCUPIED IMPERIAL JAPAN AFTER WORLD WAR II

While Allies had a centralized plan for the disposal of captured enemy munitions in Germany, the process in imperial Japan was a different matter. After the defeat of imperial Japan in August 1945, the Allies undertook a program of demilitarization of the nation. One of the elements of the plan was the disposal of Japanese military hardware and ordnance. Allied commanders placed the burden of locating and disposing of enemy ammunition, explosives, military stores, and any other property on the Japanese military. As part of the surrender terms, under the supervision of the Allies, the defeated Japanese were to collect all war materiel and assemble it at specified points for disposal.³¹

All Japanese ammunition, bulk explosives, and other loaded equipment (ordnance, chemical ammunition, and engineer explosives) were destroyed immediately, with the exception of items desired for technical intelligence purposes. Concerning ordnance, the Japanese transported unfused artillery ammunition, bombs, and other inert projectiles to former munitions factories. At those plants, workers separated the explosive elements, which were converted for peacetime use, and the scrap metal. For other ordnance, the Americans usually dumped the munitions into the sea at a depth in excess of 300 feet (later 600 feet). If the Americans could not get to a port to transport the munitions, they used both detonation and burning to dispose of large quantities of munitions.³²

Allied forces in occupied Japan faced several complications during the destruction of Japanese ordnance. First and most important was a lack of qualified technical personnel, both Japanese and American. Because of the demobilization of the Japanese military and the US Army, the commanders could not find the necessary skilled personnel. In most cases, the work was accomplished by unskilled Japanese laborers, who had an “apparent disregard for personal safety” and a language barrier.³³ This made the ordnance disposal work in Japan dangerous and slow. To further complicate the matter, the Sixth Army agreed to be responsible for the disposition of naval equipment and installations ashore in western Japan, the site of Japan’s largest naval installations.³⁴

DISPOSAL OF AMMUNITION IN COLD WAR-ERA CONFLICTS

During the Cold War, the US Army did not have to deal with the disposal of large amounts of enemy ordnance. During the Korean conflict, the Army did not capture large amounts of North Korean munitions. The *Ordnance Ammunition Company Manual* (1961) still discussed the disposal of captured enemy ordnance on a small scale and did not recognize it as a major mission.³⁵

During the Vietnam conflict, the US Army reassessed EOD activities as part of the stability operations that are inherent during counterinsurgency. The Army determined that it had the necessary units to perform the necessary EOD work in Vietnam; however, it did not have the adequate doctrine to clean up captured or destroyed enemy ammunition depots.³⁶

SUMMARY

US Army experience during World War II and later smaller conflicts illustrated a need by higher commands to plan for the disposal of captured enemy ordnance. In World War II, the US Army lacked specialized personnel and adequate support to collect and dispose of the massive amounts of captured ordnance. In fact, many weapons depots in occupied Germany were not even guarded. In Germany and Japan, military leaders feared that insurgents might use enemy munitions to supply attacks on the Allied forces. The US Army turned to the use of civilians and prisoners of war for disposal operations in both Germany and Japan. The Army also adapted the current standard operating procedures for explosives disposal to meet the needs of the mission. It streamlined procedures to produce larger results. Even after the experience following World War II, the Ordnance Corps did not have adequate doctrine for the disposal of whole depots of enemy munitions. Many of the same factors and issues the Army faced during World War II reappeared during Operation Iraqi Freedom.

CHAPTER 2 ENDNOTES

- 19 "Mission," United States Army. Available at <http://www.goordnance.apg.army.mil/sitefiles/OrdnanceMission.htm>. Accessed 8 April 2009. For a history of the development of the Ordnance Corps, see Keir B. Sterling, *Serving the Line with Excellence: The Development of the US Army Ordnance Corps* (Aberdeen Proving Ground, Maryland: US Army Ordnance Center and School, 1987).
- 20 James H. Clifford, "The Origins of US Army Explosive Ordnance Disposal," Army History Research. Available at <http://www.armyhistory.org/armyhistorical.aspx?pgID=868&id=70&exCompID=32>. Accessed 10 September 2008.
- 21 United States, *Ordnance Field Manual* (Washington, DC: US Government Printing Office, 1939), 3.
- 22 *Ordnance Field Manual, Ammunition Supply, FM 9-6* (Washington DC: War Department, 1944), 15.
- 23 The General Board, United States Forces, European Theater, *Ammunition Supply and Operations: European Campaign*. File 471/2, Study Number 100 (1945), 12-13.
- 24 *Ibid.*, 33-34.
- 25 *Ibid.*
- 26 *Ibid.*
- 27 "Allied Forces. Supreme Headquarters Operation ECLIPSE Appreciation and Outline Plan," AG 381-1 GCT-AGM. ECLIPSE Memorandum Number 1. 25 April 1945. Available at <http://ibiblio.net/hyperwar/ETO/Surrender/ECLIPSE/index.html>. Accessed 6 April 2009.
- 28 *Ibid.*
- 29 Patrick J. Berry, "The Occupation of Germany from 1945 to 1948 Versus the Occupation of Iraq from 2003 to 2005: Is America on a Road to Success?" (Ft. Leavenworth, Kansas: US Army Command and General Staff College, 2007), 54.
- 30 Oliver J. Frederiksen, *The American Military Occupation of Germany, 1945-1953* (Washington DC: Historical Division, Headquarters, United States Army, Europe, 1953), 86, 89.
- 31 *Reports of General MacArthur in Japan: The Occupation: Military Phase Volume I Supplement, Facsimile Reprint*, 1994, CMH Pub 13-4, 135. Available at <http://www.history.army.mil/books/wwii/macarthur%20reports/macarthur%20v1%20sup/index.htm>. Accessed 24 March 2009.
- 32 *Ibid.*
- 33 *Ibid.*, 140.
- 34 *Ibid.*
- 35 *Ordnance Ammunition Company Manual Field Manual 9-17* (Washington DC: Headquarters, US Army, 1961), 14-26.
- 36 Willis M. Cooper, *US Army Explosive Ordnance Disposal Detachment Operations in the Republic of Vietnam*, ACTIV Project No. ACG-81F (APO San Francisco: Army Concept Team in Vietnam, 1972), n.p. Available at <http://handle.dtic.mil/100.2/AD737669>. Accessed 28 September 2008. James R. Lowe, "EOD in Vietnam," *Ordnance* LIII (Jul-Aug 1968): 71-74.

3.0 OPERATION IRAQI FREEDOM AND THE NEED FOR THE CEA MISSION

Military successes during Operation Desert Storm (1991) and Operation Enduring Freedom (2001–present), coupled with Secretary of Defense Donald Rumsfeld's personal philosophy regarding maximization of the US military, resulted in a serious deficit in Coalition forces in Iraq after the fall of the Iraqi government. As a result of the lack of Phase IV planning by CENTCOM, early decisions by reconstruction officials regarding how to reconstitute the Iraqi military, and prewar decisions by the Bush administration, the US Army was not able to adequately deal with the demilitarization of the Iraqi munitions and requested that the Corps of Engineers support CENTCOM in the disposal of enemy munitions.

ARMY ORGANIZATION FOR OPERATION IRAQI FREEDOM

The Army that faced the Iraqi military in 2003 was far different from the Army that faced the Germans in World War II, or even the Army that faced the Iraqis in 1991. In 1986, Congress passed the Goldwater-Nichols Department of Defense Reorganization Act of 1986, which created CENTCOM and other unified combat commands as a means to lessen interservice rivalry and to meet the needs of multiservice combat operations. The first major combat operation under the new system was Operation Desert Storm, which was led by CENTCOM.³⁷ During OIF, US Third Army Central Command (ARCENT) composed CENTCOM's Coalition Forces Land Component Command (CFLCC). After the fall of the Iraqi government in 2003, CENTCOM decided to relocate ARCENT out of Iraq as a command structure. Using V Corps headquarters, ARCENT created CJTF-7, later renamed MNC-I, to coordinate all land forces within a theater of operations.³⁸ Fundamentally, CJTF-7 had several major organizational issues from its beginning. First, its core organization was a Corps headquarters, which is designed for tactical operations, not post-conflict reconstruction and occupation. The CJTF-7 staff had to locate and bring in experts from other units to cover the needs of the new command. In addition, CJTF-7 was seen as a temporary unit because the original strategic plan for Iraq envisioned a short occupation before a reconstituted Iraqi government took control of the nation.

Because of the speed of defeat for the Iraqi military and the disintegration of the Iraqi political and military structure, the CJTF-7 quickly moved its mission from Phase III–Combat Operations to Phase IV–Post-Combat Operations within 30 days of the start of the operation. The Phase IV operations included numerous operations such as stabilizing the security of the country, providing humanitarian support to the liberated Iraqi citizens, and rebuilding the infrastructure of Iraq.³⁹ Because of the acceleration into Phase IV, CJTF-7 did not have adequate time to prepare all of its plans.

Even before the conflict, several governmental officials criticized the apparent lack of Phase IV planning for OIF. For example, in a 7 February 2003 memo to Undersecretary of State Paula Dobriansky, three senior Department officials noted CENTCOM's:

focus on its primary military objectives and its reluctance to take on "policing" roles... [However,] a failure to address short-term public security and humanitarian assistance concerns could result in serious human rights abuses that would undermine an otherwise successful military campaign, and our reputation internationally.⁴⁰

Documents show that State Department experts warned CENTCOM in early 2003 about "serious planning gaps for post-conflict public security and humanitarian assistance," well before Operation Iraqi Freedom began.⁴¹ Therefore, it is not surprising that the Army faced problems including dealing with the Iraqi munitions during Phase IV operations.

It is not unusual for diplomats and the military to disagree on how to stabilize a nation. Many times the two departments have differing views on how to handle and manage a crisis. However, the Army's difficulties in Phase IV operations in Iraq should not be solely attributed to its focus on full-spectrum organization and doctrine. One military expert suggests that:

"Stabilization" or "Phase IV" operations are far more challenging than defeating conventional military forces. They can best be conducted if the US is prepared for immediate action after the defeat of conventional enemy forces. Both in Afghanistan and Iraq, the US wasted critical days, weeks, and months in engaging in a security effort before opposition movements could regroup or reengage. It left a power vacuum, then exploited one, and it was not prepared for nation building or the escalation of resistance once the enemy was "defeated."⁴²

It is clear that the US Army did not realize the level of Phase IV operations that would be needed to contain the Iraqi munitions it would find in Iraq.

THE DISCOVERY OF WEAPONS CACHES IN IRAQ

Soon after the fall of Hussein's government, one of the early security issues identified during the occupation of Iraq was the massive amounts of ammunition held by the former Iraqi military. During the occupation, personnel from CJTF-7 discovered hundreds of thousands of tons of munitions stockpiled in Iraq. Interestingly, the amount of these munitions far exceeded the amount of ammunition needed by the Iraqi military for combat operations. The US Army estimated that Iraq, a country less than five percent the size of the United States, had stockpiled over 650,000 tons of munitions, almost a third as much ammunition as the entire US military stockpile.⁴³ While many politicians spoke of the threat of Iraqi weapons of mass destruction, the large, almost unguarded, conventional munitions stockpiles raised a larger concern for the Coalition forces in Iraq.

Several related factors contributed to Hussein's large buildup of conventional weapons. First, Iraq's military had historically experienced defeats because of an

inadequate supply of ammunition. After Iraq had spent almost eight years at war with Iran, Hussein ordered his military to purchase as much ammunition as possible, including large quantities of almost any type or quality. The military leadership desired a stockpile of ammunition to fight a war of attrition. Hussein recognized that purchasing weaponry from some nations could also bring diplomatic goodwill that Iraq needed. Finally, Hussein's regime believed that more munitions meant more power, even if the materiel was of cheap quality and poorly maintained.⁴⁴

In addition to the large quantity of munitions, the CJTF-7 also found that the Iraqi Army stored munitions in every conceivable place. The choice of where and how these munitions were stored, however, was surprising to Coalition munitions-safety experts. The Iraqi munitions were not only stored on military bases, but also were stashed in civilian locations throughout the country. Coalition forces found thousands of rounds of ammunition and RPGs in schools and homes, as well as in hospitals, mosques, and cemeteries. The storage of munitions at civilian sites by the Iraqis took away any protection these sites would be afforded under the Geneva Convention, which usually protects civilian sites. Once a civilian site is used for military purposes, it is no longer afforded the same level of protection. The dispersal of the munitions into small caches was indicative of Hussein's battle plan of fighting a protracted war of attrition. The Iraqi Army had successfully used a similar distributed defensive strategy during the Iran-Iraq War to withstand eight years of Iranian invasion.⁴⁵ Hussein believed that if he could spread his supplies, he could supply a guerrilla campaign against the American lead forces.

The scattering of the Iraqi munitions created a major security concern for the Coalition. An American assessment of Iraq's former Republican Guard military installations, conducted from April to June 2003, discovered that most weapons caches had been extensively looted and vandalized after the military campaign phase of OIF. The survey concluded that the most valuable areas for looting were depots or storage areas, yet many of the weapons were not useful to conventional or unconventional forces.⁴⁶ In many cases the age of the munitions made them useless. For example, some of Hussein's ordnance stores contained ammunition dating from 1944. In addition, a large stockpile of bombs discovered in northern Iraq contained FAB-5000 M54, 5,000-kilogram bombs. The FAB-5000 is an aerially delivered munition that could only be deployed from Soviet-made Tu-16 and Tu-95 bombers, which were not found in the Iraqi inventory.⁴⁷

Some of the munitions the Americans found surprised them. In late March 2003, Marines fighting their way northward in central Iraq captured a large enemy ammunition site and found US-made weapons, including piles of artillery rounds, mines, grenades, and even aging Bangalore torpedoes. The ammunition site measured more than 0.8 kilometers square and had over 50 concrete structures filled with munitions, and what did not fit in the buildings was piled in berms around them. "Literally just within this facility, there is enough ammunition to supply a small army," said Captain Myle Hammond, the Commanding Officer of Golf Company of the 2nd Battalion, 5th Marines.⁴⁸ The munitions also included transfer papers showing how they got to Iraq through several third-party countries. Figures 3.1 through 3.4 show examples of the weapons-storage situation.



Figure 3.1 Remains of a munitions storage site.



Figure 3.2 Typical Iraqi army munitions magazine (courtesy of USAE).



Figure 3.3 Interior of Iraqi munitions storage site. Note the disarray canisters and loose propellant.



Figure 3.4 Weapons cache located by Coalition forces.

In mid-April 2003, Coalition forces began securing and destroying weapons caches using conventional forces, and issues arose immediately. When the Second Marine Expeditionary Brigade began securing the weapons caches near Al Kut, they were overwhelmed by the quantities of munitions. They had expected to find large amounts of explosives and ammunition, but they discovered more than they could possibly handle.⁴⁹ Some observers and Coalition participants began to suggest that the Coalition simply did not have enough troops to stop all the looting.⁵⁰

During the early stages of demilitarization after the liberation, the first goal of the Coalition forces was to remove munitions from houses and makeshift ammunition caches to prevent the growing insurgent movement from using them and to keep desperate civilians who tried to disassemble them from harming or killing themselves. These munitions were sent to secure consolidation areas, a process that placed extra demands on the already taxed military transportation system. By 11 June 2003,

Coalition troops had hauled and consolidated almost 8,300 tons of ammunition from the Baghdad metropolitan area alone. An estimated 6,000 soldiers had to be reassigned from directly fighting insurgents to guarding the ammunition storage areas to prevent looting. The US Army was realizing that it did not have the personnel to handle this mission.

The CJTF-7 faced an unprecedented situation. The CJTF-7 needed the former Iraqi military's ammunition consolidated into storage areas where it could be secured and disposed of in as short a time as possible. However, at the same time, it could not spare the soldiers to guard and dispose of the ammunition. Finally, the Coalition forces needed a cadre of UXO specialists with expertise in ammunition handling and EOD that the US Army did not have on active or reserve duty. The field commanders in Baghdad faced a demilitarization program that was at least 10 times larger than what the DoD demilitarizes annually in all of the continental US ammunition plants. The CEA program would involve large-scale munitions loading, shipping, storage, and destruction of a magnitude never before imagined.⁵¹

THE START OF CAPTURED ENEMY AMMUNITION OPERATIONS AT CJTF-7

The collection of captured enemy ammunition began shortly after the fall of Baghdad. During combat operations, the initial focus was on caches being blown in place as they were encountered by units and their supporting EOD teams while maneuvering through the country. Military leadership soon began to realize that the securing and disposal of captured enemy ammunition was going to be a significant, resource-intensive, long-term mission. As major combat operations ended and units transitioned to Stability and Support Operations (SASO), the US Army's V Corps, which later transitioned to CJTF-7, began developing plans using units in-theater to meet the demands of collecting, securing, and disposing of CEA in a more concerted and organized manner.

Faced with the large amount of enemy ammunition, CENTCOM initially utilized artillery, ordnance, and engineering units in-theater to dispose of the munitions. Several regular army units assisted in the disposal of captured enemy ammunition mission. For example, after 10 April 2003 and the end of major hostilities, V Corps Artillery was assigned the task of hauling captured enemy ammunition to depots. While not a standard mission for the unit, it transported more than 22 million pounds of CEA during post-hostility operations.⁵²

The 555th Engineer Group, which supported the 4th Infantry Division's Task Force Ironhorse, conducted numerous combat support missions. One of the mission sets included "[s]ecuring and destroying unexploded ordnance (UXO) and captured enemy ammunition (CEA)."⁵³ Within the 4th Infantry Division area, Task Force Able was charged with securing and destroying large caches of captured enemy ammunition. Some of it was located in fixed sites, but much of it had to be located and destroyed in place. Every bit of unsecured ammunition that could be destroyed meant that much less was available for the enemy to use against the Coalition (notably as the basis for IEDs and explosives). In all, the task force destroyed several hundred

tons of captured enemy ammunition and cleared thousands of square kilometers of terrain. Additionally, it managed several large fixed sites and turned these over to the USACE contractor teams for long-term destruction.

In July 2003, CJTF-7 stood up Task Force Bullet. With the view that during Phase IV the probability of employing artillery fire would be very low, CJTF-7 tasked V Corps' 17th and 41st Artillery Brigades to Task Force Bullet to begin the CEA cleanup. During its first 12 months in Iraq, Task Force Bullet removed over 2,050 truckloads of UXO, arms, and ammunition, totaling almost 10,000 tons, from Iraqi bases to American bases. The division engineers also removed 1,113 individual UXOs and 1,265 caches of arms and weapons. In total, 1st Armor Division disposed of more than 55 million rounds of ammunition and one million items of UXO and arms. Some of the arms and ammunition that were still usable were transferred to the Iraqi Army and Iraqi Civil Defense Corps, including 16,620 rifles and pistols; 1,935 RPG launchers; and more than 320,000 grenades, RPGs, and artillery rounds. The 1-94 Field Artillery assisted Task Force Bullet in transporting hundreds of tons of captured enemy ammunition to depots for destruction.⁵⁴

That same month, on 13 July 2003, CJTF-7 stood up the CEA Branch, consisting of one Ordnance Colonel and a staff of eight under Brigadier General Robert L. Davis, CJTF-7, C-7. This was a result of the CFLCC ammunition staff's recommendation after they observed throughout Iraq inconsistencies in safety and procedures during captured enemy ammunition collection and disposal operations. The initial mission of the CEA Branch was to develop policy and procedures for the safe and efficient collection, storage, demilitarization, and ammunition issue to the new Iraqi Army (IA) and to conduct site assessments to determine the best sites for the operations throughout the Iraqi Zone of Operations. As emphasis was placed on the CEA mission, CJTF-7 dedicated substantial resources to securing and disposing of the ammunition. The 4th Infantry Division, 82nd Airborne Division, and 3rd Armored Cavalry Regiment all committed 100 percent of their artillery brigades to the mission. The 101st Air Assault Division tasked part of its Air Defense Artillery, and the Third Corps Support Command assigned several of its logistical units to the mission. Almost all engineering units throughout Iraq were also substantially engaged in CEA operations.⁵⁵ While this was an impressive collection of forces, CJTF-7 still needed outside experts.

CHAPTER 3 ENDNOTES

- 37 For a discussion of the creation of the unified commands, see James R. Locher III, *Victory on the Potomac: The Goldwater-Nichols Act Unifies the Pentagon* (Texas A&M University Press, 2004), and Gordon Nathaniel Lederman, *Reorganizing the Joint Chiefs of Staff: The Goldwater-Nichols Act of 1986* (Greenwood Press, 1999).
- 38 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 16.
- 39 Ibid.
- 40 Iraqi Contingency Planning Memo, 7 February 2003. Available at <http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB163/iraq-state-03.pdf>.
- 41 State Department experts warned CENTCOM before the Iraq War about lack of plans for postwar Iraq security planning for post-Hussein regime change as early as October 2001. National Security Archive Electronic Briefing Book No. 163. Posted 17 August 2005. Available at <http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB163/>.
- 42 Anthony H. Cordesman quoted in Andrew Feickert, “Does the army need a full-spectrum force or specialized units? Background and issues for Congress (US Army) (Report).” *Congressional Research Service (CRS) Reports and Issue Briefs*, 2008. NA.
- 43 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 17; GEN John P. Abizaid, Commander, United States Central Command, *Testimony before the US House Committee on Armed Services*, 25 September 2003, http://commdocs.house.gov/committees/security/has268000.000/has268000_0.HTM; John Diamond, “Small Weapons Prove the Real Threat in Iraq,” *USA Today*, 29 September 2003, http://www.usatoday.com/news/world/iraq/2003-09-29-cover-small-arms_x.htm; Sandra I. Erwin, “Army Not Producing Enough Ammunition—Aging Stockpile and Shortage of Suppliers Pose Serious Risks, Experts Contend,” *National Defense*, May 2003, http://www.nationaldefensemagazine.org/issues/2003/May/Army_Not.htm.
- 44 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 17-18.
- 45 James Sullivan, *Telling the Fallujah Story to the World*, IMEF and MNC-I Effects Exploitation Team Presentation, 20 November 2004, <http://www.diggersrealm.com/mt/archives/000452.html>; Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 18.
- 46 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 7.
- 47 George Zahaczewsky, “Destroying the ‘Mother of All Arsenals’: Captured Enemy Ammunition Operations in Iraq,” 7 March 2006.
- 48 “Central Iraq Marines Secure Ammunition Dump: Huge arms cache seized, some U.S.-made weapons found at compound large enough ‘to supply a small army,’” *The Denver Post* (31 March 2003): A-07.
- 49 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 18; Cpl. Shawn C. Rhodes, “Marines Discover Thousands of Pounds of Iraqi Ammunition,” *Defend America* Web site, <http://www.defendamerica.mil/articles/apr2003/a041403c.html>.
- 50 See John Burns, “A Nation at War: The Iraqis, Looting and a Suicide Attack as Chaos Grows in Baghdad,” *The New York Times*, 11 April 2003, who quotes a Marine on guard in Baghdad as saying, “We just don’t have enough troops.”
- 51 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 20; “Iraqi Update,” *Defend America*, <http://www.defendamerica.mil/iraq/update/june2003/iu06103.html>; Raymond Bonner and Ian Fischer, “Missiles Plentiful, No Guards in Sight—Munition Dumps a Problem in Iraq,” *Houston Chronicle*, 19 October 2003, <http://www.chron.com/cs/CDA/printstory.mpl/special/iraq/2164640>; LTG Richard Hack, Executive Director for Conventional Ammunition, *Fiscal Year 2004 Annual Report, Single Manager for Conventional Ammunition*, http://www.amc.army.mil/edca/annualrpt/FY04_Ann_Report.pdf.
- 52 Theodore J. Janosko and Robert G. Cheatham Jr., “The Sound of Thunder: VCA in Operation Iraqi Freedom,” *FA Journal* 8.5 (Sept-Oct 2003): 37.

- 53 Christopher J. Toomey, "Task Force Able supporting Operation Iraqi Freedom," *Engineer: The Professional Bulletin for Army Engineers* 34 (July-Sept 2004): 13.
- 54 "1st Armored Division Artillery," *FA Journal* 9.5 (Nov-Dec 2004): 27.
- 55 Klingelhofer, Captured Enemy Ammunition, 5-6.

4.0 INITIAL SETUP OF THE CEA/CMC MISSION

On a Friday afternoon in May 2003, Mobile District, USACE called the U.S. Army Engineering and Support Center, Huntsville personnel in the Ordnance and Explosives Directorate inquire about how much it would cost to conduct UXO operations in Iraq. At first, the discussions were vague and Mobile just wanted a rough cost estimate and level of effort for the job. The news of the massive quantity of ammunition that had filtered in from the field was fragmented, but the implications for guarding and destroying all of the ordnance were staggering. Soon CEHNC was talking directly with CENTCOM and CJTF-7, and all parties agreed that, to get an accurate cost estimate, CEHNC personnel would need to conduct a reconnaissance of the situation in-country.⁵⁶

The CEHNC received funding and orders from the US Army to conduct that reconnaissance in mid-June 2003 and rapidly deployed a three-man site-assessment team led by Glenn Earhart, the initial Program Manager for CEA, to visit Iraq for several weeks to identify CJTF-7's requirements and to develop an appropriate schedule and budget.⁵⁷ Two other CEHNC team members traveling with Earhart were Brad McCowan and Wayne Galloway, both of the OE Directorate. The site-assessment team's mission included identification of customer requirements, preparation of a scope of work (SOW) complete with cost and schedule estimates, and preparation of a site assessment report (SAR) for CJTF-7. The SAR would become the CEHNC's guiding approach for handling the ammunition depots. Because the CJTF-7 wanted to reassign the thousands of soldiers currently assigned to dealing with the ammunition to other duties, using CEHNC was seen as a means to free up the combat forces. The CJTF-7 requested that CEHNC transition the work from CJTF-7 soldiers first to contractors in 120 days and later to trained and qualified Iraqi nationals.⁵⁸

Additionally, CJTF-7 wanted a "one-stop supplier" that could provide full site security and ammunition management from "cradle-to-grave" for the entire process of collection, transportation, and demolition of the ordnance. This broad requirement would include providing all the logistics support, communications, and equipment for the contractors in the field. The CEHNC would also need to hire contractors to provide those services.⁵⁹ Again, the US Army did not want to provide forces to support the mission if possible. The intent of the mission was to have CEHNC provide all of the expertise and support, and enable the US Army to return to its mission.

While in-country, the CEHNC inspection team reviewed the information and began work on the SAR, which it delivered on 16 July 2003. The US Army had estimated that

approximately 650,000 tons of munitions were stockpiled within the CJTF-7 AOR. Under the SAR, CEHNC would take on the responsibility for accepting the captured ammunition from the military when a weapons cache was uncovered, transporting the munitions to a collection site, segregating usable ammunition, and transporting unusable materiel to a demolition area for destruction. Additionally, the Army wanted CEHNC to store any usable ammunition until the reconstituted Iraqi military could take possession of it. This would ease the creation of the new military.

On 28 July 2003, CEHNC received initial funding from the CJTF-7 to begin the process of disposing of the vast munitions stockpiles in Iraq. Immediately, the OE staff at CEHNC began to develop a plan. Because of the massive scale of the operation, all of the UXO contractors who had indefinite delivery/indefinite quantity (IDIQ) contracts with CEHNC were brought in and briefed on the mission. They were asked if they believed they could work on the project or if the scale was too large. The contractors were told that they could remove themselves, which several did, without fear of losing future contracts. At the meetings, CEHNC staff also discussed with the contractors the needs and issues of the mission to get their opinions. The working relationships that the OE directorate had developed with the contractors over several years of work and countless projects created a dialog that allowed an easier working relationship. Furthermore, the meeting allowed all of the contractors to immediately become part of the “team” and aid in the initial development of the program.

On 8 August 2003, the CEHNC’s Contracting Directorate awarded \$285 million in initial task orders to EOD Technology, Inc. (EODT), Parsons Infrastructure and Technology Group, Inc. (Parsons), Tetra Tech–Foster Wheeler, Inc. (TTFWI), USA–Environmental (USAE), and Zapata Engineering as well as minor support contracts to PTC, Inc., and StratCom Media to begin the CEA mission. Parsons’ contract, primarily to provide logistical support for the mission, was for one year with a contract value of \$89 million. “We are proud to apply our experience from our work for USAID [US Agency for International Development] in Bosnia and Kosovo to the reconstruction of Iraq. We look forward to the challenge and the contribution we can make in support of the Corps’ mission,” stated Jack Scott, Parsons Group president.⁶⁰ The organizational model developed by CEHNC called for Parsons to perform all engineering, management, contract administration, and logistics support for the three UXO contractors at various sites in Iraq. Parsons’ initial duties included establishing and maintaining a program liaison office in Baghdad and a rear support office in the United States. The company had no direct role in the movement or detonation of the ammunition. The CEHNC personnel believed this division of labor would help prevent the UXO contractors from arguing over logistics issues.

Under the terms of the separate UXO task orders, the UXO businesses were to collect captured enemy munitions from US military personnel, determine whether the munitions were serviceable or unserviceable, and destroy selected munitions. The remainder would be stockpiled under US control until further disposition was determined. The three contracts had a combined value of \$65 million.⁶¹ According to CEHNC Ordnance and Explosives Directorate Glenn Earhart:

These contracts will have three main purposes. First, we will replace Department of Defense active military with Corps of Engineers contractors

and employees so that the soldiers can return to their normal military duties. Second, so we can eventually return as much of these functions as possible to the people of Iraq providing them with additional job opportunities. Third, this mission will make Iraq safer for everyone by getting rid of ammunition scattered throughout the country.⁶²

At first the scopes of work developed were vague to ensure that the contractors would be able to handle any problems faced. The initial scope of work for the UXO contractors included the following requirements:

- Manage ammunition supply points/ collection points (ASP/CP)
- Perform demolition of unserviceable munitions
- Perform demolition of priority munitions as identified by CJTF-7
- Perform transportation of CEA from caches to ASP/CP or demolition areas as required, and transport prepared demolition loads of CEA from ASP/CP to the demolition area
- Perform surface unexploded ordnance clearances, booby-trap clearances, disablement of unconventional warfare devices, site investigations, and evaluations and responses in support of the CEA mission
- Provide security for ASP/CP, transportation operations, demolition areas, and living areas as needed
- Perform minor construction at demolition areas and ASP/CP as required to support the CEA mission
- Perform the above objectives at multiple sites in separate geographic areas simultaneously⁶³

Because of the size of the operation, the variables of not knowing the situation in-country, and the fact that Iraq was still a war zone, CEHNC designed the contracts to have maximum flexibility to adjust or expand efforts without having to renegotiate or issue modifications to the work. The CEHNC also placed a contracting officer forward to make real time decisions and to prevent unnecessary delays. As previously noted, CEHNC had a working relationship with all of the contractors and brought them into the planning process early. This level of trust was critical during the initial setup of the contracts and the project.

ESTABLISHING COMMAND AND CONTROL OF THE CEA MISSION

The CEHNC divided the command and control of the CEA operation between a forward office in Iraq and a support office in Huntsville. From the start, the division of control was tilted toward the Iraq office, with Huntsville serving in a support role. A forward office in Camp Victory, Baghdad, was established to manage the day-to-day operations of the UXO contractors. Huntsville placed government personnel including a Program Manager, Contracting Officer (KO), Property Manager, UXO Safety Manager, and Security Manager in this office. It was important to have a Program Manager and a KO on the ground in Iraq to make real-time decisions. Because of the time difference, waiting for personnel in Huntsville to make a decision could waste valuable time. Both the Program Manager and the KO in Iraq had all the authority of similar roles in the United States. One of the keys to the

success of the program was placing a government KO in the Baghdad field office.⁶⁴ Contracting issues and clarifications that came up during daily operations could be immediately resolved at the Liaison Office (LNO) without unnecessary layers of bureaucracy. Huntsville-based personnel retained certain administrative controls to minimize the on-site team's workload and to ensure proper accountability. They also maintained supervisory responsibilities, management of the program funding, and contract invoice review and approval. The office at Camp Victory would also turn into the process point and supply depot, as well as serving other uses. The physical development of the office is discussed later in this history. Figures 4.1 and 4.2 provide views of Camp Victory.



Figure 4.1 Initial living conditions at Camp Victory, 2003.



Figure 4.2 CEA/CMC headquarters at Camp Victory.

In addition to the management team at Camp Victory, CEHNC also ordered the presence of government employees at each of the ASP sites to support and direct field operations. Again, the management felt that having Corps employees at the site would maintain a high level of productivity and the ability to make decisions more quickly. The government employees at each site included a Project Manager (PM), UXO Safety Specialist, and Quality Assurance Specialist Ammunition Surveillance (QASAS) expert. The PM was responsible for the overall operation of the field camp and many times was also responsible for dealing with disputes between the UXO and logistics contractors. The UXO Safety Specialist was responsible for ensuring that all demolition operations were conducted in accordance with US DoD and CEHNC safety standards, as well as ensuring that the tonnage and munitions types combined in the demolition “shots” did not exceed the explosive limits established at the demolition ranges. Figure 4.3 provides a view of a typical shot. The QASAS representative was responsible for ensuring that the munitions were stored in a safe configuration and for inspecting munitions to be saved for the IA.⁶⁵

To aid in the operation, CEHNC also decided to rotate its employees in Iraq on a regular basis. The Program Manager and KO split duties with personnel in the United States. This division of labor allowed qualified personnel to be used in Iraq and in the United States, and to ensure that no one was deployed too long. Corps personnel at Camp Victory and the ASPs also received a regular vacation home once per tour and usual rest and recreation when available.

In addition to the Corps staff in Iraq, CEHNC fielded a suitable support staff back in Huntsville that included an operations center, auditing personnel, and other support needs. During the early parts of the mission, Earhart commented that they felt there



Figure 4.3 Results of disposal shot in Iraq (location and time not available).

was a need for a continuously staffed operations center in the rear office that could provide answers as needed. CEHNC had successfully used the idea during an earlier Huntsville program supporting chemical warfare materiel cleanup operations in Spring Valley, Washington, DC.⁶⁶ The International Operations Center (IOC) was manned by contractors and served as the nerve center for the operation. The SOW for the operations center showed the type and level of information that was gathered for the senior managers in Huntsville. The contractor was required to provide an administrative staff that was to:

- Conduct activities as required for managing and coordinating all Continental US (CONUS) Replacement Center (CRC) reservation requests for CEA program contractor and government personnel; review all information contained in the Letters of Authorization (LOA) prior to submission to the Huntsville KO for signature
- Distribute signed LOAs to CEA program contractors for distribution to personnel attending the CRC
- Maintain and update the CEA/CMC program Master Deployment List database to include database data entry/update, query creation, and report generation
- Prepare and update weekly status board displays; prepare and display summary charts of daily threat assessments of CEA/CMC program sites in Iraq
- Receive daily CEA/CMC program Situation Reports (SITREPs) and distribute

to designated CEA/CMC program personnel; prepare weekly summaries of issues and program concerns and distribute to designated CEA/CMC program personnel; prepare weekly consolidated (rollup) reports and distribute to designated CEA/CMC program personnel

- Receive and manage (verify accuracy and completeness, and reconcile apparent discrepancies) of CEA/CMC tonnage received/destroyed data; distribute to designated CEA/CMC program personnel; maintain and update IOC tonnage charts
- Prepare agenda and facilitate a weekly meeting of CEA/CMC program contractor and government representatives
- Maintain and update CEA/CMC program telephone rosters
- Perform daily updates of the KO CEA/CMC program Web site to include data entry and update
- Prepare, update, and maintain IOC Standard Operating Procedures (SOPs) as required
- Maintain a CEA/CMC program document repository as required
- Perform daily destruction of “For Official Use Only” and other sensitive documents⁶⁷

One of the most important missions of the operations center was to maintain the list of contractors going to and coming from Iraq. This included scheduling contractors to attend CRC training at Fort Bliss, make airline reservations, maintain a list of next-of-kin for contractors in-country, and take care of other administrative needs. Later CRC moved to Fort Benning, Georgia; however, the training did not change. Because Iraq was eight hours ahead of Huntsville, the operations center operated 24 hours a day until 2007; as the mission switched from CEA to CMC and the threats of Iraqi attacks lessened, the operations center was manned only during the normal business day.⁶⁸ However, communications were still available to senior personnel through cell phones and e-mail 24 hours a day.⁶⁹

The CEA mission was massive and required a dual command and control system, with one in Iraq and one in Huntsville. In describing the setup of the CEA mission, Earhart stated:

In Huntsville we have a Senior Program Manager from each of the contractors sitting with us. We have the senior government people [and] we have the Senior Program Manager so that day or night if there's an issue, we can reach out and touch a very senior person here in Huntsville that has the same access to a very senior person in Baghdad for decision making capability.⁷⁰

By November 2003, there were problems with the dual command system. Contractors complained that one person was generating reporting requirements in Iraq and another was generating reporting requirements in Huntsville; these requirements were not always the same and sometimes conflicted. In addition, contractors complained to CEHNC that the dual chain of command, especially in a military setting as with this program, was confusing and produced extra work for the contractors. The contractors clearly wanted a single authority for definitive decisions and direction. Huntsville learned the importance of single authority for definitive decision and direction, and

directed that PMs, forward and rear, cooperate more so as not to provide conflicting guidance and direction to the contractors.⁷¹

The initial management of the CEA mission served as the management model for the rest of the mission. The command structure would adjust to changes in the mission and environment, but the basic model was in place. Now it was time to start putting contractors on the ground.

CHAPTER 4 ENDNOTES

- 56 Interview, Glenn Earhart, Huntsville, AL, 7 January 2009.
- 57 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 22-23; interview, Glenn Earhart, Huntsville, AL, 7 January 2009; interview, Wayne Galloway, Huntsville, AL, 7 January 2009.
- 58 Ibid.
- 59 Interview, Glenn Earhart, Huntsville, AL, 7 January 2009.
- 60 “Parsons to Manage Program to Destroy Captured Enemy Ammunition in Iraq; \$89 Million Contract Awarded to Parsons by the US Army Engineering and Support Center, Huntsville,” *Business Wire* (25 August 2003): 5490; “US Quartet Win Arms Disposal Contracts,” *MEED Middle East Economic Digest* 47.35 (29 August 2003): 6.
- 61 “Business Today,” *The St. Petersburg Times* (27 September 2003): 1E.
- 62 “US Army Selects Contractors to Destroy Enemy Ammunition in Iraq,” *Asia Africa Intelligence Wire* (26 August 2003): NA.
- 63 George Zahaczewsky, “Destroying the ‘Mother of All Arsenals’: Captured Enemy Ammunition Operations in Iraq,” 7 March 2006.
- 64 Interview, Glenn Earhart, Huntsville, AL, 7 January 2009; interview, Wayne Galloway, Huntsville, AL, 7 January 2009.
- 65 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 13, 15.
- 66 Ibid., 35.
- 67 Statement of Work Non-Personal Engineering Administrative Support Services in Support of U.S. Corps of Engineers for Coalition Munitions Clearance Program 11 MAR 2005.
- 68 Lessons Learned Program, Tracking Number 035, dated 7 June 2004.
- 69 Interview, Angela Caudle, Huntsville, AL, 1 December 2009.
- 70 Quoted in Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 37.
- 71 Lessons Learned Program, Tracking Number 02, dated 21 October 2003; Tracking Number 028, dated 16 April 2004; Tracking Number 08, dated 5 November 2003.

5.0 SETTING UP THE MISSION IN IRAQ (AUGUST AND SEPTEMBER 2003)

After establishing the initial mission command and control, CEHNC had to decide how to perform the mission. The plan called for the CEHNC/contractor team to occupy and become self-sufficient at six ASPs throughout Iraq by 1 December 2003. Because the ASPs were located in remote areas, the UXO contractor teams, supported by Parsons, would establish temporary “pioneer” camps while the primary camps and communications systems were being mobilized and erected. In addition to setting up the bases, the UXO contractor would first perform a CEA inventory and then demilitarize the munitions at the ASPs. As the insurgency increased, CJTF-7 shifted Huntsville’s mission to securing and collapsing cache sites outside the six secure ASPs, while demilitarization of the munitions behind the fences of the ASPs became a lower-priority mission. The initial mission was a success. By the end of December 2003, Brigadier General Robert L. Davis, CJTF-7, C-7, stated, “In the last three weeks alone, recently deployed private civilian contractors have destroyed more than 2.5 million pounds of ammunition, whereas US soldiers were able to destroy only 1 million pounds in the last six months.”⁷² However, the preliminary work was not without issues for most of the first month. Many of the problems faced by the CEHNC Advance Team involved establishing the basic logistical needs of the mission in a war zone. The team faced issues of fuel and equipment shortage as well as hiring concerns.

On 27 August 2003, the Advance Team, including the Program Manager, Operations Manager 1, Operations Manager 2, and Logistics Manager, arrived in Iraq. The team had five primary tasks: establish a liaison office in Baghdad, start site visits to access facility support requirements, finalize camp requirements, obtain vendor quotes and award contracts, and finalize the Work Plan.⁷³

Because CEHNC was required to provide security at all of its installations as a means to relieve military personnel, one of the first things the Advance Team needed to accomplish was hiring security for the six bases. On 30 August, part of the Advance Team visited Anaconda Base to meet with a proposed Iraq security company. The Corps agreed to hire the firm and to provide the security company with the equipment and supplies needed to secure the bases.⁷⁴

In addition to security, Huntsville personnel needed to work out their cash-flow system, as they needed to hire local nationals and rent equipment. After the fall of Iraq, no formal banking system was in place. Advance Team officials met with the Coalition Provisional Authority (CPA) and Iraqi Ministry of Finance and Ministry of Labor representatives to determine finance and local labor options for hiring and

paying local nationals. The CPA told CEA officials that the CPA was developing plans for a central bank that was to be in place in 30 to 60 days.⁷⁵ For the initial stages, CEHNC would have to use its cash resources to pay for the locals and the equipment. Figure 5.1 shows the chain of command for the CEA mission.

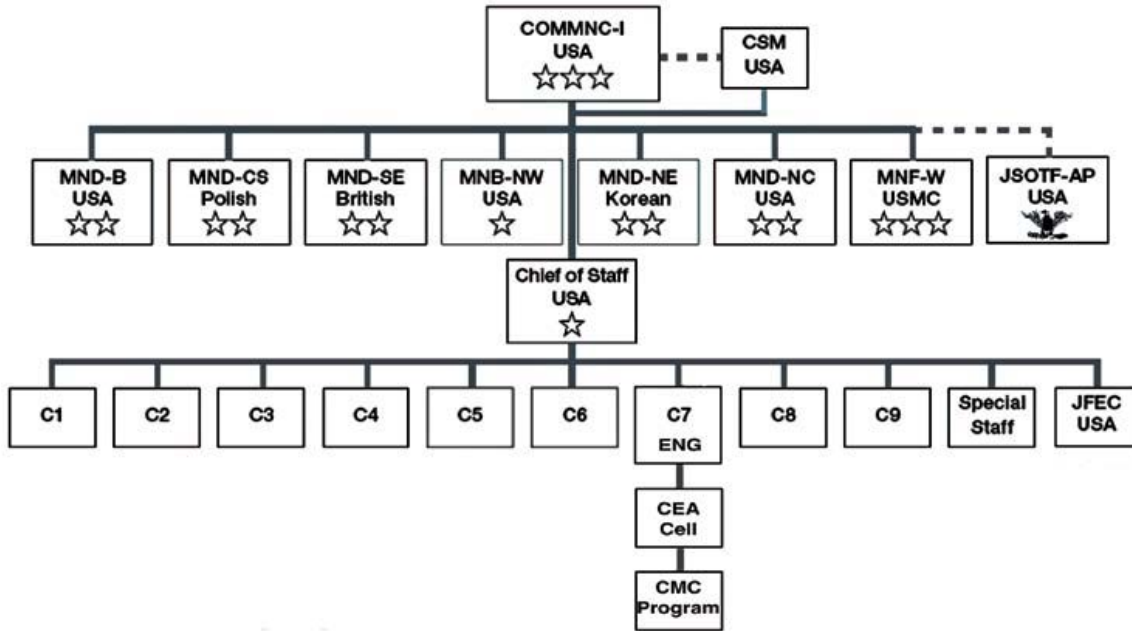


Figure 5.1 Chain of command for CEA/CMC mission.

In addition to security and money, the Advance Team coordinated with UXO contractors to determine the contractors' vehicle, preliminary communication, and data requirements. These needs were gathered in-country and submitted to CEHNC and Parsons to coordinate procurement.⁷⁶ The services and items needed to operate the mission ranged from protective gear and heavy equipment to computers and communications equipment. Even business services that were commonplace in the United States were required in Iraq, such as selecting DHL to ship Internet modems to Baghdad. The Advance Team used the modems to establish data connectivity with Huntsville via satellite modem later that September.⁷⁷ Standardized forms had to be developed for EOD contractors to request supplies.⁷⁸

While developing the logistical parts of the mission, the Advance Team also aided in the selection and establishment of the first ASPs. On 30 August, members of the Advance Team traveled to EODT's Site 1 to examine the camp layout, existing facilities, and established facility requirements.⁷⁹ As mentioned above, the Corps plan called for placement of Corps personnel at each site; however, the UXO contractors had some latitude on the establishment of the sites.

To meet the growing needs of the expanding mission, on 7 September 2003 the second wave of Corps CEA staff, along with vehicles and other office equipment, reached Baghdad.⁸⁰ In addition to managing the huge mobilization, technical personnel also worked on drafting the Project Management Plan and prepared the Work Plan for final edits from the Huntsville support office.⁸¹

In a symbolic operation, the first CEA munitions disposal commenced with EODT destroying a small cache on 11 September 2003, followed by USAE destroying 30 SA-7 Strela man-portable surface-to-air missiles on 20 September 2003.⁸² From a morale point of view, the destruction of munitions on 11 September reminded the personnel of the role of this mission in the larger GWOT; however, the destruction of the surface-to-air missiles probably made more of a difference in making the battlefield safer by removing weapons that could bring down helicopters or transport planes. Either way, it was clear that the CEA mission had started. The day after the 11 September shot, the Advance Team conducted a helicopter reconnaissance trip to a Phase II site located at Jaguar ASP in northern Iraq, and the mission continued to grow.⁸³

With the influx of new contractor personnel, the Advance Team began to face serious supply issues that brought safety concerns to the forefront. By 14 September 2003, the number of CEA contractors in Iraq was larger than the number of protective vests, and UXO contractors required an additional 97 protective vests immediately.⁸⁴ According to the deployment plan, contractors were to get all of their protective equipment at CRC, Fort Bliss. However, the Army was short on protective gear, as well as sleeping bags, and was sending contractors to Iraq without these items. Contractors were attempting to get the equipment in Kuwait, causing delays for new arrivals transitioning from Kuwait to Baghdad.⁸⁵ Parsons began to look to other sources to get the required equipment that the Army had promised but could not provide. This would not be the last time that the Army did not provide the necessary services to the contractors.

Another concern faced during the early deployment was fuel. Huntsville and Parsons personnel had to negotiate with Kuwaiti and Iraqi firms to provide fuel to the remote sites. Of course, the remoteness of a site and a greater threat of attacks would result in higher prices. On 15 September, CEHNC personnel began finalizing negotiations to enter into a contract agreement with an Iraqi fuel provider for the remote sites. The Corps first had to resolve Army security issues before finalizing the agreement, and it needed to establish quantity limits and clearance criteria.⁸⁶ In addition to a contract for fuel, the Advance Team decided to place two 2,000-gallon fuel tanks at each ASP site, one for diesel and another for gasoline. The team also examined purchasing or renting a mobile tanker and/or refueling service.⁸⁷

A major issue was the procurement of tents for the bases. Because tents were not in the initial planning, they had not been taken into account. By mid-September, Pioneer tents were en route to US Army Camp Taji, followed by Camp Victory and then the TTFWI camp. Advance Team members also met with camp supplier Gulf Supplies & Commercial Services to review the Baghdad site layout and specifications for three other camps.⁸⁸

By mid-September 2003, the in-country management team was realizing the cost of these issues. In a report to CEHNC, the in-country team identified \$800,000 of cost impacts resulting from resources diverted from the original plan. The Corps had to purchase all its fuel by commercial purchase from Iraqi sources because the US Army had been unable to provide it. Table 5.1 provides a list of the resources diverted from the original plan along with cost impacts.⁸⁹

Table 5.1 Resources Diverted from the Original Plan.

	Subtotal	Total
A. Delays in transporting staff from Kuwait		
5 Parsons staff held up in Kuwait 3 extra days, 28–30 August	\$20,000	
2 Parsons staff held up in Kuwait 2 extra days, 10–11 September	\$5,000	
2 Parsons staff currently held up in Kuwait awaiting receipt of protective vests; assume a 6-day delay, 14–19 September	\$15,000	
		\$40,000
B. NEW: Purchase and setup of interim camp tents		
Shopping and setup of tent at Camp Victory, staff time and installation costs	\$6,000	
All Pioneer camps are out of scope because housing was to be provided; nine tents including setup	\$724,000	
Staff effort redirected from permanent facilities to providing temporary Pioneer tents: 120 hours x \$120/hr	\$14,400	
Cots to support the tents: \$60 each x 100 cots	\$6,000	
		\$750,400
C. NEW: Provide fuel capabilities to ASPs		
Research and then hire a trucking service to move gasoline and diesel to the sites: 80 hours x \$120/hr	\$9,600	
		\$9,600
D. Site Visits Canceled		
Site visits were canceled on 31 August and 1 September to site #1 for USAE and on 6 September to site #1 for TTFWI	Time Delays	
Total	\$800,000 + Time Delays	

DIVISION OF THE ASPs ACROSS IRAQ

As mentioned above, the initial CENTCOM plan called for CEHNC to set up the six ASPs within Iraq to support the assessment and destruction of numerous smaller weapons caches throughout the country. The selection of the sites was a combined CJTF-7 and Corps decision based on military intelligence. The military advocated six depots that were former Iraqi military ASPs and that already contained a large amount of munitions. Because these depots were former ASPs, planners hoped they had some existing infrastructure necessary for safe ammunition storage and disposal operations, such as ammunition magazines/bunkers, roads, and protective fences. While that was a good plan, it was soon realized that many of the ASPs had received heavy damage during US Air Force strikes during both Operation Desert Storm and OIF and the portions that were still usable were limited.⁹⁰ To a greater extent than the northern and central depots, the southern depots had come under heavy attack during Operation Desert Storm and OIF and had incurred significant damage.⁹¹

The easiest way to divide the ASPs was by geography. The CEHNC decided to provide each UXO contractor with two of the ASPs in geographically separated areas that covered the entire country of Iraq. This way, the Corps hoped that each contractor would be able to maximize its personnel in a region. CEHNC assigned USAE the two northern ASPs, code-named Arlington and Jaguar. They were designated to receive all of the ammunition the Coalition found in northern Iraq. In central Iraq, EODT was initially assigned Taji and Paladin depots. However, in March 2004, operations at Taji were transferred to Buckmaster due to the very limited demolition range at Taji. Also in March 2004, EODT was replaced by Environmental Chemical Corporation (ECC) at Buckmaster and by Zapata at Paladin ASPs when CEHNC's contracts were recompleted. Finally, in the southern part of the nation, TTFWI received the depots An Najef and Az Zubayr. Az Zubayr was replaced in mid-August 2004 by the Al Ashraf ASP.

The following chapters provide histories of the development of each ASP. They focus on the physical development of the camps, management issues, security operations, and demolition operations. Each ASP was different and offered unique opportunities. In selecting demolition grounds at the ASPs, the munitions contractors considered a variety of factors, including proximity to the local civilian population and potential impacts to cultural resources. For example, at Jaguar, contractors conducted a study to ensure that demolition air blasts or shockwaves would not damage the Hatra World Heritage Site. Demolition grounds also had to be close enough to the ASPs to provide constant security for personnel transporting munitions to the sites. Despite the lack of environmental sensitivity by the Ba'athist regime, CEA contractors performed all demolition functions according to environmental methods approved in the United States.⁹²

CHAPTER 5 ENDNOTES

- 72 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 9.
- 73 27 August 2003, SITREP.
- 74 30 August 2003, SITREP.
- 75 2 September 2003, SITREP.
- 76 3 September 2003, SITREP.
- 77 3 September 2003, SITREP; 4 September 2003, SITREP; 8 September 2003, SITREP.
- 78 6 September 2003, SITREP.
- 79 30 August 2003, SITREP.
- 80 7 September 2003, SITREP.
- 81 1 September 2003, SITREP.
- 82 Zahaczewsky, "Destroying the 'Mother of All Arsenals': Captured Enemy Ammunition Operations in Iraq."
- 83 12 September 2003, SITREP.
- 84 14 September 2003, SITREP.
- 85 13 September 2003, SITREP.
- 86 17 September 2003, SITREP.
- 87 30 September 2003, SITREP.
- 88 17 September 2003, SITREP.
- 89 15 September 2003, SITREP.
- 90 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 57-58.
- 91 *Ibid.*, 62-68.
- 92 *Ibid.*, 57-61.

6.0 AMMUNITION SUPPLY POINTS IN NORTHERN IRAQ: ARLINGTON AND JAGUAR DEPOTS

In 2003, CEHNC assigned USAE the responsibility to establish and operate two northern ASPs,⁹³ code-named Arlington and Jaguar. The Corps designated these two facilities to receive all of the ammunition the Coalition found in northern Iraq. Unlike the other depots in the areas, USAE operated both of these depots as munitions disposal sites for their entire period of operation. In 2006, EODT took over Arlington Depot, but at the same time CEHNC transformed Arlington into a Legacy depot tasked with maintaining munitions for the IA. Because one company operated the northern ASPs throughout their existence, their establishment, operation, and management is unique in CEA/CMC history.

MANAGEMENT OF THE NORTHERN DEPOTS

The basic management of the ASPs in northern Iraq was no different from that of the depots in the other regions, except for the stability of maintaining the same contractor for the life of the operation. The basic management team at each installation was the same. The Corps provided a PM, safety officer, and UXO supervisor, while USAE had its own management team. Because USAE maintained its control over the two depots, the company and management could build up an extensive corporate memory and working relationship with the Corps staff.

In September 2003, CEHNC awarded USAE a task order to establish and manage two munitions disposal depots in northern Iraq. The next year, when Huntsville rebid the contracts, USAE again won the task orders to operate the same two depots. USAE completed work at the Jaguar North CMC Depot on 15 June 2005. In June 2006, USAE transferred all remaining CMC stocks at the Arlington Depot to EODT for management as a Legacy depot.⁹⁴ According to the project reports, the turning over of the depots to other contractors in other regions did not bring any serious management problems or delays; however, it is clear that maintaining the same contractor saved valuable time and money by not having to mobilize and demobilize teams, conduct transfer operations, and familiarize a new team with the operation.

DESCRIPTION OF THE NORTHERN DEPOTS

In Northern Iraq, USAE had two very different depots to operate. Both were former Iraqi military sites, but the larger one at Arlington was in better condition and contained an existing infrastructure. Also, Coalition forces had secured the site early and protected it from the massive looting. In contrast, Jaguar was a smaller complex that had been heavily damaged during military operations. Looters had

taken material from the base and destroyed sections of its infrastructure. Although they differed, both sites presented opportunities as well as problems for USAE.

As with the other depots in other regions of Iraq, CJTF-7 and CEHNC selected former Iraqi military sites in the north for several reasons. First, the former Iraqi military bases already contained an existing munitions storage infrastructure as well as having stockpiles of munitions that Coalition forces had already secured. Shortly after the fall of Baghdad, US forces occupied Arlington in a secure-and-deny mission. Before the arrival of USAE, the 14th Combat Engineer Battalion, a subordinate unit of the 555th Combat Engineer Group, occupied the site. The looting and ransacking of many governmental and military bases in Iraq was held to a minimum because of the US Army presence⁹⁵

The first depot USAE established was the Arlington Depot, located five kilometers west of Iraq Highway 1 near the city of Bayji and approximately 210 kilometers northwest of Baghdad. The depot was quite large, measuring approximately eight by three kilometers in size. It contained 100 steel-arch earth-covered magazines (ECMs), 78 metal warehouses, 153 small block buildings, 316 large open-storage pads with substantial earth barricades, and 1,446 small open-storage pads.⁹⁶ These storage buildings would be beneficial to USAE personnel during the disposal mission because they provided premade storage facilities. Of course, the Iraqi military had far lower standards for munitions storage than the United States and other Western nations; therefore, many of the facilities were dangerous and could not be used or had to be adapted.

The other depot, Jaguar, was actually three smaller, closely situated storage areas. Jaguar North, significantly smaller and more isolated than Arlington, was located approximately 300 kilometers north-northwest of Baghdad and 80 kilometers south-southwest of the Iraqi city of Mosul. The site only measured 5.5 by 2.5 kilometers and contained 80 out of 91 ECMs. Coalition forces had destroyed the other magazines during Operation Desert Storm and/or OIF. The depot also contained 32 commercial shipping containers, 98 cinderblock huts already filled with Iraqi munitions, and 135 unbarricaded open-storage areas. A wadi bisected the depot, making it more difficult to use. During the rainy season, the wadi could only be crossed via a bridge at the center of the depot.⁹⁷ Again, the climate and geography of Iraq required the contractor and the Corps to adapt to a difficult situation. Figure 6.1 shows a looted bunker at Jaguar ASP.

In addition to the main Jaguar North complex, USAE operated two associated areas, Jaguar South and Jaguar Middle, located approximately five kilometers southwest of Jaguar North. These locations comprised an area of about 7,400 acres in a five-by-six-kilometer rectangle and contained over 1,400 earthen revetments and 40 destroyed warehouses surrounded by an earthen berm and concertina wire.⁹⁸ Many of the warehouses at Jaguar South were damaged during Operation Desert Storm and OIF, resulting in the scattering of UXO around the area in a process known as “kick-out.” This made cleanup operations more difficult at Jaguar South and Jaguar Middle. Also, inspections by USAE showed that looters had tried to plunder several of the warehouses before Coalition forces secured the area, and the resulting explosions from accidents had destroyed several warehouses.⁹⁹



Figure 6.1 A looted bunker at Jaguar ASP.

TYPES OF WEAPONS FOUND AT THE NORTHERN DEPOTS

The types and variety of weapons at each of the northern sites influenced the initial disposal plans and methods. Of course, each site received enemy munitions on an almost daily basis, so each had to consistently adapt to new situations and new munitions. During the initial inspection of Arlington, much to everyone's surprise USAE found that the vast majority of the bunkers and revetments were neat and orderly, and contained multiple types of munitions including airdrop bombs, cluster bombs, rockets, surface-to-surface missiles, and air-to-air missiles. The majority of the munitions in the bunkers were stored in their original shipping containers, which provided the added benefit of allowing the Corps and the Army to determine their origin. The warehouses contained large quantities of artillery projectiles, tank munitions, and some antitank and antipersonnel mines, while the revetments primarily housed 57mm munitions. Also, inspectors located several 142-inch-long, 122mm crates indicative of the Sakr-18 rocket.¹⁰⁰ The Sakr-18 rocket was capable of carrying chemical weapons as well as conventional warheads.¹⁰¹ Figure 6.2 shows an example of the missiles found.

The inspection of Jaguar indicated a different situation. Rather than finding orderly storage like that at Arlington, USAE found Jaguar disheveled. As at Arlington, USAE and CEHNC personnel found multiple types of munitions including airdrop bombs, cluster bombs, rockets, and air-to-air missiles at the site. The Iraqis had not stored the majority of the munitions in the bunkers in their original shipping containers. Therefore, UXO personnel faced the safety concern of having propellant, powder bags, fuses, and projectiles intermixed with broken white plastic shipping containers and discarded wooden shipping crates piled on the floor. Removal of munitions



Figure 6.2 Portion of an Iraqi anti-aircraft missile.

from these sites took longer because of the safety issues. However, in some bunkers USAE did find the munitions well organized and neatly stacked. As noted above, at Jaguar South and Jaguar Middle, the warehouses were all destroyed, causing unexploded ordnance to be scattered around the area by the explosions. The Iraqi Study Group (ISG) noted that Jaguar contained 122mm rockets that might have been Sakr-18 rockets, CG-250 cluster bombs, and Spanish BRI-400 bombs, which were all determined to be munitions of interest by the ISG.¹⁰²

DISPOSAL MISSION RESULTS AT THE NORTHERN DEPOTS

The initial contracts called for USAE to store, inventory, re-warehouse, transport, and destroy captured munitions. The destruction of the Iraqi munitions was performed at a specified demolition area in the northeast region of Arlington Depot and at burn pits located among empty earth-barricaded open-storage areas near the western perimeter of Arlington. Using SOPs they developed under CEHNC supervision, USAE began technical operations involving captured enemy ammunition at Arlington on 20 September 2003 and destroyed approximately 21,900 tons of stocks within the depot. Under the second task order, dated 2004, USAE destroyed an additional 43,998 tons of captured enemy ammunition within the depot, in addition to 1,272 tons destroyed at remote sites by USAE work crews from Arlington. The USAE crew shipped 3,424 tons of captured enemy ammunition to Arlington as part of the Retained Munitions Program. On 7 October 2003, USAE began disposal operations at Jaguar North, and destroyed over 15,000 tons of munitions stocks within the depot. Under the next task order, USAE destroyed 9,491 tons within the depot, and an additional 1,939 tons were destroyed at remote sites by USAE work crews from Jaguar North.¹⁰³

Huntsville Corps and USAE PMs estimated that USAE should have been able to dispose of approximately 100 short tons metric per day. However, several factors slowed the rate of disposal and prolonged the contractor's presence at the sites. Inclement weather conditions caused delays in ammunition handling and captured enemy ammunition destruction activities, which resulted in days with lower or zero productivity. During the days scheduled demolition operations were canceled, ammunition-handling operations continued to prepare captured enemy ammunition for destruction.¹⁰⁴

SHIFTS IN MISSION AT THE NORTHERN DEPOTS

While the initial UXO task orders in 2003 required USAE to secure the depots and dispose of the munitions brought in by Coalition forces, the military reexamined the mission as the political climate in Iraq worsened and the insurgency grew. Beginning in late July 2004, CEHNC changed the focus of USAE's efforts from destroying captured enemy ammunition stocks within secured depots to rapidly securing or clearing all enemy ammunition at remote sites in order to meet a 100-percent-secure deadline of 30 September 2004.¹⁰⁵ This change in mission addressed the need to get the munitions out of insurgents' hands and to eliminate the construction of IEDs. In addition to securing the munitions, UXO contractors also stepped up efforts to determine the types and quantities of munitions needed by the reconstituted Iraqi military. In November 2004, USAE began screening 28,000 tons of specific items of enemy ammunition for retention for use by the new Iraqi Army. During the screening, the CEHNC KO issued a directive to USAE to proceed with packaging and banding of approximately 4,600 tons of retained munitions for shipment to a storage depot. At Jaguar North, USAE palletized wooden boxes and metal cans of retained munitions and then uploaded those pallets to trailers and flat racks. From 28 February to 20 April 2005, US Army units moved shipments of retained munitions from Jaguar to Buckmaster Depot, and thereafter to Arlington Depot. The Army conducted 51 convoys containing 639 vehicles loaded with 11,439 pallets of retained munitions.¹⁰⁶

By December 2004, USAE had begun clearing UXO from the Jaguar Middle and Jaguar South remote sites, an area estimated to contain 100,000 surface UXO items scattered from the detonation of its destroyed metal warehouses. The Corps diverted UXO technicians, ammunition handlers, and local laborers from the disposal of munitions at Jaguar North Depot to work at the scattered sites. On 21 April 2005, USAE's Mobile Team #6 was given responsibility for completing the clearance, with supplemental labor and equipment provided by resources at Jaguar North.¹⁰⁷

The changing of the mission from disposal of the munitions at the depot to retaining munitions and the destruction of scattered sites illustrated the changes in the overall situation in Iraq. With insurgency on the rise and domestic pressure to show that the Iraqis could govern themselves, the Corps, with direction from CENTCOM, altered the missions. However, change of mission was not unforeseen by CEHNC management. Several of the program managers stated that the contracts were purposely vague to accommodate these types of changes in the mission.

ISSUES WITH USING LOCAL NATIONALS AT THE NORTHERN DEPOTS

As they requested of all other contractors, Huntsville Corps and the CJTF-7 requested that USAE utilize local nationals as much as possible. This could include using Iraqi security contractors, renting Iraqi equipment, purchasing Iraqi foods, and hiring local Iraqis as laborers. However, because of the rise in insurgent activity in 2004 and later, USAE experienced repeated periods when many Iraqi employees would not arrive for work because of attacks or threats. Situation reports provide countless examples of insurgents threatening the workers and their families. There were even times when Iraqis reported that insurgents had killed members of their families as punishment for their working with the Americans.¹⁰⁸ Without the local workforce to supplement the contractors, USAE's disposal activity decreased. It was impossible for the contractor to reach the goal of 100 tons a day. In response, USAE ceased to rely on Iraqi laborers who were hired and paid directly by USAE and who commuted daily between home and work. Instead, USAE began bringing in from other regions Iraqis who were subcontracted with Alfardan, an Iraqi company operating from the Kurdish region. These employees were transported from the vicinity of Kirkuk and maintained a separate camp near each depot. In addition, USAE used a local national security company to provide an armed escort for workers during their commute to Jaguar Depot.¹⁰⁹ The contractor reasoned that using laborers from other regions would protect them from reprisals. They could live in a safe, secure camp and not have to worry about insurgent attacks. Of course, bringing in other tribes introduced some resentment and hostility; however, the plan worked well overall.

Possibly because of its previous experience with local contractors, USAE did not implement some of the programs that other contractors did in other regions using local labor. For example, in Central Iraq, UXO contractors subcontracted with local Iraqis to take care of scrap metal disposal. Rather than rely on locals, however, USAE used other means for disposal of the metal. The contractor buried ordnance items such as concrete aircraft bombs and machined-metal in the shape of mortars, and left other metal scrap and metal components of wooden packaging in situ on the surface. After 28 December 2005, the Corps directed USAE to paint empty projectiles a unique color and stack them on-site.¹¹⁰ The contractors' after-action reports did not indicate the exact reasoning behind USAE's decision to bury the remains.

Because of the lack of reliable locals, USAE's approach to hiring local nationals differed from that of other UXO contractors. The contractor still attempted to fulfill its mandate of utilizing Iraqi labor but adapted this to meet its needs.

OTHER PROBLEMS FACED IN THE NORTHERN DEPOTS

Another major issue that USAE and all the other UXO contractors faced was insurgent activities. Threats of insurgent violence as well as actual attacks created a hostile work environment that influenced almost all the decisions at the depots. USAE provided protection for munition stocks, contractor personnel, facilities, and equipment in accordance with the approved site-specific security plans. Protective operations were conducted by USAE's subcontractor Cochise Consultancy, which was assisted by the Iraqi Establishment Protection Company at Arlington Depot and the Tinderbox

remote site, and by a unit of the Iraqi Civil Defense Corps (later redesignated an Iraqi National Guard unit) at Jaguar North Depot.

Transportation routes, number of employees, the security system, and disposal techniques all were influenced by the insurgency. For example, in January 2005 USAE received permission to house workers on-site at Arlington and Jaguar depots to protect workers from attack as they traveled to and from work. At other times, insurgent threats prevented USAE from traveling on the roads at all.¹¹¹ As with all of the depots, security controlled all road movements of CEA between storage locations and ensured that all personnel were accompanied by armed escorts. Entry into CMC sites operated by USAE was restricted, and standard physical security measures (e.g., searches, identification badges, barrier fences, guard towers, roving patrols) were implemented.¹¹²

Another major problem USAE faced was equipment availability at the depots. Both Arlington and Jaguar were affected when forklifts, Palletized Loading System (PLS), and other support vehicles were out of service because of a lack of repair parts.¹¹³ Also, by the fall of 2004, the lack of heavy-lifting equipment had become an issue at the depots, and it influenced the rate of demolition operations. The condition and availability of equipment and lack of proficiency of the operators caused unnecessary delays.¹¹⁴ Furthermore, the lack of donor explosive materials hampered the disposal process as all the UXO contractors ran low on C-4 explosives. However, in October 2004, the US Army turned over its stockpile of K180/M15 Antitank mines, which had to be disposed of because of treaty obligations, to the CEHNC for use as donor materials.¹¹⁵ This was an innovative way to solve the problem. The United States was in the process of disposing of these land mines, and the Army shipped many of them to Iraq to be used as donor material. This allowed a speedier disposal of materials in Iraq while at the same time removing the mines from the US inventory.

In addition to the delays caused by the lack of equipment, logistical concerns also slowed activities at the depots. As one might expect with operations in a remote spot in a desert nation, USAE faced problems with water supply at its depots. For example, in November 2004, USAE had a severe water shortage at Jaguar Depot. The lack of local operators for water trucks was making it impossible for Parsons to provide adequate camp sewer and water resupply. In one incident, a 30,000-gallon water tanker departed the depot and did not return, and it was suspected that the driver quit. To combat the water shortage, base management restricted the use of showers and latrines.¹¹⁶ Parsons finally solved the problem by bringing in adequate water trucks and drivers to the depot from other areas. Not having an adequate water supply delayed activities at the depot because water was important for so many functions.

At other times, the lack of certain equipment made operation of the depot impossible. From late January to early February 2005, both the Internet and radio repeater were down at Arlington Depot. This slowed USAE's communication with CEHNC and also made it impossible to communicate across the depot to confirm whether the public road used by military convoys was clear during demolition operations.¹¹⁷ This problem took several weeks to solve due to delays in transporting the equipment into the area.

Furthermore, USAE and its subcontractors did not always have pleasant relations with the local military units. For example, in January 2005 several incidents occurred involving the security at the depots and the Army. An Army combat patrol twice fired warning shots at the Cochise Security shift-change convoy. The USAE site manager and Cochise Security manager met with the new Army Commander to brief him on the respective arming agreements.¹¹⁸ Also, the Army did not always understand or comply with USAE's munitions storage procedures. During operations in Bayji, the Army recovered approximately one ton of captured munitions. The Army left the ammunition outside a hut at K-2 that was used by EOD. USAE took the incoming unit to the hut and explained what had to be removed by EOD before the munitions could be taken to Arlington Depot. To clarify the procedures, USAE held a Force Protection meeting on 18 January 2005 to explain to the Army that leaving the munitions at the hut and surrounding berm created an explosive safety hazard area.¹¹⁹ USAE's site manager and Senior UXO Supervisor (SUXOS) met with EOD and local Army Command to set a schedule for correcting the explosive safety hazard, and the stored CEA moved to Arlington Depot by 26 January 2005.¹²⁰

INNOVATION AT THE NORTHERN DEPOTS

While it experienced many challenges at the northern depots, USAE excelled with several innovations in the disposal process. USAE utilized over 40,000 wooden pallets with banding materials for large projectiles, bombs, missiles, and boxes of ordnance that did not require unpacking. At Arlington Depot, USAE was loading and staging 10 to 15 flat racks at any given time. This required additional flat racks to be available and staged within the depot for loading next to igloos, warehouses, and outside storage areas. To aid in the staging process, USAE used approximately 60 flat racks to allow seamless operations from the storage location to the staging area to the demolition pits. Furthermore, with the destruction of 500 to 600 short tons each workweek, USAE used approximately 160 shot boxes a week. The shot boxes had been introduced at Arlington Depot in June 2004 and replaced palletizing ammunition as a means of transport to the demolition area.

SUMMARY

Contactors working in Northern Iraq faced many challenges at the depots there. Because one company operated the northern ASPs throughout their existence, their establishment, operation, and management is unique in CEA/CMCHistory. Corps and USAE employees faced constant attacks on their bases, conveyes, and local nationals. To adapt to the situation, they turned to hiring Iraqis from other regions to create a less visual target, though it appears that USAE did not rely on local nationals as much as some of the other contractors did. The contractor faced logistical and weather issues that slowed the disposal process. Also, in 2005, the Corps shifted USAE's mission to meet the new geopolitical needs of the American and Iraqi governments.

CHAPTER 6 ENDNOTES

- 93 Throughout this document, the terms *depot* and *ASP* to describe the sites are used interchangeably. This is consistent with the reports from the UXO contractors, which did not refer to the sites by a standard term.
- 94 USA Environmental, Inc., *Management and Disposal of Captured Enemy Ammunition, Arlington Ammunition Supply*. Draft DACA87-00-D-0036, Task Order: 0019 (October 2003), 1-1.
- 95 Ibid., 1-2.
- 96 Ibid., 2-12.
- 97 Ibid., 2-16.
- 98 Ibid.
- 99 Ibid.
- 100 *Iraq Survey Group Final Report, Iraq's Chemical Warfare Program, Annex H*. Available at http://www.globalsecurity.org/wmd/library/report/2004/isg-final-report/isg-final-report_vol3_cw-anx-h.htm.
- 101 Stephen E. Hughes, *The Iraqi Threat and Saddam Hussein's Weapons of Mass Destruction* (Victoria, BC: Trafford, 2002), 351-352.
- 102 *Iraq Survey Group Final Report, Iraq's Chemical Warfare Program, Annex H*.
- 103 USA Environmental, Inc., *Management and Disposal of Captured Enemy Ammunition, Arlington Ammunition Supply*, 6-2 – 6-3.
- 104 Ibid., 2-9.
- 105 Ibid., 2-5.
- 106 Ibid., 2-10, 2-18.
- 107 Ibid., 2-5 – 2-6.
- 108 Arlington Depot SITREP, 20 September 2004, 10 October 2004.
- 109 USA Environmental, Inc., *Management and Disposal of Captured Enemy Ammunition, Arlington Ammunition Supply*, 2-42.
- 110 Ibid., 1-5.
- 111 Arlington Depot SITREP, 2 November 2004.
- 112 USA Environmental, Inc., *Management and Disposal of Captured Enemy Ammunition, Arlington Ammunition Supply*, 2-10.
- 113 Ibid., 4-2.
- 114 Jaguar Depot SITREP, 7 October 2004.
- 115 Arlington Depot SITREP, 26 October 2004.
- 116 Jaguar Depot SITREP, 14 November 2004, 15 November 2004, 21 November 2004.
- 117 Arlington Depot SITREP, 29 January 2005.
- 118 Arlington Depot SITREP, 3 January 2005.
- 119 Arlington Depot SITREP, 16 January 2005.
- 120 Arlington Depot SITREP, 21 January 2005.

7.0 AMMUNITION SUPPLY POINTS IN CENTRAL IRAQ: TAJI, PALADIN, AND BUCKMASTER DEPOTS

One of the most difficult places for Huntsville and its contractors to operate was central Iraq. Because of this area's location in the Sunni Triangle, the Corps faced heavier threats from insurgents than in other parts of the country. The insurgents slowed down transportation, eroded the local workforce, and created a dangerous work environment.

After the establishment of the disposal program, Huntsville assigned EODT to establish and dispose of munitions at the Taji and Paladin depots. However, operations at Taji were later transferred, in March 2004, to Buckmaster due to the very limited demolition range at Taji. Also in March 2004, EODT was replaced by ECC at Buckmaster and by Zapata at Paladin ASPs when CEHNC recompleted its contracts. After a year, USAE took charge of Paladin after several incidents and continued to operate it until it was shut down in late 2005. Buckmaster remained in operation until it was switched to a Legacy depot. The purpose and operation of Legacy depots is discussed later in this history.

An examination of the three major depots in central Iraq illustrates several of the problems and solutions that CEHNC and its contractors faced in completing the CEA/CMC missions. First, the contractors had to set up camps in hostile areas on former Iraqi military bases. Second, they had to employ local nationals, even in a region with high insurgent activity. Third, they had to deal with the lack of equipment and supplies to do the jobs. Fourth, they had to deal with a hostile environment. Finally, they dealt with changes in the mission that were dictated by larger political forces. During the CEA/CMC missions, the depots in central Iraq, like those in the other regions, transferred from one contractor to the other; however, through management by Corps employees, most potential difficulties were avoided and the mission was accomplished.

TAJI ASP

One of the first ASP sites selected in central Iraq by CEHNC was an area that the Coalition had been using since its capture as a field-expedient ASP on the former Iraqi airbase in the vicinity of Taji. On 28 August 2003, EODT mobilized an advance party to Camp Victory, Baghdad, and two days later, on 30 August 2003, deployed the initial cadre of personnel from Camp Victory to Taji, to stand up EODT's first CEA site.¹²¹ Taji Depot was located approximately 40 kilometers north of Baghdad along Highway 1. During combat operations, the US Army's 4th Infantry Division (4ID) captured and occupied the military complex that included a former Iraqi

airfield, depot, and training installation. During the capture of the almost abandoned field, the 4ID found several Iraqis looting weapons and munitions, which would be an issue faced at all the installations.¹²² Because the Iraqis had used the Taji site for munitions storage, it already had an extensive storage infrastructure when the Americans arrived. There were approximately 75 warehouse buildings within a fenced compound of approximately five acres. The Iraqis had divided the ASP into four sections with interior gravel roadway surfaces. The conditions of the warehouse buildings themselves varied widely; however, the site had potential as a depot.¹²³ It should be noted that the Iraqi munitions-handling infrastructure, based loosely on the model of the former Soviet Union, was not as uniform or rigid as Western models.

Furthermore, the Iraqi infrastructure had been damaged in 1991 during Desert Storm and recently in OIF. Therefore, even the existing buildings and structures were not always up to American standards. This would result in the contractors' adapting munitions-handling techniques to the new environment while still maintaining a high level of safety.

MUNITIONS AT TAJI

The ISG and EODT found several air-deliverable bombs up to 500 kilograms, larger missiles up to and including FROGs, and surface-to-air missiles stored in the open. The contractors also found surface-to-air missiles, rockets, and FROG missiles neatly stacked in a "missile yard." Munitions of interest were FROG missiles, 262mm rockets, Iraqi fuel air bombs, cluster bombs, and Qa' Qa'a 250 incendiary bombs.¹²⁴ Figure 7.1 provides a view of a FROG missile.



Figure 7.1 Iraqi FROG missile.

EODT AND THE ARMY AT TAJI

When EODT arrived at Taji on 30 August 2003, the US Army was already using the site for munitions disposal and storage. At the time, the Army's 811th Ordnance Company was running Taji as the only licensed ASP operating in Iraq. It was licensed to receive, store, and issue ammunition and certain CEA for the US armed forces and Coalition forces. In addition to the 811th, the 647th Ordnance Company (Explosives Ordnance Disposal) was also present and conducting demolition operations of captured munitions. However, the 647th was not capable of destroying all of the munitions at the site or coming into the site. EODT personnel immediately began working with the 811th on depot operations. On 9 September 2003, EODT and the Army conducted a joint demolition, and two days later, EODT conducted its first unilateral demo operation on 11 September 2003. In addition to the disposal, EODT was tasked to assume ownership and management of the Taji ASP. After its arrival, EODT began working and integrating with the 811th Ordnance Company to take over the base. By late October 2003, EODT was managing the ASP, and on 16 December 2003, the EODT site manager relieved the US Army's 811th Ordnance Company from duties and responsibilities of the Taji ASP, including security of the ASP.¹²⁵ As the plan had envisioned, the Corps and its contractors were taking over duties from combat soldiers, allowing the soldiers to be available for other operations.

PROBLEMS EMERGE AT TAJI

Almost immediately, EODT and Corps personnel realized that Taji was not suited to conduct munitions disposal activities. EODT officials stated that the "overwhelming majority of CEA issue operations [they faced in Iraq] occurred at Taji."¹²⁶ First, because of Taji's location near the Coalition forces and Coalition Military Assistance Training Teams, training sites of IA forces, and other military personnel, EODT could conduct only munitions burn operations at Taji, and as more units were assigned to the base, this eventually prevented all demolition operations in general.¹²⁷

Moreover, demolition operations at Taji caused fragmentation, and the resulting shrapnel damaged a home near Taji. EODT immediately reported the damage to both the local military command at Taji and CEHNC, and sent out the site manager to investigate the damage and facilitate assistance to the Iraqi nationals from the military civil affairs team. EODT leadership and the civil affairs team inspected the damage to the house and determined that the damage was caused by demolition operations. The civil affairs team then provided the family with an undisclosed monetary compensation for the damage to their house.¹²⁸ This incident illustrated that continued demolition activities at Taji would only serve to create more animosity between the Americans and the Iraqis.

One plan to mitigate the lack of disposal areas was to move the munitions from Taji to areas outside the town for disposal. However, the security along the transit route became a serious challenge, requiring IED sweeps prior to transporting personnel, materials, and ordnance items. Because of the insurgent threats and the disapproval of local Iraqis, EODT and CEHNC decided to suspend offsite disposal of ordnance. EODT continued to conduct small demolition shots/propellant burns inside the Taji

perimeter. However, the lack of a quality demo range on Taji did not permit EODT to meet its 100-ton-a-day disposal target, and it began to look for alternate disposal sites, which resulted in the creation of Buckmaster ASP (discussed below).¹²⁹

In addition to issues with disposal operations, EODT faced several difficulties that were not unique at Taji, but illustrated the problems of operating in a foreign nation. For example, the extremes of the desert climate made personal computers and hard drives fragile, and EODT required extra information technology (IT) support from Parsons. In addition, the climate and heavy labor caused many of the forklifts to routinely require extensive repairs. At one time, 14 forklifts at Taji were out of commission. Finally, the camp was set up with large tents, not the prefabricated shelters that were the norm later in the operation, and many of the large shelter tents leaked. EODT complained that the leaks damaged and ruined personal and company equipment, and caused electrical outlets to short out, creating a fire hazard. After several days of complaints, Parsons acquired tarps and repaired the tents.¹³⁰

While leaky tents were uncomfortable, other problems at Taji caused more immediate concern. For much of January, EODT had no medical personnel on staff at the site. Additionally, the US Army stated that medical support at Taji was reduced to “Emergency” cases only. Needless to say, EODT personnel raised concerns that this policy was in contrast to Common Access Card and Orders, which stated that the Army would provide medical care for the contractors. To meet personnel needs, EODT secured contract medical personnel on its own.¹³¹

The final problem at Taji illustrated one of the major difficulties in working in Iraq. CEHNC and CJTF-7 both required that the UXO contractors utilize local nationals for labor and other services. This mandate from the US Army was to integrate the Iraqi population into the new government, provide jobs for them, and keep the population happy. First, EODT hired Rafidain Security Guard (RSG), an Iraqi startup company, to provide perimeter security at Taji. However, it appears that the US Army forces already providing security were hesitant to trust the new Iraqi forces. Comments in the situation reports indicate that US Army soldiers did not trust the RSG forces and would search and harass them. In January 2004, Colonel [no first name provided in reports] Jadaan even threatened to disband and dissolve RSG if this type of treatment continued.¹³² Corps personnel and EODT staff worked with the Army and RSG to come to an agreement. Although the US military wanted contractors to use Iraqis, in several cases, the Iraqis were not trusted and were not allowed to fully execute their jobs.

SUSPENSION OF DEMOLITION ACTIVITIES AT TAJI

As mentioned, EODT and Corps personnel realized that Taji was not well suited for the demolition activities needed at the site. In December 2003, EODT personnel had asked for and been granted permission to establish a new ASP (Buckmaster). For much of the early part of 2004, EODT personnel at Taji worked to close down the demolition activities and activate Buckmaster. By 22 February 2004, Taji Depot had destroyed 6,115 short tons of munitions and had received another 7,672 short tons into the ASP.¹³³ After the activation of Buckmaster Depot in March 2004, Taji Depot became a subordinate part of the depot and discontinued accepting incoming munitions while remaining as a storage and burn site.

ECC TAKES OVER TAJI

After ECC took over the operation of Buckmaster ASP in March 2004, it reevaluated the Taji site. ECC continued to not conduct demolition operations at Taji, but did accomplish disposal by open burning from August 2004 to February 2005. During this period, 459 short tons were destroyed.¹³⁴ Taji remained a satellite installation for Buckmaster until Taji's closure in early 2005.

One of the interesting activities ECC began at Taji was entering an agreement with local Iraqis to process scrap from inert projectiles. With the concurrence of USACE representatives, and with the agreement of the commander of Camp Cooke, ECC implemented a procedure to clear the very large quantity of inactive projectiles stored in the Taji ASP. After inspection and certification, ECC turned the projectiles over to the scrap-processing crew. Under ECC's supervision, these local national workers further processed the scrap in preparation for recycling.¹³⁵ The program was an example of successful interaction with local nationals. It created economic capitalists in the Iraqi society, aided in the removal of inert shells, and built trust between the Americans and the Iraqis. It also significantly reduced the number of man hours normally required in the traditional method of scrap removal.¹³⁶

Taji Depot illustrated several important themes and activities in the early part of the CEA/CMC mission. First, the installation was set up at a former Iraqi military site to utilize the existing munitions storage infrastructure. Second, activities at the site resulted in problems with the local civilians, which resulted in the restructuring by the Corps and EODT of the activities at the facility. And finally, the contractors had to adapt to a harsh environment and harsher work climate. While Taji only served as the disposal site for munitions for a short period, lessons learned aided in the management of the two larger sites in the area.

PALADIN ASP

Soon after the creation of Taji Depot in the fall of 2003, CEHNC tasked EODT with the creation of another new depot at a former Iraqi ASP (Site 104) located approximately 10 kilometers west of Al Fallujah. After the end of the major combat operations, Coalition forces occupied the former Iraqi Army ASP facility, previously utilized as a training camp by the Hussein regime, in a secure-and-deny mission. As with Taji, the US Army found that the ASP already had an extensive munitions storage infrastructure. Site 104 contained three missile-assembly buildings, 50 earth-covered bunkers (two of which the Coalition had destroyed during Operation Desert Storm), 175 earthen berms, and 25 small earth-riveted brick buildings (Figure 7.2). Interestingly, the Army and contractors discovered that many former Iraqi military personnel continued to live in the area and could aid in the demilitarization operations.¹³⁷ Figure 7.3 shows the poor munitions storage techniques at Camp Fallujah.



Figure 7.2 Storage cells at Paladin (courtesy of EODT).



Figure 7.3 Examples of poor munitions storage at Camp Fallujah.

CONSTRUCTION OF PALADIN DEPOT BY EODT

Using in-country personnel from Taji, EODT sent a small management group to the new site on 22 September 2003 to establish the base camp. Unlike Taji and other sites, Site 104 had no viable living quarters at the time of the contractor's arrival. At first, EODT personnel lived in abandoned buildings or on the ground near the mosque at the camp. Because Parsons had not arrived to provide logistics support, the 2nd Battalion, 5th Field Artillery (the unit that occupied the site) provided food, water, and security support to EODT.¹³⁸ The contractor's personnel were so grateful for the artillery soldiers' support that they later named the site after the artillery unit's primary weapon, the Paladin self-propelled howitzer. On 13 October, Parsons staff arrived and constructed three tents for shelter, and later that month they completed showers and portable sanitation services and additional power-generation equipment (Figure 7.4).¹³⁹ This was the beginnings of the base camp.



Figure 7.4 Tents at Paladin (courtesy of EODT).

Even before the base camp was complete, issues between EODT and Parsons arose. On 16 October 2003, EODT received notification from Parsons that Paladin base camp construction could be delayed another 30 to 45 days due to an error in the number of base camps to be constructed in Iraq. EODT requested the right to make the decision regarding which EODT base camp was constructed first.¹⁴⁰ The Corps took control of the situation and ensured that Parsons was utilizing its resources in an effective manner to support the needs in the field.

In addition to the new construction, Parsons and EODT personnel restored several existing buildings for interim use until Parsons could erect the prefabricated base camp, office buildings, and dining facility. By the second week of January 2004, Parsons had completed the base camp, consisting of 60 housing units, an office, a

Morale, Welfare and Recreation (MWR) building, three shower/latrine buildings, and a laundry facility; however, it did not complete the dining facility until March 2004. While Parsons oversaw the construction of the camp, the US Army's 860th Engineer Battalion aided in the construction of the camp.¹⁴¹

To aid in the storage of the munitions and the development of the depot, CENTCOM had assigned the 860th Engineers to Paladin ASP to construct new facilities and aid in the rehabilitation of older structures. The Army engineers built 256 holding cells, constructed demolition range roads, and improved the intra-ASP roadbeds. While the engineering unit had most of the necessary skills and equipment to accomplish its mission, it also utilized local contractors for the gravel for the roads.¹⁴² The use of local contractors was standard procedure for CEHNC and was a way to integrate the local economy into the mission.

In addition to construction assistance, the US Army provided other support for EODT at Paladin. The 608th Ordnance Company provided approximately 20 soldiers and 10 K forklifts and PLS trucks to support EODT's operations when the contractor could not secure the equipment through other channels. However, by early 2004, Parsons had procured enough limited heavy-lift and transportation support from an Iraqi company and PLS trucks from the military for use at Paladin. Because they were working in a warzone environment, all of the contractors had trouble keeping and maintaining their heavy equipment. While the US Army provided equipment in many instances, they were not responsible for equipping the contractors, and in many cases, Army personnel did not have the necessary equipment for themselves. The lack of quality equipment slowed the contractors and delayed completing the mission.

Initial security at Paladin also came from the US Army. Units from the 82nd Airborne provided security at Paladin until Parsons' arrival and until the private security contractors could be brought on line. The 82nd staffed many of the depot's observation posts (OPs) around the 16-kilometer perimeter and provided a Quick Reaction Force (QRF) for the region. As was common across Iraq, looters had stolen the chain-link fencing around the depot before EODT's arrival. However, the majority of fence posts remained intact, allowing EODT to construct a new fence rather easily. It also supplemented the fence with triple-strand concertina wire obstacles around the entire perimeter.¹⁴³ In February 2004, EODT security specialists took over security for the site. As at Taji, EODT hired Iraqi security guards from the RSG to occupy the static positions in the towers while EODT security specialists manned the QRF and security for the demo range.¹⁴⁴ It was standard operating procedure at all of the camps for Iraqi security to provide the outer perimeter defense and Western contractors to provide the inner defense. Again, this illustrated a level of distrust of Iraqi contractors. This distrust was not always unfounded; several CMC personnel stated that they witnessed Iraqi nationals engaged in measuring of the perimeter for future attacks.

DISPOSAL OPERATIONS AT PALADIN

As a former Iraqi military ASP, Paladin Depot already had a plethora of munitions prior to EODT's arrival. EODT staff commented that the "munitions were literally spilling out of the buildings and berms and littering the ground in many locations."¹⁴⁵ Because of those munitions, during the establishment of the base, the Corps QASAS requested that EODT conduct surface clearance for UXO of the entire cantonment area, including both existing structures that the military was utilizing and the planned footprint of EODT's initial life-support area. On 17 October, six local hires were injured by UXO during the sweep. The Army evacuated the casualties to Camp Ridgeway and then airlifted them to the 28th Combat Army Surgical Hospital in Baghdad.¹⁴⁶ The incident illustrated the danger of working with munitions.

In addition to the existing munitions, the 82nd Airborne Division, which was responsible for policing munitions in the area, was bringing in 50 to 60 trucks per day of new captured munitions within a few weeks of EODT's arrival at the depot. One of the missions of the UXO contractors was to receive CEA from Coalition forces for disposal. This would allow the military units to sweep up the munitions and not have to worry about their disposal.

Because of the hectic nature of the operation, EODT postponed preparing an accurate inventory of the munitions at the depot until January 2004. EODT performed the inventory in early 2004 and maintained records of the daily disposals. From 4 October 2003 to 5 August 2004, personnel from Paladin destroyed 45,223 tons and received 65,506 tons at the depot or during operations to collapse caches.¹⁴⁷ Figure 7.5 shows an Iraqi open storage location for artillery projectile. Figure 7.6 illustrates the preparation of disposal shot stacks.



Figure 7.5 Iraqi storage location for artillery projectiles (courtesy of Huntsville Center and EODT).



Figure 7.6 Preparing a disposal shot (courtesy of EODT.)

Unlike at the close confines at Taji, Paladin's demolition range was located five kilometers from the ASP perimeter and therefore was less vulnerable to encroachment by insurgents and less likely to cause any damage to local civilians. Because of the demolition restrictions at Taji and the vast possibilities presented by the Paladin demolition range, EODT requested that Huntsville allow it to transfer captured enemy ammunition from Taji to Paladin for disposal. The request was approved, and EODT contracted with several local transport vendors to begin the transfer of ammunition to Paladin. However, EODT lacked the necessary Material Handling Equipment (MHE) needed for the large numbers of trucks, so the work was slow.¹⁴⁸

In addition to the lack of equipment, the growth of the Sunni Iraqi insurgency in and around Fallujah during April 2004 severely curtailed UXO operations at Paladin Depot. Local Iraqi laborers and trucks either were cut off from Paladin during the Coalition's offensive operations into the city or were afraid to come to work. During this time, EODT did not receive new CEA shipments, so it repaired and inventoried the existing ammunition in the depot. It also conducted demolition operations until Coalition military operations outside the depot prevented the technicians from safely traveling to the demolition range.¹⁴⁹

Because of the vast nature of the demo fields at Paladin, EODT experimented with other types of demolition techniques. For example, for the disposal of the munitions at Cache 207, EODT decided that it was more effective to destroy the entire bunker than to remove the items. A Paladin Forward Operating Team, supported by soldiers from 1st Battalion, 27th Field Artillery, conducted burn operations and safely destroyed thousands of tons of propellant, fuses, and other munitions in three days.¹⁵⁰

DISPOSAL TECHNIQUES USED AT PALADIN

At both Paladin and Buckmaster depots, EODT utilized box loading by local Iraqi labor in an ordnance maintenance area and under the supervision of UXO Technician 3. This was to reduce the possibility of an armed item being placed into a shot box and to ensure there were no white phosphorus (WP) rounds in the shot. EODT also had armed security specialists to ensure that the workers would not harm EODT employees or steal the captured munitions. The shot boxes were loaded onto flatbed trucks or PLS platforms, and these trailers or platforms were pre-positioned for transportation to the demo range. After the loaded boxes were delivered to the demo range, EODT personnel began the process of building the shot. The munitions were positioned by a forklift or crane, and EODT personnel placed additional donor charges on top of the shot. Then the booster and initiating explosives were placed to effectively set up the shot (Figure 7.7).¹⁵¹



Figure 7.7 Stacking the munitions with donor mines.

Operations continued at Paladin and Buckmaster depots and the ASP at Taji. In January and February, a team from Paladin and Buckmaster deployed in support of their respective military organizations and began executing EODT's cache-collapse plan. While this reduced the number of personnel at the depots, the operations at the depot were not affected, as captured enemy ammunition continued to be received, stored, and destroyed. Personnel from Paladin deployed to Cache 302 and began demolitions operations within a week. They deployed to Cache 507 and destroyed thousands of tons in a few weeks. Later, personnel deployed to reduce Cache 311 outside the military airfield at Al Asad. EODT personnel also deployed to Ashraf and began to set up that location as a future depot.¹⁵²

DISPOSAL OF OTHER MUNITIONS AT PALADIN

During the disposal of the ordnance at the depot, EODT personnel discovered several expended depleted uranium (DU) rounds. EODT personnel immediately reported the discovery to the on-site USACE Safety Specialist, who cordoned off the areas with visible markers and restricted entry into these areas. The USACE Safety Specialist reported the discoveries to the ISG, which uncovered several missiles containing low-level gamma emitters in their guidance systems. The USACE Safety Specialist ordered segregation of the missiles and placed them on a hold status until the ISG made final determination on their disposition. To facilitate the proper disposal of the DU munitions, the CMC Iraq KO directed USAE to receive and store all DU munitions from all locations across the country at Arlington.¹⁵³

During the survey, the ISG identified several types of munitions at Paladin, including airdrop bombs, cluster bombs, rockets, and surface-to-surface, surface-to-air, air-to-surface, and air-to-air missiles. Large quantities of artillery projectiles were found, of many types and various calibers; 20mm, 23mm, 30mm, 57mm, and 76mm projectiles were dispersed throughout the bunkers (Figure 7.8). One item of interest was a previously unseen 120mm smoke-mortar projectile, later identified after searching DoD publications. EODT also identified 32 FROGs, stored in the open, along with French Exocets (Figure 7.9) and surface-to-air missiles. Other munitions of interest were Iraqi fuel air bombs and numerous Qa' Qa'a 500 bombs, along with several Al Fat'h missiles. The ISG identified no weapons of mass destruction at the depot.¹⁵⁴ The various types of munitions required not only different means of disposal, but also different means to store and manage them.



Figure 7.8 Various sizes of Iraqi mortar shells (courtesy of EODT).



Figure 7.9 French Exocet missile.

HIRING PROBLEMS AT PALADIN

By late October 2003, EODT had hired local nationals to support CEA operations through the local sheik. EODT personnel stated, “It is our belief that we can make tremendous inroads into the military by working through and with the Civil Military Operations Center (CMOC) in Al Fallujia [sic] for these personnel. To my knowledge, this has never been done or accomplished by a US Contractor in this type of environment.” The city of Fallujah was anti-American, so EODT believed that the use of local nationals would aid in the stabilization of the area. However, the Iraqi nationals continued to fear working for the Americans. On 31 October, 11 of 12 local hires from the Fallujah area quit due to threats. Local hires and local contractors indicated that planned attacks on US personnel in this area were imminent.¹⁵⁵ All of the contractors would continue to use local nationals with varying degrees of success. Most of the managers and contractors agreed that using local sheiks to facilitate the hiring process created a safer work environment, because the sheiks provided members of their family for employment and did not want them to be hurt in any attacks.

One of the factors EODT faced regarded vehicle maintenance. Paladin lacked an adequate amount of oil, air, fuel, and fuel filters to operate the vehicles. In addition, the harsh environment accelerated vehicle wear. In several situation reports, EODT stated it needed a mechanic and the maintenance package for the vehicles.¹⁵⁶ Vehicle problems hindered EODT’s ability to increase operations for receipt and demo. With an increasing amount of Iraqi munitions coming into Paladin, EODT stated it could hire more local nationals as required but needed more vehicles and MHE for downloading bombs and missiles.¹⁵⁷

SWITCHOVER AT PALADIN

In June 2004, CEHNC awarded Zapata Engineering a task order for the management and control of Paladin Depot and the Al Asad Field Storage Area previously managed by EODT. At 0001 hours, on 5 August 2004, EODT turned over command and control of Paladin to Zapata Engineering.¹⁵⁸ Over the next 271 workdays, Zapata destroyed 24,815 short tons of captured enemy munitions, averaging 91.6 short tons per workday. It received 6,002 short tons of munitions, averaging 22.1 short tons per workday.¹⁵⁹

Because another contractor had set up Paladin, CEHNC worried about the transition. Paragraph 3.3 of the SOW required that all CEA production operations provided by the preceding contractor be continued and the transition be conducted as seamlessly as possible. To ensure minimum impact, Zapata requested a copy of the existing contractor’s Work Plan to review and make any necessary changes. On 9 July, Zapata submitted a Draft Final Work Plan to CEA Iraq and CEA Huntsville for review and comment, and received a Final Notice to Proceed. To further assist in facilitating a seamless transition, CEHNC authorized Zapata to conduct a pre-survey site visit approximately 45 days prior to actual turnover as a way to become familiar with the area.¹⁶⁰

CHANGES IN PALADIN'S SECURITY

Because of continued insurgent activities in the area, Zapata Engineering quickly strengthened the defenses around Paladin. It constructed new entrances to the Paladin Depot that included HESCO bastions along with an old Iraqi tank body to prevent straight drive-through access. Additionally, Zapata placed warning signs outside the perimeter in both English and Arabic on the old fence line. RONCO, a local security contractor, took over security at the site and set up perimeter guard towers at each corner and equally spaced between the corners. The RONCO guards were armed with Soviet-made PKM submachine guns and Soviet-made AK47 rifles. They were also provided with night-vision equipment/thermal imagery/80-power optics for observation of their AOR during nighttime and daytime use. All security forces were under the control of RONCO from 5 August 2004 until 12 March 2005. In March 2005, Zapata changed the perimeter security responsibility to Castle Force, which provided perimeter security from 12 March 2005 until 16 June 2005.¹⁶¹

Using local security personnel required changes in the installation's physical landscape to meet cultural needs. For example, the existing latrine buildings were modified by replacing Western toilets with Eastern-style toilets to accommodate the Jordanian guards.¹⁶²

ENVIRONMENTAL PROBLEMS AT PALADIN

Like all of the depot sites, Paladin encountered environmental and climate issues that resulted in adaptations to the workflow. For example, in the Iraqi environment, temperatures often exceeded 110°F and dust storms were often so severe that work had to be stopped for days at a time.¹⁶³ The environmental problems also resulted in changes to the disposal process to ensure personnel safety.

Additionally, the political environment caused delays in the disposal process. The rise in insurgent activities resulted in the deaths of several local indigenous personnel, which hampered work schedules. The local workforce was constantly threatened and sometimes killed in their homes or on their way to or from work. This resulted in periodic impacts to productivity and unavailability of transportation for ammunition movement between remote sites and Paladin Depot.¹⁶⁴

EXPANDING THE MISSION BEYOND PALADIN

Because of increased insurgent activities, CEHNC and the US Army decided they also needed the contractors to conduct disposal activities outside the depots. In the summer of 2004, Zapata was tasked by the CMC Iraq KO to perform disposal work at several remote sites near Paladin. These sites illustrated the issues faced in operating outside the confines of the depot and served as a model for the mobile teams. One site, Site 311, also known as Al Asad Forward Support Area (FSA), was located two kilometers from Al Asad Air Base. Zapata transitioned into Site 311 and commenced work on 5 August 2004, with a target date of 30 September 2004 to have all captured munitions behind the wire at the Paladin depot. All munitions from the FSA were not secured behind the fence at the ASP until 10 October 2004, and disposal operations were not completed until 18 December 2004. The increased handling requirements

necessary to move the ammunition from the FSA to inside the ASP and then to the demolition range, approximately 16 kilometers away, caused delays. Also, there were several work stoppages during the process because the local workforce and transport drivers did not come to work. The local workers and drivers lived in the villages and townships surrounding Al Asad Air Base, which made them easy prey for the insurgents.

As the insurgents gained strength in the summer of 2004, the insurgency influenced the focus of the contractors and the way they conducted their missions at the remote sites. For example, Zapata was tasked by the CEA/CMC in an e-mail dated 16 August 2004 to remove an estimated 147 short tons of Iraqi munitions from Camp Fallujah on the northeast side of Al Taqaddum Air Base, approximately 10 kilometers from Paladin Depot. Because of the severity of insurgent violence in the city of Fallujah in August 2004, the transportation route through the city was curtailed. Convoys to and from Paladin Depot were diverted around Lake Habbaniyah, which took four to five hours instead of the normal 40-minute route through the city of Fallujah. The next month, Zapata was provided a notice to proceed to conduct clearance operations of approximately 50 short tons of CEA/UXO at Site 117, also referred to as the Ammunition Plant. The objective was to clear the site of all UXO that might be used by insurgent forces to make IEDs. It was reported that insurgent forces from Ramadi and Water Town (a village near Ramadi) utilized this site to harvest explosive materiel to make IEDs. Site 117 had an assortment of rockets, bombs, fuses, projectiles, mortars, and cartridge casings scattered over a seven-kilometer area. Scattered UXO was evident throughout the site and required a systematic UXO clearance operation once the main munitions concentrations were destroyed.

USAE TAKES OVER PALADIN

USAE assumed management of Paladin Depot from Zapata. By 15 June 2005, USAE and Zapata had completed property inventories; identified former Zapata employees for positions with USAE or with its security subcontractor, Cochise Consultancy; reviewed site work plans; and revised the contract with the Iraqi subcontractor that was providing laborers and security guards. USAE assumed responsibility for depot operations at 1200 hours on 16 June 2005, completing captured enemy ammunition and UXO clearance operations on 5 September 2005. USAE continued to use the existing Site Specific Work Plan (SSWP) for Paladin Depot, which had been prepared by Zapata Engineering and approved by CEHNC.¹⁶⁵

On assuming responsibility in June 2005 for technical operations at Paladin Depot, USAE identified a need for improvements in the security methods of the Iraqi security forces that were manning perimeter guard towers. During daylight hours, towers were manned by a single person, and sometimes those manned towers were not within the line-of-sight of one another. The number of guards was increased, and all guards were retrained to ensure that they were knowledgeable in the rules of engagement, understood their assigned duties, and could safely and accurately operate their weapons.¹⁶⁶

When USAE took control of Paladin, it discovered that the existing catalog database was missing many past entries. At the end of Task Order 0001, USAE created and

furnished to EODT a new Combined Field Forms (CFF) data file that reflected the final stock record balances of residual CMC stocks on hand as of 6 March 2006.¹⁶⁷ The CFF database rendered all output suspect. Given the small amounts of captured enemy ammunition remaining, USAE intended to populate a new database with current data as an initial starting point. This also allowed Zapata the ability to go back and apply corrections as needed so that it could accurately report work accomplished during its Period of Performance.¹⁶⁸

When USAE assumed responsibility for captured enemy ammunition clearance at Paladin Depot in June 2005, it had to adapt its standard operating procedures to the environment. For example, the construction of the site's castle-type magazines did not allow the use of MHE to assist in the removal of block-stored boxes of munitions, and movement by hand-truck was required. USAE immediately increased the number of local national laborers being provided by an Iraqi subcontractor from 40 to 100 and was able to empty and destroy the contents of 25 magazines by 25 July 2005.¹⁶⁹

Clearance of surface UXO was ongoing on 16 June 2005, when USAE became responsible for CMC program operations at Paladin. The departing OE contractor did not provide the necessary quality control records and grid sheets, which would have documented the UXO clearance areas that were completed. As a result, USAE reswept these areas, which included checking all stacked empty boxes to confirm that they were free of OE residue before burning them in place. On 22 July 2006, the CMC Iraq KO directed USAE to clear surface UXO down to and including 20mm and to report the discovery of any buried UXO.

USAE completed CEA clearance operations at Paladin on 25 July 2005, having destroyed 2,268 tons, virtually all of which required removal by hand from the interior of 24 intact castle-style magazines. Additional locations that were cleared included a burial pit, which USAE excavated to recover approximately 70 tons of practice mortars containing live ignition cartridges, and a severely damaged castle-style magazine (Magazine 12), which contained high-explosive-filled artillery projectiles and 57mm cartridges. USAE closely coordinated operations on Magazine 12, developing changes to approved WP disposal techniques, on 26 June, 6 July, 31 July, and 3 August 2005. These operations resulted in the safe removal of 1,600 projectiles from the magazine and the destruction by burning of 20,000 57mm cartridges inside the magazine.¹⁷⁰

BUCKMASTER ASP

Because of changes in the overall situation in Iraq, and because Taji was proving to be a poor site for operations, CEHNC tasked EODT to establish another ASP at a former Iraqi military ASP, located 22 kilometers southwest of the city of Tikrit. In early December 2003, EODT senior management at Taji ASP selected personnel to deploy to Buckmaster Depot to identify the actual location of the base camp and manage the installation of all support systems and structures. On 7 December 2003, a cadre deployed to Buckmaster with the US Army, USACE, and representatives from Parsons. Because Parsons oversaw the logistics of the mission, EODT advance party personnel worked with them during the creation of the base camp. Prior to the arrival of personnel on-site, the US Army's 299th Engineer Company had installed a security fence around the 17-kilometer perimeter of Buckmaster Depot.¹⁷¹

To support the CEA mission at Buckmaster Depot, Parsons constructed a camp that included 60 housing units, an office, a recreation facility, a dining facility, showers, and a laundry facility. EODT also requested that Parsons build a heavy-equipment repair facility. Soon after their arrival, EODT staff examined the approximately 100 earth-covered storage “igloos” at the ASP. EODT found that the former Iraqi storage igloos were in relatively good condition, with only three igloos unusable. They also found that most of the roadway surfaces were a mix of tarmac, gravel, and dirt. The site became operational on 22 February 2004.¹⁷²

Buckmaster Depot was named in honor and memory of Roy Buckmaster. He was the first CEA site manager at Taji. While traveling from Camp Victory, Baghdad, to Fallujah, his convoy was misrouted through Fallujah. The new route led the convoy into the path of an IED. Buckmaster and Dave Dyess, both contractors with EODT, were killed instantly by the attack. Buckmaster and Dyess were the first casualties for the CEA program, which began work in Iraq in August 2003.

On 2 January 2004, Buckmaster Depot faced various challenging delays in locating a contractor to erect the base camp, as one of the original local Iraqi contractors quit because of threats against him by the insurgents.¹⁷³ To aid in the construction and operation of the depot, CENTCOM tasked the 9th Engineer Battalion to provide military support. The engineers stayed at the depot until July 2004, providing position improvements such as cutting road networks, spreading gravel, building defensive fighting positions, and, as at Paladin ASP, constructing hundreds of earthen berms to store captured enemy ammunition.¹⁷⁴

During the initial scouting of the site, the EODT advance party selected a demolition operations area. The advanced team found a location where they could perform disposal and have a minimum impact on ASP operations and the civilian populace. The center of the range was located 1.68 kilometers from the closest inhabited dwelling. Three medical evacuation pickup locations were also sited.¹⁷⁵ These provisions at Buckmaster illustrated the lessons learned in the establishment of Taji.

Because of the proximity of civilians, EODT management undertook a program to assess the possible damage the operations might have on the civilian population. The Buckmaster Demo SUXOS, ASP SUXOS, Site Safety Officer, Demo Safety Officer, and Corps of Engineers Program Manager visited the families living near the range. They warned the Iraqis about the intended demolition operations and also photographed the dwellings for future reference in case of claims of damage. The EODT team also mapped the buildings’ locations using a Global Positioning System. Based on the survey, EODT submitted an Explosive Siting Plan to CEHNC, which approved it. The Corps allowed EODT to conduct a single disposal shot of up to 4,000 pounds of net explosive weight at Buckmaster.¹⁷⁶

During the operations at the depot, EODT and Corps personnel had to adapt their techniques to the standard operating procedures of the Iraqi military. For example, none of the 100 original igloo magazines at Buckmaster had hard-surface floors, and none of the entry roads were hard-surfaced. Therefore, EODT had to utilize rough-terrain forklifts to either remove or stow munitions.¹⁷⁷ Because of a range of considerations, EODT found that multiple smaller shots proved to be more beneficial

than a single daily “large shot.”¹⁷⁸ The smaller shots would be the standard at the depot. Again, this illustrated adapting techniques to the terrain—the hallmark of the success of the program.

DISPOSAL OF OTHER TYPES OF MUNITIONS AT BUCKMASTER

During the disposal process, EODT personnel did not encounter any chemical weapons; however, they did identify peripheral hardware, such as chemical dispenser sprayer heads, at Buckmaster Depot. They turned the hardware over to the ISG for examination.¹⁷⁹

ECC TAKES CONTROL OF BUCKMASTER

In summer 2004, Huntsville recompeted the contracts and ECC received the task order to manage Buckmaster. At 0001 hours on 5 August 2004, EODT turned over command and control of Buckmaster to ECC. As with the other depot turnovers, documents indicate that both contractors handled the transition in a professional manner, and many of the local nationals and foreign workers transferred to ECC, allowing for some continuity in management of the site.

One of the first things ECC changed was the security at Buckmaster. ECC security contractors designed a new layered defense system at the depot. Fences surrounded the entire outer perimeter of the depot and included 17 elevated guard towers. A complete wall was established around the main living facilities using the HESCO Bastion earth-filled barricade system. The single entry through this barricade was a combined personnel and vehicle entrance that was manned by Armor Group International (AGI), a nonlocal security contractor, at all times. The barricaded wall was fitted with guard towers at the corners and firing points at intervals along the walls; while not normally manned, these facilities were available for increased alert stages. Immediately within the gate was the main guard tower for the Logistics Support Area (LSA), also manned continuously by AGI personnel.¹⁸⁰

NEED FOR MORE EQUIPMENT AT BUCKMASTER

Because the CEA/CMC program was almost a year old when ECC took control of Buckmaster, ECC did not face many of the supply issues that other contractors faced during the establishment of the site. The contractors had rough-terrain forklifts and PLS trucks, both of which were essential for handling munitions in the conditions found in Iraq. ECC personnel concluded that the Iraqi method was to load and unload each structure by hand, as well as hand-stack boxes of munitions inside each magazine. This was not acceptable to Western standards of munitions storage, so ECC reworked the munitions stocks and palletized them for easier and safer handling.¹⁸¹

During ECC’s time at Buckmaster, the focus of management at the depot turned to storage of Iraqi munitions for the IA. In 2005, ECC personnel and the Army Materiel Command’s QASAS personnel began to segregate ammunition into two classifications: (1) those stocks that were to be retained by the United States for use by

the new Iraqi Army and police force, and (2) those stocks that were to be destroyed as unserviceable captured enemy ammunition. Classification was primarily determined by the “Do Not Destroy” lists published by USACE and updated periodically. Items on the list required approval by QASAS as potentially serviceable before they became part of the Legacy munitions stocks. Any other item, including unserviceable US ammunition, remained classified as CMC stock and was scheduled for demolition. Both CMC and Legacy stocks included ammunition originally stored at this depot, as well as ammunition shipped to Buckmaster from numerous locations, including Paladin, Taji, and other locations throughout Iraq.¹⁸²

ECC’s primary captured enemy ammunition disposal operations began at Buckmaster Depot on 4 August 2004 and concluded on 23 September 2005. During this time, approximately 32,550 short tons of Coalition munitions were destroyed. An additional 4,570 short tons were destroyed from 24 September 2005 to 6 February 2006, for a total of 37,120 short tons.¹⁸³

SUMMARY

Contactors working in central Iraq faced many issues at the ASPs there. In the epicenter of the insurgency, the contractors and Corps employees faced constant attacks on their bases, convoys, and local nationals. As in the rest of the country, the work environment here was difficult and the logistics were at times inadequate. However, using lessons learned and maintaining strong Corps control, the CEA/CMC mission removed thousands of tons of munitions that could have been used by insurgents and relieved the regular military, allowing more combat troops to fight the insurgents.

CHAPTER 7 ENDNOTES

- 121 EOD Technology, Inc., *Management of Captured Enemy Ammunition in Various Locations Throughout Iraq in Support of Corp of Engineers Overseas Operations - Transmittal of (Draft) Site Specific Final Report* (Contract No. DACA87-00-D-0037, Task Order 0033) (Knoxville, TN: EOD Technology, Inc., 2005), 51.
- 122 Michael Gordon and Bernard E. Trainor, *Cobra II: The Inside Story of the Invasion and Occupation of Iraq* (New York: Pantheon, 2006), 447.
- 123 EOD Technology, Inc., *Management of Captured Enemy Ammunition in Various Locations Throughout Iraq in Support of Corp of Engineers Overseas Operations - Transmittal of (Draft) Site Specific Final Report*, 5.
- 124 *Iraqi Survey Group Final Report, Iraq's Chemical Warfare Program Annex H.*
- 125 EOD Technology, Inc., *Management of Captured Enemy Ammunition in Various Locations Throughout Iraq in Support of Corp of Engineers Overseas Operations - Transmittal of (Draft) Site Specific Final Report*, 5.
- 126 *Ibid.*, 29, 36.
- 127 *Ibid.*
- 128 *Ibid.*, 38.
- 129 *Ibid.*, 52.
- 130 Taji SITREP, 7 January 2004, 26 January 2004, 3 February 2004, 8 February 2004.
- 131 Taji SITREP, 13 January 2004.
- 132 Taji SITREP, 2 January 2004, 6 January 2004.
- 133 EOD Technology, Inc., *Management of Captured Enemy Ammunition in Various Locations Throughout Iraq in Support of Corp of Engineers Overseas Operations - Transmittal of (Draft) Site Specific Final Report*, 7.
- 134 ECC, *Site Specific Final Report Management of Coalition Munitions Clearance Various Locations in Iraq, Volume I*, prepared for US Army Engineering and Support Center, Huntsville Contract Number: W912DY-04-D-0008, Task Order Number: 0001 (Huntsville, Alabama: ECC, September 2006), 2-11 – 2-12.
- 135 *Ibid.*, 2-11.
- 136 E-mail, From: Joseph Rothenberger. Sent: Tuesday, July 20, 2004 9:53 AM To: Robert Prosperi; Daniel J. Smith; Henry Mincke; Curt Murdock.
- 137 EOD Technology, Inc., *Management of Captured Enemy Ammunition in Various Locations Throughout Iraq in Support of Corp of Engineers Overseas Operations - Transmittal of (Draft) Site Specific Final Report*, 3, 12; Zapata Engineering, PA, *Draft Site Specific Final Removal Report Management of Coalition Munitions Clearance in Various Locations, Paladin Site, Iraq* (Contract No.: W912DY-04-D-0007, Task Order No.: 0001), 1-8.
- 138 The development of logistics support is discussed above in a separate chapter.
- 139 EOD Technology, Inc., *Management of Captured Enemy Ammunition in Various Locations Throughout Iraq in Support of Corp of Engineers Overseas Operations - Transmittal of (Draft) Site Specific Final Report*, 8-9, 11, 54.
- 140 EODT Daily SITREP for Site 2, 16 October 2003.
- 141 EOD Technology, Inc., *Management of Captured Enemy Ammunition in Various Locations Throughout Iraq in Support of Corp of Engineers Overseas Operations - Transmittal of (Draft) Site Specific Final Report*, 8-9, 11, 54.
- 142 *Ibid.*, 53-54.
- 143 EOD Technology, Inc., *Management of Captured Enemy Ammunition in Various Locations Throughout Iraq in Support of Corp of Engineers Overseas Operations - Transmittal of (Draft) Site Specific Final Report*, 11.
- 144 *Ibid.*, 11-12.

- 145 Ibid, 11.
- 146 Ibid., 9, E-1.
- 147 Ibid.
- 148 Ibid., 54.
- 149 Ibid., 54-55.
- 150 Ibid., 39.
- 151 Ibid., 33.
- 152 Ibid., 55.
- 153 Ibid., 15-16; USA Environmental, Inc., *Final Report Coalition Munitions Clearance, Arlington, Jaguar, and Paladin Depots - Iraq* (Contract No: W912DY-04-D-0006 / Task Order No: 0001) (December 2006), 2-15.
- 154 Iraqi Survey Group Final Report.
- 155 EODT Daily SITREP for Site 2, 17 October 2003, 31 October 2003.
- 156 Paladin SITREP, 27 November 2003.
- 157 Paladin SITREP, 23 October 2003.
- 158 EOD Technology, Inc., *Management of Captured Enemy Ammunition in Various Locations Throughout Iraq in Support of Corp of Engineers Overseas Operations - Transmittal of (Draft) Site Specific Final Report, 52; Zapata Engineering, Draft Site Specific Final Removal Report Management of Coalition Munitions Clearance in Various Locations, Paladin Site, Iraq*, 1.
- 159 Zapata Engineering, *Draft Site Specific Final Removal Report Management of Coalition Munitions Clearance in Various Locations, Paladin Site, Iraq*, 5-3.
- 160 Ibid., 1-5.
- 161 Zapata Engineering, *Draft Site Specific Final Removal Report Management of Coalition Munitions Clearance in Various Locations, Paladin Site, Iraq*, 2-7.
- 162 SITREP Summary, Corps of Engineers-Huntsville, 15 February 2005.
- 163 Zapata Engineering, *Draft Site Specific Final Removal Report Management of Coalition Munitions Clearance in Various Locations, Paladin Site, Iraq*, 7-1.
- 164 Ibid.
- 165 Zapata Engineering, *Draft Site Specific Final Removal Report Management of Coalition Munitions Clearance in Various Locations, Paladin Site, Iraq*, 7-1; USA Environmental, Inc., *Final Report Coalition Munitions Clearance, Arlington, Jaguar, and Paladin Depots - Iraq* (Contract No: W912DY-04-D-0006 / Task Order No: 0001) (December 2006), 1-1, 1-2, 2-19.
- 166 USA Environmental, Inc., *Final Report Coalition Munitions Clearance, Arlington, Jaguar, and Paladin Depots - Iraq*, 2-41.
- 167 Ibid, 1-4.
- 168 SITREP, 16 June 2005.
- 169 USA Environmental, Inc., *Final Report Coalition Munitions Clearance, Arlington, Jaguar, and Paladin Depots - Iraq*, 2-11.
- 170 Ibid., 2-19 – 2-20.
- 171 EOD Technology, Inc., *Management of Captured Enemy Ammunition in Various Locations Throughout Iraq in Support of Corp of Engineers Overseas Operations - Transmittal of (Draft) Site Specific Final Report*, 10, 55.
- 172 Ibid., 14.
- 173 Taji SITREP, 2 January 2003.
- 174 Ibid., 12.
- 175 EOD Technology, Inc., *Management of Captured Enemy Ammunition in Various Locations Throughout Iraq in Support of Corp of Engineers Overseas Operations - Transmittal of (Draft) Site Specific Final Report*, 14.
- 176 Ibid.

- 177 ECC, *Site Specific Final Report Management of Coalition Munitions Clearance, Various Locations in Iraq, Volume I*, 2-5
- 178 EOD Technology, Inc., *Management of Captured Enemy Ammunition in Various Locations Throughout Iraq in Support of Corp of Engineers Overseas Operations - Transmittal of (Draft) Site Specific Final Report*, 36.
- 179 Ibid., 15.
- 180 ECC, *Site Specific Final Report Management of Coalition Munitions Clearance, Various Locations in Iraq, Volume I*, 2-23.
- 181 Ibid., 2-5.
- 182 Ibid., 2-6.
- 183 Ibid., 2-21.

8.0 AMMUNITION SUPPLY POINTS IN SOUTHERN IRAQ: AN NAJAF, AZ ZUBAYR, AND AL ASHRAF DEPOTS

In 2003, CEHNC assigned TTFWI the responsibility to establish and operate two southern ASPs. Like the contractors at the depots in the north, TTFWI operated the three southern depots for their entire period of operation as munitions disposal sites.

MANAGEMENT OF THE SOUTHERN DEPOTS

In September 2003, TTFWI was assigned the two depots in the south, An Najaf and Az Zubayr, as part of the initial mobilization. An Najaf Depot became operational on 20 September 2003 and continued to operate until 3 June 2005, when TTFWI demobilized after the completion of disposal operations there. Disposal operations at Az Zubayr Depot also began in the fall of 2003, and work was completed in late July 2004. At that time, TTFWI transferred its personnel from Az Zubayr to Al Ashraf Depot, another depot in the south, in late July and early August, and completed operations there until the depot was demobilized on 1 June 2005. As with the northern depots, maintaining the same contractor saved the Corps and the contractor valuable time and money by not having to mobilize and demobilize teams, conduct transfer operations, and familiarize a new team with the operation.¹⁸⁴

DESCRIPTIONS OF DEPOTS IN THE SOUTH

In southern Iraq, TTFWI managed three separate CEA/CMC depots selected by CJTF-7 and CEHNC that were former Iraqi military sites. These three depots provided storage for the ammunition caches discovered in the entire southern region of Iraq. The munitions storage infrastructure at the depots in the south, unlike those in the other regions, had extensive damage from Operation Desert Storm and OIF. While the depots did contain some existing infrastructure, in many cases they were severely damaged.

AN NAJAF DEPOT

The first depot established in southern Iraq was An Najaf, located approximately 174 kilometers south of Baghdad and 28 kilometers northwest of the town of An Najaf. An Najaf Depot was an Iraqi military depot before OIF. The site consisted of 7,400 acres and had 87 intact earth-covered bunkers, 42 destroyed warehouses, and approximately 99 revetments at the time of its capture (Figure 8.1). During the OIF air campaign, An Najaf suffered several Coalition air attacks that damaged many

bunkers. Following OIF, Iraqis looted and vandalized the site for several months until Coalition forces could secure it. For example, on 22 June 2003, 40 Iraqis were killed when looters accidentally started a fire trying to steal large quantities of brass shell cases. As they were emptying the shells, there was an explosion, which set the whole depot on fire.¹⁸⁵ By September 2003 the An Najaf Depot was one of several dozen that Coalition forces acknowledged were not secured or destroyed, leaving the munitions vulnerable to theft. The US Army launched an investigation into whether Iraqi guards at the depot were bribed to allow scavengers access to the more than 100 bunkers packed with munitions.¹⁸⁶



Figure 8.1 Example of a bombed-out Iraqi warehouse.

Upon their arrival, TTFWI and Corps personnel found all of the bunkers open and the contents scattered, stolen, damaged, and/or destroyed. Additionally, many of the support buildings and facilities were destroyed or damaged, requiring Parsons and TTFWI to construct new facilities. For example, TTFWI established a demolition area on the western side of the depot, which permitted demolition operations of a net explosive weight up to 60,000 pounds.¹⁸⁷

AZ ZUBAYR DEPOT

The next depot managed by TTFWI was Az Zubayr Depot, located south of the city of Basra. The Az Zubayr area originally housed the Naval Munitions School for the Iraqi Navy, and as a result, the area had several unique munitions. Coalition forces shipped captured ammunition to this location from other southern Iraqi cache sites. Az Zubayr Depot, considerably smaller than An Najaf, only encompassed an area approximately 1,600 acres in size. Az Zubayr contained 31 intact and 17 destroyed earth-covered bunkers, 29 open-storage pads, and an open area used for ammunition being received.¹⁸⁸

In addition to the destroyed buildings, the contractors found several buildings they could utilize. They located a building in the western part of the depot, which they called the missile building, that was largely intact but had unexploded ordnance buried under the floor. In addition, Az Zubayr contained numerous bunkers, including one 330 feet long, with both the entrance and road network constructed below grade. The Corps and their contractors found several types of munitions from many different nations at these ASPs. Az Zubayr was closed in mid-August 2004 and replaced with An Najaf.¹⁸⁹

AL ASHRAF DEPOT

After making the decision to close Az Zubayr, the Corps ordered TTFWI to transfer its personnel from Az Zubayr and establish a new depot at Al Ashraf. Al Ashraf Depot was located approximately 60 kilometers north of Baghdad and 100 kilometers west of the Iran border. While not actually located in the southern part of Iraq, Al Ashraf was part of TTFWI's area. The new site was more desolate than the other two depots and was surrounded by open desert in all directions. Iraqi Highway 2 skirted the western boundary of the depot. The approximately 36-square-kilometer area was fully bermed and partially fenced. Because of the vast size of the depot and its location in an open area, the demolition area was open to the public and was a nonsecured area. Therefore, TTFWI security contractors had to clear the area prior to each daily demolition operation.¹⁹⁰

The previous history of Al Ashraf Depot was unique. It had been used as an ASP by Iraqi forces and a base for the People's Mujahedeen, also known by its Persian name Mujahedeen-e Khalq (MEK), prior to its capture by Coalition forces during OIF in March and April 2003. The MEK was an insurgent organization, receiving direct support in the form of weapons and training from Hussein's government, intent on the overthrow of the hard-line Islamic government of Iran. Washington had classified the MEK as a terrorist organization; however, on 22 April 2003, Washington announced that Coalition forces had reached a ceasefire with the MEK. The next day, MEK officials agreed to carry on its activities in Iran from Camp Ashraf. Nevertheless, by June 2003, US Army military police units took control of Camp Ashraf. The MEK was disarmed; its members were detained and screened for past terrorist acts.¹⁹¹

In addition to serving as a training base for a paramilitary group, the site sustained air attacks during OIF; three of the 100 bunkers were destroyed by bombing; the other 97 bunkers remained intact. The contents of the three destroyed bunkers were scattered, creating a UXO hazard at the depot.¹⁹²

When Huntsville assigned TTFWI to start up Al Ashraf, the contractor had to perform several tasks before the start of the disposal process. TTFWI first conducted a site assessment that included a site inspection, facility inventory, and Iraqi munitions inventory. The facility inventory examined the amount and condition of ammunition storage space available, identified areas that needed repairs, and recommended the construction of supplemental storage or staging areas. The team also observed and recorded characteristics of munitions present, including types of ordnance, types of explosive/chemical fillers, fusing/firing systems employed, condition of captured

munitions, estimated quantity of captured munitions, type of containers/storage facilities, number and condition of storage facilities, evidence of industrial chemical contamination, and evidence of chemical warfare materiel. After completion of the site assessment, TTFWI personnel completed several projects to make the work environment safer, including repair of structurally unsound magazine walls, bunker walls, berms, or other structural elements necessary for safe management of captured munitions; removal of structurally unsound walls, structures, etc., that could not be repaired; identification of certain areas as exclusion zones based on dangerous conditions; stabilization, removal, or isolation of captured munitions that were immediately dangerous due to the nature or condition; and surface clearance to remove UXO from work and storage areas.¹⁹³

One of the problems TTFWI faced at Al Ashraf was that construction of the living area took considerably longer than scheduled. Like many of the other sites, Al Ashraf did not have adequate living conditions for the contractor's personnel. Parsons began work on the ground and infrastructure in July 2004, and the work was only approximately 60 percent complete when the managers decided to relocate the living area from the planned location to inside the Army compound for better security. Because of the relocation and several problems caused by the subcontractor performing the work, the facility was not occupied until late November 2004. Once complete, the living area contained facilities similar to those at An Najaf Depot.¹⁹⁴

During the period from August 2004 to June 2005, 12,214 short tons were destroyed at An Najaf Depot and 15,955 short tons were destroyed at Al Ashraf Depot.¹⁹⁵

TYPES OF WEAPONS FOUND AT THE SOUTHERN DEPOTS

The types and variety of weapons at each of the southern sites influenced the initial disposal plans and methods TTFWI recommended to the Corps. Each site received new enemy munitions for disposal on an almost daily basis, so each site had to consistently adapt to new situations and new munitions. During an inspection of An Najaf Depot, the ISG listed surface-to-air missiles and an Iraqi copy of the Spanish fuel air bomb as the only weapons of interest. At Az Zubayr Depot, the ISG found multiple types of munitions including airdrop bombs, naval mines, torpedoes, and missiles in the former naval storage area. The destroyed bunkers contained evidence of two Silkworm missiles that had been inspected and tagged by a UN inspection team. Also, one of the open revetments contained over 100 special 81mm green aluminum rockets.¹⁹⁶

DISPOSAL MISSION RESULTS AT THE SOUTHERN DEPOTS

Disposal at the southern depots was very productive. By the end of December 2004, the CMC program had secured or destroyed over 217,000 tons of munitions, including 38,528 tons at An Najaf and 6,400 tons at Az Zubayr.¹⁹⁷ To accomplish this disposal, TTFWI utilized different disposal areas at the sites. For example, at An Najaf the disposal area consisted of two discrete demolition sites three kilometers apart in the demolition range. The disposal of WP was performed only at the southern demolition



Figure 8.2 Example of disposal shot (courtesy of TTFWI).

area to ensure that the WP contamination remained in the area of the demolition range (Figure 8.2).¹⁹⁸

While the An Najaf disposal area was on-site and protected, this was not the case at other depots. At the Al Ashraf demolition site, the Corps conducted a risk assessment to determine the distance needed for the Ammunition Disposal Area. They recommended the creation of a disposal area consisting of two discrete demolition sites within a single exclusion zone. One site was designated for WP only, and the other for general demolitions. The disposal area was located approximately 5.5 kilometers northeast of Al Ashraf Depot. On 3 March 2005, a contractor security team escorting UXO personnel to the demolition area was hit with an IED. Because of this incident and in consideration of the scheduled demobilization of all contract security personnel at Al Ashraf, TTFWI and the Corps decided to relocate the demolition area inside the depot.¹⁹⁹

In addition to the new disposal areas, TTFWI used existing ammunition bunkers at the An Najaf and Al Ashraf depots for the storage of donor explosives. QASAS personnel assigned, inspected, and certified each bunker before its use. Temporary explosive storage at remote sites was accomplished by use of bunkers found at the sites and use of CONEX containers that were deployed with the remote teams. Record keeping for donor explosives was accomplished through use of the standard Army system and associated forms. This information was entered into the central CEA database maintained at the program office at Camp Victory.²⁰⁰

Personnel selected demolition sites after visually inspecting each location and determining appropriate sites. As at all the sites, demolition operations at each southern depot were conducted in accordance with the procedures outlined in the General Work Plan and each SSWP.²⁰¹

SECURITY OPERATIONS AT THE SOUTHERN DEPOTS

Security was a major concern for all the contractors, and TTFWI faced diverse threats at its depots. Because several of the depots had not been immediately secured, the areas were a hotbed for looters. In addition to terrorists, regular criminals attempted to loot the stores and public facilities. Sites were looted by both common citizens, intent on salvaging what they could of heavy metals and brass for sale on the open markets, and by insurgents, who were gathering the larger munitions to use in roadside IEDs. Armed civilians were routinely encountered at the remote sites and were noted on or in close proximity to the depots. Of course, the insurgency had foreign fighters motivated by ideological and religious goals.²⁰²

Like the other contractors, TTFWI hired private security forces to protect its depots. For An Najaf and Al Ashraf depots, TTFWI relied on a combination of subcontracted security personnel Special Operations Consulting–Security Management Group, Inc. (SOC-SMG), Iraqi local nationals, and Coalition military personnel.²⁰³

At Al Ashraf Depot, the US Army provided round-the-clock security. The 793rd Military Police (MP) Battalion provided convoy security and transportation for TTFWI personnel. This support was based on a memorandum between CEHNC and the MP battalion during the hard camp relocation inside the Army cantonment area. Because the MP battalion provided the majority of security, TTFWI and SOC-SMG lost funding for 25 security billets.²⁰⁴

SOC-SMG's primary duty was the support of demolition operations at the range. This was accomplished by providing eight two-man teams required to secure an area of approximately 26 square kilometers. The largest issue SOC-SMG faced was local Iraqi scrappers, who entered the demolition area immediately after detonation to recover metal scrap. Locals would frequently intrude into the exclusion zone and would have to be driven away from the shot hole until the area was declared safe by range safety personnel. Scrappers remained a problem, and their numbers increased to over 1,200 daily. This led to an increased risk of insurgents' gaining access to the area.²⁰⁵

During combat operations around Abu Naji, the depot came under repeated mortar attack. Reports indicated that these were well-planned attacks, as mortars were being fired from all directions toward the camp.²⁰⁶

LACK OF EQUIPMENT AT SOUTHERN DEPOTS

In addition to security concerns, another issue TTFWI faced was lack of equipment to complete its mission. This included a shortage of vehicles and heavy machinery and an inadequate supply of pallets and shot boxes to meet the 100-ton-a-day goal. The lack of equipment, and in some cases the inability to get the equipment to the depots, resulted in TTFWI's having to adapt to new methods of moving and stacking munitions—methods that worked but also slowed the process considerably.

In late August 2004, Parsons was not supplying the number of pallets and shot boxes that TTFWI required. The TTFWI PM in Baghdad requested that Parsons order an additional 6,000 4x4 shot boxes for use in the south, stating that “the shortage

trailers available for transportation of shot boxes to the demo range, adversely affecting production.²¹⁵ In addition, some local Iraqis were enemy agents. For example, Army military police captured a local Iraqi laborer who had stolen ammunition from a magazine at Al Ashraf.²¹⁶



Figure 8.3 Iraqi nationals assisting in the preparation of disposal shot (courtesy of TTFWI).

While TTFWI encountered issues with work ethics, and some local laborers quit because of threats, the contractor also attempted to protect its labor force after the mission was complete. In a situation report, TTFWI managers commented that they were meeting with the Army and other contractors in an effort to find employment for the local personnel who had been dismissed.²¹⁷

INNOVATION AT THE SOUTHERN DEPOTS

Because of the length of TTFWI's service at the depots, its staff developed innovative ways to handle problems that arose during basic operations. As the project progressed and the contractor struggled to maintain the goal of disposing of 100 tons per day, differing procedures were tried. Orders from Huntsville took many of the large munitions used as donor material off the list of items of which to dispose, leaving a multitude of small items with minimal large donor munitions. TTFWI began conducting larger burns to destroy the items and maintain production.²¹⁸

SUMMARY

Located in a part of Iraq heavily damaged during Operation Desert Storm and OIF, the depots operated by TTFWI performed their missions. TTFWI completed the management and demobilization of three depots; completed CEA/CMC removal clearance of 19 remote sites; completed all directed issues of weapons/munitions to the new Iraqi Army and National Guard; and inventoried, palletized, and shipped all munitions to designated Legacy depots. As was part of the original mission, TTFWI relieved US military forces from processing CEA by collecting, protecting, and destroying captured enemy munitions.²¹⁹

of usable shot boxes is now critical” and that they were repairing the current empty boxes on-site and reusing them so that they could continue their operation.²⁰⁷

While repairing and reusing the shot boxes seemed to be an acceptable solution, it brought problems. Reutilizing shot boxes and not destroying them required the contractor to load the boxes with ordnance, transport them to the disposal range, and unload them. While this increased the shot size to approximately 50 to 60 tons a day, several problems quickly developed. The heavy lifting and moving caused the local Iraqi laborers to suffer injuries and strains that further slowed the process. Also, the boxes usually broke after two uses. It became clear that the shot boxes were not constructed for reuse or repeated handling by PLS or forklifts.²⁰⁸

TTFWI personnel explored other ways to prepare the shot due to lack of MHE boxes. One method was to have local labor hand-load ordnance into a five-ton truck, haul it to the demolition range, unload the rounds, and repeat the process until there were approximately 20 tons on the shot. While this was somewhat effective, it was very slow and could be dangerous.²⁰⁹

In addition to the lack of pallets and shot boxes, the depots in the south faced several periods without the necessary heavy equipment needed to move the materials. For example, in July 2004, situation reports indicated that the staff at Al Ashraf waited for two PLS trailers, 19 flat racks, 24 wire pallets, and four forklifts that Parsons had mistakenly sent to Safwan, a town in southeast Iraq on the border with Kuwait. Although the reports show that TTFWI was promised the equipment would arrive soon, it took several days, which again slowed the disposal process.²¹⁰

Even with the correct equipment, TTFWI found that unskilled local contractors slowed the process. TTFWI employees complained that the “contractor maintained/supplied heavy equipment is insufficient to perform required tasks. To compensate for the shortfall in heavy equipment, Army and Navy personnel and equipment have assisted in movement of explosives, road maintenance, and excavation of burn pits.”²¹¹ While the UXO contractors prided themselves on their professionalism, they were working in a culture that had differing views of work ethics. This would not be the only problem TTFWI had with local nationals.

PROBLEMS WITH USING LOCAL NATIONALS AT THE SOUTHERN DEPOTS

Like the other contractors, TTFWI faced issues in utilizing the local nationals (Figure 8.3). This was evident in three areas. First, many times there was an extreme shortage of local labor.²¹² For example, during January 2005, restrictions on travel based on military operations caused an unavailability of local workers and heavy equipment, which hampered production. TTFWI personnel devised several innovative approaches to compensate for the lack of heavy equipment. The contractor salvaged four burn pits and prepped them for reuse. After the military operations, only six local laborers reported to work, possibly because of threats.²¹³ This was not the first time that insurgent threats disrupted the labor force. In October 2004, TTFWI released 52 local laborers due to threats from insurgents.²¹⁴ Later that year, in December, Parsons released several local truck drivers, with the result that TTFWI then had no tractor

CHAPTER 8 ENDNOTES

- 184 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 67-68.
- 185 Tetra Tech–Foster Wheeler, Inc., *Site Specific Final Report Management of Captured Enemy Ammunition/Coalition Munitions Clearance in Various Locations Throughout Iraq*. Draft. Contract Number: W912DY-04-D-0011, Task Order: TO-0001, Project Number: 2921.0001.0206.00000 (Huntsville, AL: Tetra Tech EC, Inc., 2005), 2-3 – 2-4; “Accidents Involving Munitions Around the World (15 June 2003–10 September 2003),” *Lettre du Newsletter* (3rd Quarter 2003), 4. Available at http://www.nato.int/related/nimic/newsletter/Q3_2003.pdf. Accessed 25 August 2009.
- 186 Christine Spolar, “Munitions easy pickings in Iraq; U.S. fears pilfered weapons will end up with guerrillas,” *Chicago Tribune*, 7 September 2003, 3.
- 187 TTFWI, *Site Specific Final Report Management of Captured Enemy Ammunition/Coalition Munitions Clearance in Various Locations Throughout Iraq*, 2-4.
- 188 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 67-68.
- 189 Ibid.
- 190 TTFWI, *Site Specific Final Report Management of Captured Enemy Ammunition/Coalition Munitions Clearance in Various Locations Throughout Iraq*, 2-4.
- 191 “Camp Ashraf,” available at <http://www.globalsecurity.org/military/world/iraq/camp-ashraf.htm>. Accessed 25 August 2009.
- 192 TTFWI, *Site Specific Final Report Management of Captured Enemy Ammunition/Coalition Munitions Clearance in Various Locations Throughout Iraq*, 2-4.
- 193 Ibid., 2-3.
- 194 Ibid., 2-31.
- 195 TTFWI, *Site Specific Final Report Management of Captured Enemy Ammunition/Coalition Munitions Clearance in Various Locations Throughout Iraq*, 2-24.
- 196 *Iraq Survey Group Final Report, Iraq’s Chemical Warfare Program, Annex H*. Available at http://www.globalsecurity.org/wmd/library/report/2004/isg-final-report/isg-final-report_vol3_cw-anx-h.htm. The ISG did not investigate Al Ashraf.
- 197 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 96.
- 198 Ibid., 2-16 – 2-18.
- 199 Ibid.
- 200 Ibid., 5-1.
- 201 Ibid., 5-2.
- 202 Ibid., 2-25.
- 203 Ibid.
- 204 Ibid., 2-26.
- 205 Ibid., 2-26.
- 206 An Najaf Depot, Iraq, Daily SITREP, for 08 August 2004 Operations.
- 207 Ashraf Depot, Iraq, Daily SITREP for 28 August 2004.
- 208 TTFWI, *Site Specific Final Report Management of Captured Enemy Ammunition/Coalition Munitions Clearance in Various Locations Throughout Iraq*, 3-15.
- 209 Ibid., 3-14.
- 210 Ashraf Depot, Iraq, Daily SITREP, for 16 September 2004.
- 211 Najaf Depot, Iraq, Daily SITREP, for 19 January 2005 Operations.
- 212 Ashraf Depot, Iraq, Daily SITREP, for 31 January 2005.
- 213 Najaf Depot, Iraq, Daily SITREP, for 29 January 2005 Operations; Najaf Depot, Iraq, Daily SITREP, for 31 January 2005 Operations.
- 214 Ashraf Depot, Iraq, Daily SITREP, for 24 October 2004.
- 215 Ashraf Depot, Iraq, Daily SITREP, for 27 December 2004.

- 216 Ashraf Depot, Iraq, Daily SITREP, for 26 December 2004.
- 217 Najaf Depot, Iraq, Daily SITREP, for 10 March 2005 Operations.
- 218 TTFWI, *Site Specific Final Report Management of Captured Enemy Ammunition/Coalition Munitions Clearance in Various Locations Throughout Iraq*, 3-18.
- 219 *Ibid.*, 6-1.

9.0 TRANSITION FROM CAPTURED ENEMY AMMUNITION TO COALITION MUNITIONS CLEARANCE

One of the most confusing elements of the history of CEHNC's munitions disposal activities in Iraq is the name change of the mission in 2004. The Captured Enemy Ammunition (CEA) program operated from 2003 to 2004, and it was later reflagged as the Coalition Munitions Clearance (CMC) program, which operated from 2004 to 2008. The shift in the name from CEA program to the CMC program was not just a cosmetic change. It not only reflected a transformation in the mission, but also recognized that the freed Iraqis were no longer enemies but partners in the rebuilding of their nation. The change in name also showed the end of the initial mission and the beginning of another phase in the operation: one that would take weapons out of the insurgents' hands and place them in the hands of the Iraqi military.

INITIAL ORGANIZATION OF CAPTURED ENEMY AMMUNITION

As previously discussed, CEHNC's munitions disposal operations in Iraq were initially under the command of the CJTF-7, headquartered in Baghdad. Like all American Higher Echelon Military Commands, the CJTF-7 contained a separate engineering staff section, which was given the specific mission of managing the captured enemy ammunition. To accomplish this task, the C-7 Engineering Staff formed the Captured Enemy Ammunition Cell that would ultimately have oversight and responsibility for all of the ammunition consolidation and disposal program operations in Iraq and serve as the client for Huntsville. It was the CJTF-7 Engineering Staff that asked USACE to take over the CEA consolidation and destruction program in Iraq, allowing the CJTF-7 to return its troops to fight insurgents.²²⁰ The CJTF-7 Engineering Staff also assisted in preparing the initial orders for the project.

The CEHNC original munitions disposal program was referred to as the CEA program because its primary mission was disposing of captured Iraqi munitions after the removal of Hussein and his ruling party. The work was originally done by US Army units; however, it was clear they did not have the number of skilled personnel to accomplish the massive mission. Once CEHNC took over the operation, the CJTF-7 provided the Corps with several preliminary priorities for the program that illustrated the needs of the Coalition military during the early days of Phase IV operations. For example, the first objective was to secure and close captured enemy ammunition caches outside the designated centralized ASPs including all of the Coalition forces' designated ammunition collection points. Without secure ASPs, Hussein loyalists and regular civilians were able to raid the sites looking for weapons or salvage items

to sell. At the very beginning, Huntsville's primary mission was to secure and dispose of these munitions, allowing Coalition soldiers to complete their mission and return control of the country to the Iraqis.²²¹

From the start, the CEA program was successful in transitioning the securing and disposal of enemy munitions from a military to a civilian-managed mission. Glenn Earhart stated: "When the program began we were facing quality-of-life issues, security difficulties and how best to use the local national workforce available to us. Now, all that has changed. We have installed base camps at each of our six sites and employ more than 1,000 Iraqis as laborers and security guards."²²² The early phase of the CEA mission, while not complete, was progressing well during 2004. However, the other objectives that the CJTF-7 had given CEHNC were not as easily resolved.

In addition to securing the captured enemy munitions, the CJTF-7 provided Huntsville with three other objectives. The CEA program was to first clear unexploded ordnance sites; second, demilitarize or destroy munitions at the ASPs; and finally, distribute approved ammunition to the new Iraqi Army.²²³ The purpose of the first mission was to protect Coalition forces and the Iraqi population from insurgency attacks by removing the potential to obtain IED material. The next two steps seemed to run counter to each other. The apparent purpose of the second mission was to remove the Iraqi military as a regional threat by disarming it, and the purpose of the third was to re-create the Iraqi military and create the necessary munition infrastructure.²²⁴ As with Germany at the end of World War II, US leaders realized that they could not totally disarm Iraq. The country was needed to counter other regional powers, including Iran. To protect the fledging democracy, the US military was re-creating the new Iraqi military in its image. In initial efforts to train the Iraqi military, the Coalition focused on the development of the army only on a tactical level. In early 2004, CJTF-7 had not prepared the new IA with the needed higher military headquarters and the institutions. In April 2004, the Coalition Provisional Authority, in conjunction with CJTF-7, began to develop the upper-level infrastructure of the defense establishment as well.²²⁵ In addition to training the new military, the Coalition had to equip it for combat against insurgents and any outside threat. To do this, CEHNC had to determine which of the former regime's weapons were appropriate and useful for the newly created IA.

These three additional missions became the focus of planning and operations for the CEA program in the summer of 2004. The CEA program achieved its initial goal of closing all identified enemy munitions caches outside the six ASPs by 30 September 2004. Table 9.1 provides the final statistics of the CEA program as of 30 September 2004. The number of tons of Iraqi munitions disposed of illustrate that the mission was very successful. However, as the insurgency increased in 2004, the CEA program's mission priorities shifted from demilitarization and destruction of munitions at the six secure ASPs to securing and eliminating cache sites outside the ASPs' perimeters.

Table 9.1 CEA Final Statistics as of 30 September 2004. ²²⁶

Items	Tons of munitions
Total destroyed by HNC/CEA	165,832
Total secured in depots (HNC/CEA)	160,910
Total destroyed/secured by HNC/CEA	326,742
Total est. destroyed by military (per C-7)	82,147
Total destroyed/secured (combined)	408,889
Total est. remaining outside depots (per C-7)	2,200
Total est. CEA in-country	411,089

REBIDDING THE CONTRACTS IN 2004

One of the interesting aspects of the CEA mission in early 2004 was that Huntsville rebid the task orders to manage the depots. When initial task orders were awarded in August 2003, CEHNC used the contractors that had existing IDIQ contracts. However, the term of many of those contracts expired the next year, so CEHNC had to go through the usual contracting procedures. The Center solicited 63 companies and received 15 proposals. Of those, the Corps of Engineers awarded contracts to 10 contractor businesses to perform worldwide Munitions Response Services and Other Munitions Related Services, including the five contractors who were already conducting operations in Iraq: Parsons, USAE, Zapata Engineering, EODT, and ECC. The services included projects at Formerly Used Defense Sites, active DoD installations, DoD Base Realignment and Closure sites, property adjoining DoD installations, and projects for other US government agencies or foreign governments. Dan Coberly, a former CEHNC spokesman, said, "About 75 percent of the work awarded under the contracts is expected to be performed as part of the US Army's Captured Enemy Ammunition mission in Iraq and possibly in other areas outside the United States."²²⁷ The rebidding of the contracts, just several months into the mission, had the potential to cause problems with current operations. Contractors could lose task orders, and if they did, they would have to turn over their operations to other contractors. However, all final reports indicated a high level of professionalism and courtesy among the contractors, which helped the turnover go smoothly.

CHANGES IN STRATEGY AND OBJECTIVES IN SUMMER 2004

During spring and summer 2004, the Iraqi insurgency matured from a loose organization into a "multifaceted and cohesive network." Anti-Coalition forces capitalized on the available material to develop IEDs, and "the fact that Iraq was covered with ammunition caches replete with large artillery shells and other types of explosives only aided the insurgent IED effort."²²⁸ Brad McCowan, former Program Manager deployed forward for the CMC program, remarked that "it doesn't take much to make an IED," some of which are as simple as mortar shells lashed together.²²⁹

By August 2004, Multi-National Force-Iraq (MNF-I) refocused the CEA mission from demilitarizing captured munitions at ASPs to collapsing "unsecured remote

caches.”²³⁰ To accomplish this, the CEA program organized several mobile teams to survey and clear the unsecured sites where UXO was discovered. At the height of the program, 18 mobile teams operated in-country to support the expanded mission. Figure 9.1 presents an organization chart for CEA/CMC in October 2004.

To reflect this new phase in the mission, Huntsville renamed the program the Coalition Munitions Clearance (CMC) program in October 2004. There were several reasons for the change. First, by October 2004, there was no longer a uniformed enemy in Iraq.

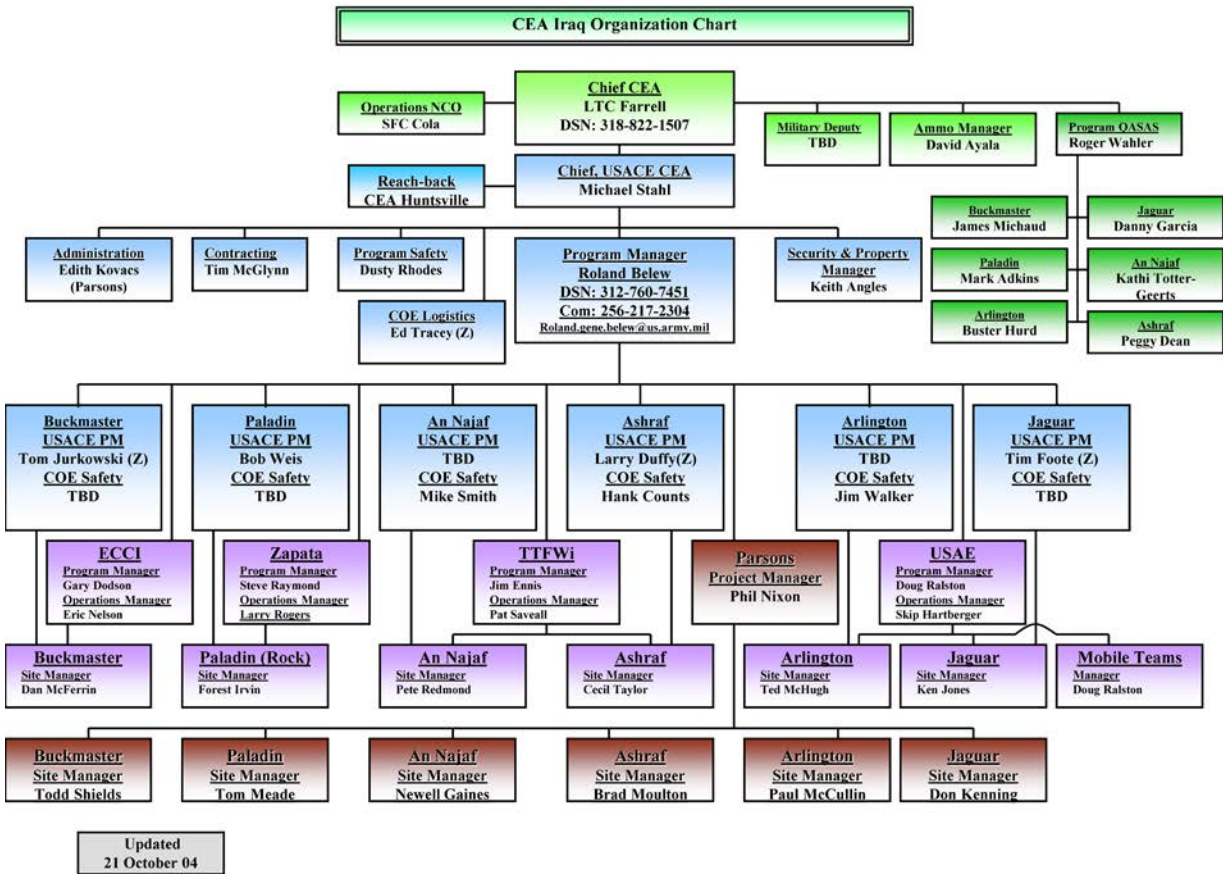


Figure 9.1 Organization chart for the CEA/CMC mission, October 2004.

After the fall of Iraq and the removal of Hussein’s regime, the Bush administration was actively pursuing a policy of representing the new Iraqi government as an ally of the United States, and having a program that still labeled Iraq as an “enemy” was not helpful in the realm of public opinion.

Furthermore, the name Captured Enemy Ammunition gave the impression that the insurgency was a recognized Iraqi military opposition to Coalition forces and the new Iraqi government. This was not the case. The Coalition and the new Iraqi government did everything in their power to portray that the insurgents were not a viable political opposition to the current government. Relabeling the program as the Coalition Munitions Clearance program communicated a message that the

forces were cleaning up munitions from all sides in an effort to make Iraq a safer environment, which was part of the mission.

In 2005, Congress provided an additional \$100 million for Iraqi ammunition demilitarization.²³¹ The additional funding was to ensure that newly discovered weapons caches were secured and disposed of before they became available to enemy combatants.²³²

EXPANSION TO DEPOT OPERATIONS PROGRAM IN 2006

The third major shift in the Corps mission occurred in February 2006, when the CMC program expanded to include a Depot Operations program. While the CMC program was tasked with the subsurface clearance of previously destroyed ammunition sites in Iraq, the Army tasked the Depot Operations program with standing up and operating two ammunition depots for the newly formed Iraqi Army. As the CMC team processed munitions, CEHNC consolidated the six ASPs into two “Legacy depots,” named Arlington and Buckmaster, both designed to serve the new Iraqi Ministry of Defense.

To operate the depots, the Corps hired EODT and tasked the contractor with the operation of the depots and training the Iraqis to manage them after the Americans departed. Before the US Army assumed control of the depots, “[t]he Iraqis had no storage or compatibility procedures [and even] high explosive items were stored with detonators.”²³³ Dr. John Potter, former Chief of the Ordnance and Explosives Directorate, said, “The Iraq cadre will learn how to maintain, pack and store ammunition, along with securing a depot. When they get it, we will leave.”²³⁴

The last official and largest munition detonation occurred at Arlington Depot in February 2006 and included more than 245 tons of ammunition. The completion of the last demo blast signified a change in the mission. Instead of a cleanup mission, the Corps oversaw a depot operation mission.²³⁵

SUMMARY

The transition from the Captured Enemy Ammunition program to the Coalition Munitions Clearance program and finally the addition of the Depot Operations portion of the CMC program represented the changing nature of CEHNC’s mission in Iraq. At first, Huntsville’s mission was to clear the massive amount of captured enemy munitions. Then, as political leaders worked to establish a new Iraqi government, Huntsville changed the name of the operation to reflect its partnership with the new Iraqi government and its new focus on disposing of munitions beyond the ASPs. As the Coalition moved to hand over more control of governmental operations to the Iraqis, Huntsville’s mission shifted to depot management and the training of Iraqis to take control of the new depots.

CHAPTER 9 ENDNOTES

- 220 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 43.
- 221 HNC, Iraq Coalition Munitions Clearance Report to Congress, May 2005, 2.
- 222 Betsy Weiner, "Captured Enemy Ammunition," *Soldiers Magazine* 59.6 (June 2004): 26.
- 223 HNC, Iraq Coalition Munitions Clearance Report to Congress, May 2005, 2.
- 224 Ibid.
- 225 Wright and Reese, *On Point II*, 456.
- 226 CEA Final Stats as of 30 Sept 04 Presentation, October 2004.
- 227 "Huntsville Center Awards Munitions Contracts," News Release dated 29 February 2004, Number 04-02, US Army Corps of Engineers Engineering and Support Center, Huntsville Public Affairs Office; "Tetra Tech Wins US Army Corps of Engineers Worldwide UXO Contract," *Business Wire* (26 April 2004): 6167.
- 228 Wright and Reese, *On Point II*, 102.
- 229 Charles Hanley, "Discreetly (but loudly), ordnance experts get rid of old Iraqi munitions," *New York Times* 12 June 2007.
- 230 On 15 May 2004, Multinational Force-Iraq replaced CJTF-7.
- 231 CEA Final Stats as of 30 Sept 04 Presentation. October 2004.
- 232 Susan E. Lukas, "House and Senate Appropriations Committee Report for FY05," *The Officer* 80.7 (September 2004): 12.
- 233 Andrea Takash, "Corps of Engineers Completes Last Demolition in Iraq," dated 10 April 2006, CEHNC News Release Number 06-12.
- 234 Ibid.
- 235 Ibid.

10.0 DEMILITARIZATION AT UNSECURED REMOTE LOCATIONS: CMC MOBILE TEAM OPERATIONS

WHY GO MOBILE?

As contractors finalized the demilitarization operations of munitions caches outside the six depots and ASPs during the summer of 2004, insurgent attacks against Coalition forces were on the rise.²³⁶ The IED was a particularly popular form of bomb manufactured by the insurgents. Easily scraped together with empty shell casings and any variety of munitions available throughout the war-torn country, the IED was responsible for the majority of violent incidents during the insurgency. According to estimates, the number of attacks increased from approximately 800 per month in January 2004 to more than 1,800 per month in April 2004. In August 2004, Coalition forces suffered over 2,500 insurgent attacks.²³⁷

As the insurgency coalesced into a “multifaceted and cohesive network,” the increasing number of attacks also became more lethal.²³⁸ During the early phases of the insurgency, IEDs were often manufactured with smaller munitions, such as mortars or single 152mm artillery rounds. By 2004, however, IEDs could more aptly be described as bombs, capable of destroying even heavily armored vehicles. As one US Army colonel noted, “I had a Bradley [Fighting Vehicle] about three months ago hit by an IED of homemade explosives and artillery rounds; it blew the vehicle in half, dislocated the turret from the hull and sent it 40 feet in the air. This was a 35-ton fighting vehicle; all four crewmembers were killed. I didn’t see that when I first came in.”²³⁹ Figure 10.1 shows the results of an IED attack on a Stryker vehicle.

With insurgent attacks increasing and the depot demilitarization effort nearing completion, USACE shifted its focus from the collection and transportation of munitions caches to on-site clearance and demolition of UXO at remote locations.²⁴⁰ This transition resulted in the adoption of a “Mobile Team” concept in September 2004. Under the renegotiated task orders, the contractors would be responsible for surface and/or subsurface UXO clearance at various remote ordnance sites that had “assumed a priority equal to demilitarization of captured munitions” at the ASPs.²⁴¹

MOBILIZATION

The Performance Work Statements (PWSs) developed by CEHNC required each contractor to be able to deploy up to 10 mobile teams. Initially there were three CMC contractors. During this contracting period, TTFWI mobile teams performed clearance of 31 remote sites from December 2005 through 2007. USAE conducted mobile teams operations on a total of 36 remote sites from August 2004 to February



Figure 10.1 Results of an IED attack on a Stryker vehicle (US Army photo).

2006. EODT conducted mobile teams operations on 11 sites from 20 December 2005 through 2007.²⁴² Under their task orders, the contractors were responsible for cradle-to-grave management for each assigned CMC mobile team site. Specifically, the management tasks included the following:²⁴³

- Performing day-to-day mobile team activities and operations in support of CEHNC CMC Iraq program including, but not limited to, surface and subsurface UXO clearance, collapsing remote caches of military munitions in the event of discovery, performing site surveys for the purpose of assessing UXO and military munitions presence and density, security, and life support requirements, and removing post-cleanup signatures (scrap and debris consolidation for removal/recycling by others or burial as approved)
- Performing demolition operations during UXO clearance operations and for military munitions destruction operations utilizing qualified personnel, which may include the development and maintenance of demolition area(s) as required, management of explosives, demolition area security, coordination of munitions delivery, munitions debris consolidation for removal/recycling by others or possible on-site burial (as directed), and other requirements and coordination as needed to conduct safe demolition operations
- Providing the necessary security personnel for the static security of the mobile sites, personnel and equipment transportation operations, and demolition area(s) and demolition materials; coordination with local military units to augment security response in the event of emergency occurrence
- Providing medical personnel, equipment, and supplies for mobile-site basic medical first aid needs in order to provide first aid and other first-response-type medical services while working in the field; major medical evacuation and

support will be coordinated with servicing military agencies

- Providing government property management and control functions in accordance with an approved Property Control Plan

Each contractor also developed an organization for its mobile teams operations. While there were slight variations in each contractor's organization, each generally had a program manager assigned to the Huntsville Support Office and a PM located in Baghdad. For daily operations, there were UXO supervisors, UXO technicians, quality control specialists, and safety officers. Most contractors hired Local Nationals (LNs), also called Host Country Nationals (HCNs), to serve as ammunition handlers and ammunition laborers, and found the Iraqi laborers to be highly productive (Figure 10.2). Not only did the contractors seek out HCNs to perform these operations, but they were also approached by local sheiks requesting that their people be allowed to work on the sites. As with the disposal work performed by the contractors at the depots and ASPs, the CEHNC CMC Program Manager reviewed and approved all plans and reports, equipment requests, and personnel qualifications and coordinated any government support as needed. CEHNC also continued to provide in-country oversight and support for the program.²⁴⁴

Each mobile team site location was prioritized by USACE. Following a site's selection, the USACE program manager would conduct a site visit with the OE contractor team to conduct a site assessment. Following site reconnaissance, each contractor's mobile team developed a SSWP for review and approval by CEHNC. The SSWPs included an outline of critical tasks, a management plan, an explosives siting plan, a property management plan, and a quality control plan. The SSWPs also provided a



Figure 10.2 Local nationals provided valued assistance to the CMC mobile teams.

determination of how many local national laborers would be employed, though the OE contractor made the decision whether the local nationals would be employed directly or through subcontractors.

Though there was some variation according to the contractor performing the work, site clearance typically consisted of the following sequence. Contractors measured each site on a grid pattern, generally 100 by 100 meters. UXO technicians first conducted a surface clearance and then performed a sweep with a magnetometer to identify any subsurface material (Figure 10.3). Any UXO materials found would be consolidated into shot boxes, primed for demolitions, and then detonated. Whenever possible, contractors destroyed munitions in place “to minimize the effort and risks.” However, in some cases, munitions were also collected, consolidated, and removed to a secure location for disposal. The determination of whether munitions were safe to move was made by UXO technicians.

Insurgents even used empty projectile casings to pack explosive material in the development of IEDs. These non-explosive items were buried, unless the SSWP directed that those materials also be destroyed. Before demobilizing at a site, each contractor performed quality control measures to make an assessment of the team’s success, and then “remove[d] post-cleanup signatures where possible,” including bulldozing former igloos, berms, open revetments, or former storage facilities to prevent looters from finding IED material. Finally, the contractors prepared a report



Figure 10.3 UXO technicians performing a surface sweep at a mobile site.

detailing the clearance operations performed at each site.²⁴⁵ Figures 10.4 and 10.5 show bunkers before and after clearance.

The mobile teams had to operate in a highly fluid environment, and their work was often modified in response to the demands of the insurgency. For instance, the initial clearance standards established in September 2004 directed surface removal of UXO material, including 60mm mortars or larger; at the time, USACE officials believed this to be the smallest item used by insurgent forces to develop IEDs. However, in June 2005, the size was lowered to 57mm or larger, and mobile teams were required to return to previously cleared sites with collapsed magazines and berms containing buried UXO.²⁴⁶ In October 2005, the scope was changed again to destroy 20mm



Figure 10.4 Bunker before clearance.



Figure 10.5 Bunker after clearance.

projectiles as well as fuses when conducting removal on Iraqi castle-style magazines.²⁴⁷ In another example of changing requirements, CEHNC issued a directive in March 2005 for contractors to disregard empty casings encountered at the CMC sites. “The focus of operations,” it noted, “will be on the clearance of hazardous items with explosive filler. Upon completion of a site, a determination will be made whether or not to go back and clear that area of shells and casings.”²⁴⁸

SITE COMPLEXITY

The sites cleared through the mobile teams operations were located throughout Iraq and varied in size and scope. While some sites consisted of just over 100 acres, others reached almost 10,000 acres in size. The majority of sites, particularly those containing ammunition storage magazines and igloos, were found to have been heavily impacted during bombings by Coalition forces during the initial ground assault into Iraq (Figure 10.6). In addition, US military ground forces often used demolition charges in “blow-and-go” tactics as they moved swiftly through the country to immediately deny use of the munitions by enemy forces. While well intentioned, these demolitions did not destroy the material; rather, it scattered UXO across a broader area or buried munitions beneath rubble (Figure 10.7). Removing the buried munitions proved a meticulous and dangerous task for the contractors, who had to carefully remove tons of concrete rubble and steel rebar before collecting the ordnance and consolidating it into shot boxes. Other igloos and bunkers may also have been destroyed through accidental explosions as they were being looted (Figure 10.8).²⁴⁹ Scattered and unsecured fields of munitions and empty casings were easy targets for looting by insurgent forces needing IED-making materials. For all of these

reasons, the remote locations identified by USACE as being of primary importance for UXO clearance resulted in a variety of challenges and made each site different for the CMC contractors.

As with the munitions discovered during demilitarization of the depots and ammunition storage points, those uncovered during the mobile teams operation varied in size, type, and quantity. The CMC contractors destroyed mortars ranging in size from two to four inches, rockets measuring 57 millimeters to 132 millimeters, and a variety of projectiles from the smallest at 57 millimeters to the largest at eight inches. Contractors also destroyed a cornucopia of bombs, landmines, submunitions, propellant, missiles, grenades, and fuses. In addition, the munitions, if not scattered on the surface, were contained within a variety of structures. These included the typical Iraqi castle-style ammunition storage magazines, arched steel magazines, block warehouses, buried caches, and open-storage revetments (Figures 10.9 and 10.10).



Figure 10.6 Collapsed ammunition storage bunker.



Figure 10.7 “Blow-and-go” tactics often resulted in ordnance buried beneath tons of concrete rubble and steel rebar.



Figure 10.8 UXO scattered by Coalition air campaign, at an unsecured location.

While each site evaluated and cleared by the mobile teams was different, some sites had a very unique character and required considerations beyond simply removing potential IED material. As one contractor noted, “The mobile team concept calls for teams to work out of remote and austere sites.”²⁵⁰ On 7 February 2006, EODT conducted an initial site survey of ERW SE-41/CMC-126 (Shatt Al Arab), a “highly contaminated” site located approximately 20 kilometers northeast of Basrah and only 30 kilometers from the Iranian border. This site was a former battlefield from the Iran-Iraq War and was on a main road connecting the two countries. The site covered approximately 8,000 acres and possessed the typical UXO/MEC material commonly used by the insurgents in making IEDs, such as artillery projectiles, mortars, and submunitions, both above and below the surface (Figure 10.11). CMC-126 also contained numerous antipersonnel and antitank landmines. While former battlefields are not considered “true CMC” sites like depots or ASPs, Site CMC-126 did achieve the mission of removing bomb-making materials from enemy hands.²⁵¹



Figure 10.9 Arched steel magazine at Camp Wolf.



Figure 10.10 Typical block warehouse.

Contractors faced several considerations at Site CMC-126. First, because of the site's location on a main road between Iran and Iraq, the contractors made substantial improvements to the local road conditions surrounding the site's perimeter "to allow continuous traffic flow." Secondly, the area was drained by marshes supplied by the Tigris River and Hawr Al Hammar Lake, and when the waters evaporated, locals used the site to collect salt available on the surface. Not only did the improved road network facilitate the local inhabitants' access to the area, but by clearing the munitions at the site, particularly the landmines, the CMC teams also made the area safer so that locals could collect minerals. As the EODT report stated:

The battlefield sites do provide an easy source for explosive materials for use against Iraqi people and Coalition forces. All CMC operations must consider the local national inhabitants' needs, such as a viable road network, and understand that the local national inhabitants may use an area once the CMC mission is complete.²⁵²

The CMC teams were tasked with making the remote sites usable by the local population when they could. As with the case of CMC-126, EODT cleared another site, called Cache-20, located 42 kilometers north-northwest of Basrah. Measuring only 118 acres, Cache-20 represented one of the smallest sites cleared by the mobile teams. In the case of this site, the contractors demolished the 147 open revetments so that local farmers could use the area.²⁵³

Another example of taking local needs into consideration included clearance of UXO at Site CMC-77, located 16 kilometers northwest of Tallil Air Base near An Nasiriyah



Figure 10.11 Site CMC-126, surface-exposed mortars.

in southeastern Iraq. The site consisted of over 4,000 acres, and contractors performed clearance of 1,662 grids, measuring 100 by 100 meters. Local farmers had been using approximately 175 of the grids for their wheat crop and told contractors they had removed all of the UXO during their farming activities. In consultation with a USACE representative, the contractor decided to wait for the farmers to harvest their wheat crop before conducting clearance activities. No explosive accidents occurred during the harvest, and by taking the local inhabitants' needs into consideration, contractors reinforced the overall mission of the CMC program. The contractor wrote that working with the local nationals and understanding their needs was critical in gaining their support, and specifically that they would be more apt to provide information on possible attacks.²⁵⁴

A UNIQUE CHALLENGE

The mobile teams program represented an operational challenge. While the CMC teams tasked with clearing the sites certainly maintained the technical expertise to clear the site of buried or exposed munitions, the contractors were more experienced with addressing the removal tasks in either secured locations in the United States or in static locations in a relatively controlled environment, such as the Iraqi depots or ASPs. The mobile teams occupied a given site for a matter of weeks or perhaps months and required logistical support for life-support needs such as food, water, shelter, and communications as well as security. This support was provided by the logistics contractor, Parsons (discussed in Chapter 11). Moreover, each site encountered by the teams was unique in size, scope, history, local population considerations, assessment requirements, and convoy operations. In their reports, contractors provided a number of recommendations for future operations.

For example, in some cases, the mobile team sites became layovers or temporary resupply points for other outlying or remote sites. For instance, Site CMC-99 (Ash Shuayabah) was located approximately 20 kilometers west of Basrah. Assigned to EODT in March 2006, Site CMC-99 ultimately became a temporary staging area for two other sites (ERW SE-40 and ERW SE-41/CMC-126) outlying beyond Tallil, which served as the primary southeast logistical hub for the CMC mobile teams operation. Because this site served as a temporary staging area, EODT was required to provide housing and meals for the logistics contractor's (Parsons) drivers and security personnel as they moved to the outlying sites. However, CMC-99 was not provided with the necessary resources: "the lack of provisions for housing, food, and showers often created undue stress for site personnel, and daily clearance operations were impacted." EODT recommended that, for future operations, if a CMC site was to be used as a logistical layover or staging area, the site should be afforded with additional basic necessities for life-support activities, such as additional food, water, living quarters, personnel, and equipment. By doing so, the contractor contended, the program would be afforded with more flexibility and "would offer a more versatile platform to support the CMC overall objectives."²⁵⁵ EODT found that as the program proceeded, a 60-day rotation of personnel between the mobile teams proved valuable to keep "the teams fresh and to discourage the creation of 'cliques.'"²⁵⁶

Several recommendations were made as to the need for better initial site assessments. Specifically, one mobile team was tasked with returning to Arlington Depot to destroy Condition Code H material, as well as clean a UXO-contaminated area. The contractor encountered two specific factors: first, the contractor was required to share equipment already being used by depot personnel, and second, the Mobile Team was required to have an independent security team. The contractor found that these issues could have been addressed with more pre-planning and emphasized that mobile teams required approximately a 45-day mobilization period to "request, process, and deploy personnel and equipment assess" and that, in the event of shared locations, the teams must be resourced as independent units.²⁵⁷

The CMC contractors also suggested that the logistics contractor be part of the initial site surveys, to better estimate what life-support materials would be required and afford better coordination between the mobile team and logistics contractor. This would also

enable the logistics contractor to expedite the identification of local subcontractors and estimate schedules for required equipment and fuel deliveries. Importantly, for security reasons, having the logistics contractor on-site for the reconnaissance would eliminate an unnecessary convoy operation, and would also eliminate unnecessary delays for the mobile team contractor in mobilizing its clearance team at a particular site. For example, when USACE Mobile Team 4 arrived at Site CMC-11, located approximately 259 kilometers southeast of Baghdad, on 2 January 2006 there was no kitchen, only meals-ready-to-eat (MREs). The kitchen and some ancillary equipment arrived on 12 January, but hot meals were not provided until 18 January.²⁵⁸

Other contractors raised the issue of lack of standardization with reporting and supporting documentation. For instance, USAE specifically noted that when its personnel were required to return to a UXO site surveyed by other contractors or the military, the previous site surveys and field documentation were “not standardized” and “may or may not have contained sufficient information to make decisions on the extent” of contamination at the site, or what resources would be required, in terms of equipment or the number of personnel. As a result, USAE developed its own standard formatting that included several items of information, including grid coordinates, who performed the survey, estimated logistics support, number of structures or facilities, estimated number of UXO items per grid, ordnance types and estimated quantities, and any suggested site security requirements.²⁵⁹

SUMMARY

From August 2004 to November 2008, CMC mobile teams conducted UXO removal and demilitarization at more than 70 remote sites across Iraq. Many of the sites had been impacted by Coalition forces trying to prohibit explosive material from falling into enemy hands. The use of inappropriate (“blow-and-go”) tactics scattered the material stockpiled at these sites, leaving UXO as well as empty casings that could be used by insurgent forces in developing IEDs. To complicate the process, much of the material lay buried beneath collapsed concrete and rebar, making removal of the UXO an extremely tedious and hazardous task. CMC mobile teams were required to manage and clear a variety of sites and a cornucopia of munitions. Ultimately, the CMC mobile teams destroyed over four million UXO items and approximately 30,000 short tons of material.²⁶⁰

CHAPTER 10 ENDNOTES

- 236 For a general discussion of the Iraqi insurgency, see Dr. Donald P. Wright and Colonel Timothy R. Reese, *The United States Army in Operation Iraqi Freedom, May 2003-January 2005. On Point II: Transition to the New Campaign* (Fort Leavenworth, KS: Combat Studies Institute Press, 2008), 87-136. See Wright and Reese (p. 518) for a very brief overview of munitions support operations.
- 237 Anthony H. Cordesman, "Iraq's Evolving Insurgency and the Risk of Civil War," Center for Strategic and International Studies, Washington, DC, 3 April 2006. Available online at http://csis.org/files/media/csis/pubs/060622_insurgency.pdf. See also Anthony H. Cordesman, "Iraq's Evolving Insurgency: The Nature of Attacks and Patterns and Cycles in the Conflict," Center for Strategic and International Studies, Washington, DC, 3 February 2006. Available online at http://csis.org/files/media/csis/pubs/060202_iraqicombattrends.pdf.
- 238 Wright and Reese, *On Point II*, 102.
- 239 Quoted in Greg Gant, "Behind the Bomb Makers," *Defense Technology International* (January-February 2006): 30-32. See also Montgomery McFate, "Iraq: the Social Context of IEDs," *Military Review* (May-June 2005): 37-40.
- 240 *Iraq Coalition Munitions Clearance Report to Congress*, May 2005. Obtained from the CMC Program Office, US Army Engineering and Support Center, Huntsville.
- 241 Report to Congress, 3.
- 242 Documentation for the contractors' Mobile Teams efforts is included in USAE Environmental, Inc., *Site-Specific Final Report: UXO Mobile Teams, Various Locations in Iraq*, prepared for the US Army Engineering and Support Center, Huntsville, 30 December 2006 (hereafter cited as "USAE, *UXO Mobile*"), performed under Contract W912DY-04-D-0006 (Task Order 0002); Tetra Tech-Foster Wheeler, Inc., *Site Specific Final Report: Mobile Teams in Support of Iraq Coalition Munitions Clearance Program*, prepared for the US Army Engineering and Support Center, Huntsville, March 2009 (hereafter cited as "TTFWI, *Mobile Teams*"), performed under Contract W912DY-04-D-0011 (Task Order 0005); and EOD Technology, Inc., *Final Report for the Management of Coalition Munitions Clearance, Various Locations Throughout Iraq in Support of Corps of Engineers Overseas Operations* (hereafter cited as "EODT, *CMC*"), performed under Contract W912DY-04-D-0018 (Task Order 0006).
- 243 USAE, *UXO Mobile*.
- 244 For example, see EODT, *CMC*, Appendix C (Work Plan).
- 245 TTFWI, *Mobile Teams*, 2.7-2.8.
- 246 USAE, *UXO Mobile*, 2.14.
- 247 *Ibid.*, 3.6.
- 248 Letter from Timothy P. McGlynn to Doug Ralson dated 11 March 2005 in USAE, *UXO Mobile*, Appendix A, pg. 63.
- 249 USAE, *UXO Mobile*, 2.16.
- 250 EODT, *CMC*, 2.35.
- 251 EODT, *CMC*, 2.26.
- 252 A detailed description of Site CMC-126 is available in EODT, *CMC*, 2.22-2.26.
- 253 EODT, *CMC*, 2.28.
- 254 A detailed description of Site CMC-77 is available in EODT, *CMC*, 2.10-2.13.
- 255 EODT, *CMC*, 2.22.
- 256 EODT, *CMC*, 6.2.
- 257 EODT, *CMC*, 2.34-2.35.
- 258 USAE, *UXO Mobile*, 4.1-4.2; a full description and daily SITREPs for CMC-11 are available in Appendix H of the USAE report. See also EODT, *CMC*, 4.1.
- 259 USAE, *UXO Mobile*, 4.1.
- 260 See final material and tonnage breakdowns in USAE, *UXO Mobile*, 8.15.

11.0 LOGISTICS AND MISSION SUPPORT

INTRODUCTION

An early US Army Field Service Regulation manual stated that logistics “envisages getting the right people and the appropriate supplies to the right place at the right time and in the proper condition.”²⁶¹ Doing so in a war-torn country with a limited availability of supplies and infrastructure, in the shadow of terrorist attacks and fluctuating levels of violence, providing logistical support is even more challenging. As the support contractor, Parsons Corporation was tasked to procure and supply the ordnance and explosives contractors with everything from the basic necessities of life, such as food and water, to armored transport vehicles and communications equipment. Moreover, the equipment had to withstand harsh environmental conditions, such as dust and extreme heat.²⁶² Parsons conducted this task for both the CEA and CMC programs.

On 8 August 2003, CEHNC contracted with Parsons Corporation to provide logistics, engineering, management, and support activities for the three CEA contractors in Iraq. Parsons won the logistics support contract for several reasons. First, the corporation had a great deal of experience in providing logistics support in the Middle East. It had provided infrastructure support for oil production and distribution projects throughout the region since 1944, had worked in Iraq since the 1950s, and had an existing office in Kuwait. Moreover, the company had the financial assets and credit to support the upfront costs, or “cash float,” necessary for the initial CEA project. Most importantly, Parsons had an existing IDIQ contract with CEHNC, which could easily and swiftly be modified by additional delivery orders until time allowed for follow-up competitive bids.²⁶³

The original project timeline established a 45-day lead time between mobilization of the advance teams and the initial CEA work, but due to operational concerns over the plethora of unsecured munitions in Iraq, this was truncated to seven days. Parsons had the experience, assets, and internal logistics to deploy rapidly and mobilized on 27 August 2003. However, the contractors were scheduled to arrive during the first week of September and would require immediate life, vehicle, and communications support. The Parsons advance team had little time to make a thorough assessment of what operational needs would be required in-country, along with what resources were readily available and those that would need to be acquired. Because of the rapid mobilization, Parsons received support requests from the CEA contractors upon their arrival and began procuring the materials. As a result, the contractors were performing their work concurrent to Parsons’ procuring support necessities. Parsons

recommended that in the future, similar operations should be allowed a 20-day lead time between the logistics team in-country assessment and the mobilization of Ordnance and Explosives teams.²⁶⁴

Parsons, the first CEHNC contractor to arrive in Iraq, continued to provide engineering support services throughout the life of the program, even as it transitioned to CMC and mobile teams operations in September 2004.²⁶⁵ Parsons operated under a total of three delivery orders between 8 August 2003 and 18 December 2008, when USACE demobilized the program. Under each of the delivery orders, the scope of work included:

- Life support (food, lodging, and medical needs)
- IT/communications support
- Procurement of materials and supplies
- Equipment and maintenance/repair services
- Transportation of personnel and equipment
- Site facility improvements
- Stateside support

To carry out each of these activities in an efficient and cost-effective manner, Parsons developed a Work Plan in November 2003, which was approved by CEHNC in February 2004. The Work Plan included detailed plans, objectives, and procedures to provide for the overall program's technical management, staffing, work, data and cost management, property management, quality control, and security.

OFFICE SPACE

The first contractual task for the support operations included setting up a rear office co-located with the CEHNC, in Huntsville, Alabama; co-locating offices had been successful in the past for other large-scale military munitions disposal projects. The Huntsville Support Office provided direct contact assistance for project personnel staffed in Iraq, as well as those in the United States. A CEHNC senior PM administered the office and supervised managers for safety, logistics, communications, procurement, quality, and business.²⁶⁶

The rear support facility, located directly behind CEHNC Headquarters, also included office space for the other CEA/CMC contractors, alongside government personnel. Additionally, the office included an IOC, staffed 24 hours a day, seven days a week, to provide immediate communication between Iraq and the program's stateside staff. The IOC facility was also "designed to promote a team environment" among the contractors. As one document noted, "The Program Team recognizes that no single entity can provide all the necessary information and communication between the numerous sites, contractors and government agencies involved in the program. The intent of the IOC is to maintain program data and provide a current status of ongoing activities on the project as well as ensure sufficient documentation... to prepare the final report." The IOC was closed on 2 November 2007.²⁶⁷

In addition to the Huntsville Support Office, Parsons maintained and staffed a Baghdad Liaison Office in the MNC-I Camp Victory compound to provide central coordination for all OE support activities in Iraq. The Baghdad office was organized similarly to

its Huntsville counterpart, with a program manager supervising managers for safety, security, logistics, communications, procurement, finance, business, and quality. In addition, the LNO program manager supervised three operations managers, each in charge of two of the six munitions depots in Iraq during their period of operation.²⁶⁸

Parsons also set up field offices and base camps at each of the CEA/CMC depots (Buckmaster, Paladin, Arlington, Jaguar, An Najaf, Az Zubayr/Al Ashraf) as well as the CMC mobile team sites in Iraq. The field offices were designed to provide contractor coordination with the LNO in Baghdad. For these field offices and base camps, Parsons provided infrastructure and life-support materials, including housing units, bathing and hygiene facilities, laundry, meals, and facilities for MWR. The company also procured IT, such as computers and bandwidth support, along with communications equipment, including satellite phones and radios.²⁶⁹ As the depot sites demobilized and the mobile teams began operation throughout the country, Parsons redistributed equipment from the static sites to the mobile camp locations.²⁷⁰

SETTING UP CAMP

Beginning in August 2003, Parsons worked quickly to set up “pioneer camps” at each of the six ASP locations (see Figure 1.1). The tents utilized for these initial, temporary camps were typical “Alaskan-style” structures, measuring 30 by 40 feet, with sufficient cots for 25 people. Placed on crushed gravel, each tent also had a plywood floor, electrical outlets, lighting, and heating and air-conditioning units. Initially, contractors intended to use the tents for approximately 60 days until more permanent prefabricated housing units could be purchased and installed. This did not happen, however, until six months after the contractors arrived in Iraq.²⁷¹

Eventually, the prefabricated trailer units, called pods, were installed (Figure 11.1). Each trailer measured 20 by 40 feet and consisted of two small bedrooms. As more units became available, efforts were made to provide as many private rooms as possible. Parsons also subcontracted optional daily housekeeping services, such as mopping, dusting, and sweeping, for the contractors’ housing units and common areas. Additionally, subcontractors changed linens weekly and serviced air conditioners as necessary. One of the more substantial issues that emerged was electrical fires. Parsons noted that several fires caused by electrical shorts had broken out in pre-wired buildings, some caused by environmental issues such as extreme heat. As a result, Parsons hired a master electrician for weekly inspections.²⁷²

Upon mobilization of the mobile teams in 2004, Parsons initially provided tents for up to 20 teams, but ultimately began using mobile housing containers because they were found to be more “durable, affordable, and comfortable” and could be more easily transported from one mobile site to another. According to its property management reports, Parsons provided each mobile team with an average of two sets of housing units, a CEHNC office, a MWR building, a latrine and shower unit, and a kitchen unit and staff.²⁷³

Latrines and showers were provided in separate modular buildings, along with dining facilities, meeting rooms, and MWR facilities (Figure 11.2). Septic systems or leaching fields were provided at established camps where “geologic conditions



Figure 11.1 Prefabricated housing units.



Figure 11.2 Support facilities included latrines and showers.

allowed.” Elsewhere, septic tanks received the wastes and eductor trucks emptied on a regular basis. Showers and latrines were cleaned and restocked daily, and due to the lack of available water in the region, Parsons stored the gray water from the showers for use in fire protection, dust control, and “other construction requirements.” Modular buildings used for laundry facilities were designed according to a camp’s capacity and were staffed by subcontractors, who were tasked to return washed and folded clothes within 24 hours. These facilities included all the amenities of a typical laundry, including washers, dryers, ironing boards, and storage shelves.²⁷⁴ MWR units contained computers with Internet access, refrigerators, gym equipment, televisions with satellite hookup, upholstered chairs and couches, and telephones.

Among other support activities, Parsons provided dining facilities and meal services. At five of the depot sites (Jaguar, Arlington, Buckmaster, Paladin, and An Najaf), dining facilities accommodated up to 200 people. At Al Ashraf, the US Army operated a joint mess hall for the contractors, but Parsons supplied the cooks and support staff to the Army. All of the dining facilities were originally designed and staffed to provide two hot meals daily, but this was changed to three meals in response to contractors’ requests at the various sites. Dining services were modified over the course of the contract to provide hot and cold drinks outside regular meal hours, in addition to providing some midnight services for security employees at a few sites. The menus were reviewed regularly, and contractors were encouraged to submit menu requests. Subcontractors delivered food twice a week in convoys operated by the military or by Parsons. Importantly, each dining facility maintained emergency supplies of bottled water (10 days), dining facility water (14 days), dry stores (21 days), and meals-ready-to-eat (30 days). While all facilities provided to the contractors were inspected regularly for safety and health considerations, the dining facilities were inspected daily, and those subcontractors handling food were required to be inoculated against hepatitis A.²⁷⁵

During the early mobilization and construction phases, much of the general workforce labor provided through Parsons and its subcontractors included HCNs or Third Country National (TCNs). Using HCNs, or local nationals, proved somewhat problematic, particularly during the early phases of the program. HCNs were subject to attack outside the camps’ secure perimeter going to and from work and might not return to camp, and some were even killed. TCNs, including a number of Filipino workers, remained in camp and typically had a better working knowledge of equipment and materials, particularly plumbing and electrical equipment. The HCNs and TCNs working directly for Parsons assisted in administrative and logistical support activities; those employed through subcontractors provided labor for engineering projects, cleaning and laundry activities, food preparation, transportation, and vehicle maintenance.²⁷⁶ Throughout the course of the CEA and CMC programs, Parsons and its subcontractors maintained a workforce of approximately 550 HCNs or TCNs.

In addition, upon arrival in-country, Parsons, like other contractors, was also encouraged to use local vendors for item procurement in an effort to facilitate growth of the Iraqi economy. In fact, much of the earliest procurement in this effort was done on a “cash only” basis, as the value of the Iraqi dinar had plummeted when Hussein’s regime fell. Additionally, using local vendors ultimately became a necessity during the first weeks of the CEA program. Because of the truncated lead time and expedited

schedule of moving and destroying munitions for the contractors, Parsons had to use local vendors to obtain MHE such as front-end loaders and bulldozers. Beyond the language and cultural barriers, Parsons personnel found even procuring serviceable vehicles a tremendous challenge. According to Phil Nixon, program manager for Parsons, some of the local equipment they observed was several decades old and appeared to be held together by “band aids, bubblegum, and bailing wire... but we made it work.” Eventually, though, as the economy matured, local subcontractors were able to provide newer, if not brand-new, equipment.²⁷⁷

SAFETY, SECURITY, AND DOCUMENTATION

Parsons was required to conform to all applicable safety and security directives, orders, and instructions issued by MNF-I, as well as those issued by CEHNC. The Parsons CMC team consisted of a security manager and safety manager at the LNO in Baghdad, as well as a safety manager at the support office in Huntsville, which provided programmatic oversight for all safety and security activities. USACE performed regular quality assurance and safety inspections at each of the sites and documented any issues requiring corrective action. Throughout the course of its contracts, from August 2003 to December 2008, Parsons personnel and subcontractors conducted 5,672,441 man hours of work, and had only eight recordable injuries, resulting in less than five days of lost work time.²⁷⁸ However, as a result of the hazardous working conditions, Parsons suffered 16 personnel or subcontractors Killed in Action (KIA).²⁷⁹ Most of the KIAs resulted from IED attacks; two were the result of small-arms fire.

Like other CEA/CMC contractors, Parsons submitted daily SITREPs to the USACE contracting officer at the LNO in Baghdad, which were forwarded on to the support office in Huntsville. The SITREPs provided an overview of a given day’s operational activities, any safety or security incidents, personnel numbers, critical supply status, vehicle and MHE status, and any facility improvements. As required by CEHNC, Parsons also submitted Serious Incident Reports (SIRs) in the event of accidents, property damage, or casualties. The SIRs documented the details of the incident, any resulting delays in the program’s operation, and witness affidavits in the event of casualties. Parsons also submitted the SIRs to the US Army for its master security database.

Moving personnel and materials across the Iraqi road system was one of the most challenging aspects in terms of providing security. The convoy operations underwent frequent attacks, and the SIRs filed by Parsons show that the vast majority of the personal injuries and property damage were caused by IEDs, small-arms fire, and mortar rounds (Figure 11.3). As the insurgency grew in strength, the CMC mobile teams operations reached sustained levels between 2004 and 2007. The records show that the logistics convoys were frequently attacked. For instance, Parsons reported 106 such attacks in 2006, 118 attacks in 2007, and only four attacks in 2008.²⁸⁰



Figure 11.3 A string of IEDs intended for a roadside attack.

Parsons provided its subcontractors and CEA/CMC program personnel with initial and intermittent safety training. The training program included site-specific and general in-country safety issues, hazard communications, blood-borne pathogens, automatic external defibrillator use, first aid, emergency preparedness, and information about heat and cold stress. As the CMC program began using mobile teams in August 2004, Parsons also conducted daily on-site safety briefings for its personnel, as well as site-specific information. In addition, Parsons' contract required that it provide CMC contractors and its own personnel with safety gear such as flak vests, plates, helmets, and armored vehicles as needed. Camp and transport security, including personal security details, Class V (donor explosive) convoy escorts, and CMC convoy escorts, was provided by specialized security subcontractors Control Risks Group, Armor Group Services Limited, and Hart GMSSCO Contracting Limited.²⁸¹

The mobile teams were provided with Eagle Eye, a security system developed by Raytheon Corporation. Mounted on a 100-foot tower, the portable camera system was monitored from a mobile trailer unit and provided "360 degree visual surveillance of at least 2.5 kilometers around the tower" (Figure 11.4). Parsons provided the operating personnel and technicians for the Eagle Eye system, which proved critical in providing advanced warnings of insurgent activity.²⁸²

The mobile teams found that Eagle Eye was a "valuable adjunct" to providing security, but that it often suffered basic mechanical failure in "extreme weather conditions." SITREPs from one contractor indicate repeated instances of the system becoming nonoperational, and waiting on either a technician or spare parts to arrive. In some



Figure 11.4 Mobile Eagle Eye system.

cases, the system had to be entirely replaced. Despite the system's frequent failures, contractors were quick to note the visibility range afforded by the system. For instance, on 9 December 2006, the Tikrit Eagle Eye captured footage of a pre-IED and IED attack on a military convoy. Because of this observation, the local US military base defense operations center integrated its own communications network (radio) with the Tikrit Eagle Eye.²⁸³ The system proved versatile and effective, but one contractor suggested that future security systems be accompanied with support packages for routine maintenance, along with a formal training program and operations manual; this would “enhance capabilities, reduce failures and allow for [a] quicker diagnosis of [Eagle Eye] problems.”²⁸⁴

COMMUNICATION

As Parsons reported, “In a war-torn land surrounded by a volatile security environment, where the commercial telecommunications infrastructure and electrical power system were intermittent or unavailable, the creation of a reliable communications system was key to mission success.”²⁸⁵ To provide for the most efficient and continual coordination between project personnel, contractors, clients, and staff offices, Parsons employed a multitiered approach:

- Short-term issues of satellite-based devices to employees deployed to remote regions; this included satellite phones and radios for “on-site,” “site-to-cache,” and security communications
- Short-term use of Middle Eastern-based File Transfer Protocol sites to enhance

- large data transfers among projects, employees, clients, and Iraqi staff
- Extension of the US-based business applications and phone systems throughout Iraq via teleport-T-3 networks across all Parsons' projects
- Issuing hardened, dust-resistant, heat-tolerant, and identical personal computers, phones, Global Positioning Systems, and digital cameras
- Dual-language Internet site for public relations, designed to promote Iraqi use and interaction; the site provided a means for local Iraqi firms to submit company profiles for consideration as "preferred suppliers" for reconstruction work and a way for companies to view and respond to Requests for Proposals
- Development of a project Extranet collaboration space for document control
- Web-based and PC-based training and help screens for common applications and business functions²⁸⁶

Initially, Parsons also used a voice-over-Internet protocol, which provided Iraq staff with a Huntsville-based telephone number, as the calls were routed through the IOC. This enabled workers to call one another using only a Huntsville phone number.²⁸⁷ In addition, Parsons established satellite-based (Regional Broadband Global Area Network [RBGAN]) connectivity for the remote regions as they set up a larger voice communications system. According to a Parsons report, "This rapid deployment plan was scalable with other satellite-based equipment as the project needs increased or decreased, because bandwidth was purchased by the minute."²⁸⁸

As the program transitioned to a mobile teams operation during the fall of 2004, dependable Internet access became a crucial communication element. Parsons issued Direcway broadband satellite Internet access, which had faster connection speeds than RBGAN and could also handle multiple users. Each mobile team was issued two Direcway VSAT satellite systems for regular use and one RBGAN system for backup purposes only.²⁸⁹

PROPERTY CONTROL AND MAINTENANCE

Parsons also maintained a database of all property purchased for the CEA and CMC programs. The property records were maintained in accordance with Federal Acquisition Regulation (FAR) Part 45.5 (Management of Government Property in Possession of Contractors). Property purchased through the program was received at a Materiel Receiving Center at the LNO in Baghdad, tagged with an identification number, and then issued by Parsons to the munitions contractors. While Parsons maintained the master database, each contractor held the responsibility of tracking its issued equipment. As noted in the final Delivery Order report, "Property must be managed diligently by all members of the project team from the onset of the project through the final closure." Upon demobilization, each contractor provided Parsons an inventory list, which was compared to the master database. Any lost, damaged, or destroyed equipment was itemized in a report and submitted to the USACE contracting officer in Iraq. By the program's closeout in December 2008, the database contained over 12,000 pieces of government-furnished property valued at over \$90 million.²⁹⁰

As part of its property procurement mission, Parsons purchased both vehicles and MHE. During its initial Delivery Order period, August 2003–August 2004, Parsons

procured 271 vehicles and 148 pieces of MHE. By the end of the program, in December 2008, Parsons had the responsibility of maintaining and tracking over 600 vehicles and MHE procured since 2003. Vehicles procured and issued to the contractors included Ford F-350s, Ford Expeditions, Ford Excursions, Chevrolet Tahoes, Chevrolet 2500s, and Chevrolet 3500s. South African subcontractors provided fully armored Mamba and Casspir personnel carriers (Figure 11.5). As regional violence increased during the summer of 2004, several vehicles (Ford Excursions and Ford F-350s) were retrofitted with Level 5 armor, and eventually Parsons began procuring fully armored Excursions and Toyota Land Cruisers. Parsons also noted that “Ford trucks [stood] up to the conditions in the Middle East better than General Motors trucks.”²⁹¹

While most vehicles used in the CEA/CMC program were purchased from vendors, the majority of MHE was provided by the military or rented from subcontractors. Parsons purchased MHE items such as bulldozers, excavators, forklifts, skid-steer and front-end loaders, fuel and water tankers, cargo trucks, and PLS trucks. The US military and Parsons subcontractors provided equipment such as rough-terrain forklifts, warehouse forklifts, cranes, bucket loaders, tracked hammers, dump trucks, lowboys, bobtails, and flat-bed trucks, along with additional PLS trucks, bulldozers, front-end loaders, and water and fuel trucks.²⁹²



Figure 11.5 Fully armored Casspir used for transportation.

In January and February 2006, CEHNC performed a scheduled property-management audit of Parsons-maintained warehouse facilities. The audit indicated a number of management deficiencies. In response to the audit, Parsons reviewed its property-control plan and developed a number of immediate corrective actions. These included the use of an automated maintenance system (called “Easy Maintenance”), which was a database including all pertinent property information that would trigger regularly scheduled maintenance. As the audit had identified the critical issue of property damage during maintenance performed by HCNs unfamiliar with certain types of equipment, Parsons hired Certified Master Mechanics to conduct training. In addition, Parsons hired a property specialist for each mobile team’s site to conduct property audits and inventory control, review documents, and manage property transfer between the munitions sites. Parsons noted that “the addition of these personnel greatly improved the property control aspect of the program such that in 2008 [we] only had a 1.2 percent rate of unaccounted for property... [a] rate below the standard... set by CEHNC Government Property Administrator.” In addition, in May 2007, Parsons revised its Property Control Plan, which provided a set of process diagrams issued to staff for information and training.²⁹³

In addition to procuring vehicles and MHE, Parsons provided maintenance for all the equipment. Because of the sheer numbers and variety of vehicles and equipment, Parsons admitted “significant challenges with maintaining the operational readiness of the fleet.”²⁹⁴ One issue impacting the vehicles was the availability of good-quality fuel in Iraq. “Fuel was a *huge* problem,” noted Nixon. The poor-grade fuel (sometimes diluted with water) purchased from local vendors to support the field sites resulted in an increasing number of maintenance issues for the vehicles and MHE. Ultimately, Parsons decided to buy and/or lease more fuel tankers that would be used to transport the higher-grade fuel available at US military bases. Hiring qualified mechanics was another challenge. Parsons, like the other contractors, was encouraged to hire HCN mechanics, but while many of the HCNs could perform light maintenance, they did not have the skills to repair modern computerized vehicles. Eventually, Parsons hired Expatriate Master Mechanics as well as TCNs to address some of the more heavy-maintenance issues on the computerized equipment. Another factor was the rough treatment of the vehicles by the subcontractors’ drivers, whether by accidents caused by driving on unapproved roads, traveling off-road, or going too fast. Parsons continually provided training for drivers and issued reprimands for breaches in basic safety regulations, such as wearing seatbelts.²⁹⁵

Many of the maintenance delays were due to the procurement of spare parts and materiel.²⁹⁶ Typically, replacement parts for vehicles were procured through subcontractors, the military, or commercial vendors, when necessary. The parts were received at the LNO in Baghdad and then shipped to the needed location. In one example of delays, in January 2005 maintenance crews worked to replace a broken axle on an armored Mamba personnel carrier. A replacement axle was shipped to the Mobile Team 1 site, but on-site maintenance crews discovered the part had the wrong bolt pattern, so another replacement was ordered.²⁹⁷ “Once inoperable,” Parsons reported, “equipment sat for long periods in the laydown yard.” To counter the problem, Parsons increased the number of subcontracts to procure equipment.²⁹⁸

During its last Delivery Order supporting mobile teams operations, Parsons continued to encounter difficulties in locating spare parts. In addition, because of the short-term occupation at any given mobile site, crews simply did not have sufficient time to mobilize a maintenance facility, and many of the vehicles had to be transported back to Camp Victory for heavy-maintenance activities. This led to issues with property accountability for Parsons and the other contractors. To counter these issues, Parsons took a number of steps to service the vehicles more efficiently. First, it converted a master mechanic position to a parts specialist, “who ensured that the correct parts were ordered.” Second, it identified “responsive vendors” that recognized the program through discounts and technical support. For example, the CMC program was recognized as having “Ford fleet status,” and Parsons obtained manufacturer databases to facilitate accurate ordering and pricing. Implementing these two corrective measures ensured that parts were delivered regularly on a weekly basis, simplified parts procurement, and “greatly improved vehicle down-time.” According to Nixon, once Parsons obtained Ford fleet status, vehicle serviceability exceeded 80 percent, a substantial improvement from the program’s early phases. As part of its final set of recommendations, Parsons also suggested that qualified mechanics be integrated into the initial project team, establish a steady supply of spare parts early in the process, and procure vehicles from a limited number of manufacturers.²⁹⁹

Attempts were also made to standardize the vehicle and MHE fleet, so that multiple spare parts could be ordered and made readily available. However, “due to operational needs and procurement restraints... standardization was not practical.” For instance, during the early phases of the CMC mission, Parsons purchased armor kits for the fleet of Ford F-150 trucks, but eventually the armor proved ineffective.³⁰⁰ In addition, maintenance subcontractors attempted to procure repair parts through the cannibalization of unserviceable vehicles; however, this work could only be performed with prior USACE authorization, and the Parsons representative on-site had to reprimand workers when this occurred. Ultimately, at the end of the program, Parsons recommended establishing a “spare parts logistics chain with the manufacturer at the time of vehicle procurement” in addition to integrating qualified mechanics during the early phases of project team development.³⁰¹

SUMMARY

From August 2003 to December 2008, Parsons provided engineering and logistics support activities for the CEA and CMC programs. Rapid deployment of the contractors required Parsons to make in-country assessments and mobilize munitions moving and destruction equipment within a matter of weeks. In addition, Parsons quickly established life-support facilities in camps, established communications between the local offices and the rear support facility in Huntsville, provided security for the camps, and maintained a large fleet of vehicles and equipment.

CHAPTER 11 ENDNOTES

- 261 Quoted in James A. Huston, *Outposts and Allies: US Army Logistics in the Cold War, 1945-1953* (Cranbury, NJ: Associated University Presses, 1988), 7.
- 262 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 43.
- 263 Parsons Corporation, *Site Specific Final Report: Engineering Support Activities of Corps of Engineers for Captured Enemy Ammunition, Iraq*, prepared for the US Army Engineering and Support Center, Huntsville, under Contract No. DACA87-00-D-0038 (Delivery Order Nos. 0035 and 0039), 28 February 2005 (hereafter cited as “Parsons, *CEA Iraq*”) (the contract period for this Delivery Order was August 2003–August 2004); Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 29, 33, 33-39.
- 264 Parsons, *CEA Iraq*, 6.1. Also, see Lessons Learned files, on file at the CEHNC CMC Program Office.
- 265 Parsons Corporation, *Site Specific Final Report: Engineering Support Activities of Corps of Engineers for Coalition Munitions Clearance, Iraq*, prepared for the US Army Engineering and Support Center, Huntsville, under Contract No. W912DY-04-D-0005 (Delivery Order No. 0001; Project Numbers 744117 and 744757), February 2009 (hereafter cited as “Parsons, *CMC Iraq*”) (the contract period of performance for this Delivery Order was 6 August 2004–31 March 2006); Parsons Corporation, *Site Specific Final Report: Engineering Support Activities of Corps of Engineers for Coalition Munitions Clearance Legacy Depots and Mobile Team Support, Iraq*, prepared for the US Army Engineering and Support Center, Huntsville, under Contract No. W912DY-04-D-0005 (Delivery Order No. 0010), June 2009 (hereafter cited as “Parsons, *Legacy and Mobile*”) (the contract period of performance for this Delivery Order was 31 March 2004–18 December 2008 [demobilization]).
- 266 Miller (*A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 35-36) cites co-location as an important lesson learned from Army combat programs during Operation Desert Storm. During certain Desert Storm programs, contracting officers maintained CONUS operating hours, which proved ineffective given the time difference between the two countries, and timely communication became a significant issue.
- 267 The IOC was originally called the “Integrated Operations Center.” For a full description of the HSO and IOC, see Parsons, *CEA Iraq*, 2.5; Parsons, *Legacy and Mobile*, 2.3. See also “Policies and Procedures for Huntsville International Operations Center,” Draft, March 2007.
- 268 Parsons, *CEA Iraq*, 2.5.
- 269 Parsons, *CEA Iraq*, 2.5; Parsons, *Mobile and Legacy*, 2.3.
- 270 Parsons, *CMC Iraq*, 2.5.
- 271 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 40-42; Parsons, *CEA Iraq*, 2.5.
- 272 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 40-42. See Parsons, *CMC Iraq*, 2.7; and Parsons, *Legacy and Mobile*, 2.4. Also, interview of Phil Nixon, via telephone, by Patricia Stallings, 8 December 2008.
- 273 Parsons, *CMC Iraq*, 2.8.
- 274 Parsons, *CMC Iraq*, 2.6.
- 275 Parsons, *CMC Iraq*, 2.7. Following the departure of CMC personnel at Ashraf, Parsons received funding to continue providing this service to the Army. Also, Nixon interview.
- 276 Parsons, *CEA Iraq*, 2.5. The US Army transferred responsibility for equipment and ammunition transport to Parsons in January 2004, a task that Parsons then assigned to subcontractors. Also, Nixon interview.
- 277 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 39. Also, Nixon interview.
- 278 Parsons, *CEA Iraq*, 2.6; Parsons, *CMC Iraq*, 2.9; Parsons, *Legacy and Mobile*, 2.8.

- 279 In addition, Parsons lost one employee to natural causes.
- 280 Parsons, *Legacy and Mobile*, 3.2-3.10.
- 281 Parsons, *CMC Iraq*, 2.10; Parsons, *Legacy and Mobile*, 2.8.
- 282 Parsons, *CMC-Legacy and Mobile*, 2.7, 7.2.
- 283 TTFWI, *Mobile Teams*, 2.11. See also situation reports in Appendix G dated 9 October, 18 October, 9 December, 30 December 2006, and 6 January 2007.
- 284 TTFWI, *Mobile Teams*, 2.11.
- 285 Parsons, *Legacy and Mobile*, 2.8-2.9.
- 286 Parsons, *CEA Iraq*, 2.7-2.8.
- 287 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 46.
- 288 Parsons, *Legacy and Mobile*, 2.9.
- 289 Parsons, *Legacy and Mobile*, 2.9.
- 290 Parsons, *CEA Iraq*, 2.9-2.10; Parsons, *Legacy and Mobile*, 7.1; Nixon interview.
- 291 Parsons, *CEA Iraq*, 2.8; Parsons, *Legacy and Mobile*, 7.2.
- 292 Parsons, *Legacy and Mobile*, 2.10-2.11.
- 293 Parsons, *Legacy and Mobile*, 2.13-2.14, 7.1. The 1.2 percent represented 14,693 items valued at \$153,696, of a total property inventory value of \$94,468,429 (0.16 percent of overall procured property value). See also Parsons, *CMC Iraq*, Appendix B, Property Audits.
- 294 Parsons, *CMC Iraq*, 6.2.
- 295 Parsons, *CMC Iraq*, 6.3. Parsons, *Legacy and Mobile*, 7.2. Also, Nixon interview.
- 296 Martin Ruess (“Maintenance Past and Present,” *Army Logistician* [March-April 1980], 3-6) points out that, historically, maintenance was given little attention because “it did not become a problem of critical proportions until the advent of the internal combustion engine.” After the mechanization of the military, however, the “primary logistics problem was the lack of standardization in vehicle manufacturing” and the availability of spare parts (or lack thereof) for maintenance became a critical issue. As LT GEN Levin H. Campbell Jr., Chief of Ordnance during World War II, noted, spare parts was “the real sword of Damocles hanging over our automotive heads night and day.” See Levin H. Campbell Jr., *The Industry-Ordnance Team* (New York: McGraw-Hill, 1946), 232. Also, Alan Gropman, ed., *The Big ‘L’: American Logistics in World War II* (Washington, DC: National Defense University Press, 1997); James A. Huston, *Outposts and Allies: US Army Logistics in the Cold War, 1945-1953* (Cranbury, NJ: Associated University Presses, 1988); LT GEN Joseph M. Heiser Jr., *Vietnam Studies: Logistics Support* (Washington, DC: Department of the Army, 1991), 157-187.
- 297 Parsons Daily Situations Reports, 18 January 2005, 23 January 2005.
- 298 Parsons, *CMC Iraq*, 2.13.
- 299 Parsons, *Legacy and Mobile*, 2.11, 6.2, 7.2.
- 300 Parsons, *CMC Iraq*, 2.13.
- 301 Parsons, *Legacy and Mobile*, 7.2, 7.3.

12.0 CREATION OF THE LEGACY DEPOTS: ARMING THE IRAQI MILITARY

As part of the Coalition's original munitions disposal plan, CEHNC and the Multi-National Security Transition Command-Iraq (MNSTC-I) saw the need for the creation of several munitions depots to store serviceable ammunition for the reconstituted Iraqi military. As the Americans turned over more and more control and governance to the Iraqis in 2005, military officials saw the need to create the depots as both a symbolic and operational step to re-creating the Iraqi military. The MNSTC-I originally designated Arlington and Buckmaster depots as the two Legacy depots to be transitioned from MNSTC-I control to full Iraqi control.³⁰² At the onset of the CEA/CMC program, the Corps had not selected which depot would be declared the Legacy depot for turnover to the Iraqi Ministry of Defense (MoD). In February 2006, the determination was made that Buckmaster Depot would become the national Legacy depot. However, this decision was subsequently overturned in July 2006, and Arlington became the national Legacy depot. Arlington was subsequently renamed Bayji National Ammunition Depot (BNAD).³⁰³ From December 2005 to December 2008, CEHNC and its contractors operated two Legacy depots, consolidated them into one depot, and attempted to provide training to the IA. In addition to operating the depots, the contractors still conducted some disposal operations and faced attacks by remnants of the insurgency.

SETTING UP THE LEGACY PROGRAM

On December 20, 2005, CEHNC awarded EODT the task order to execute the Legacy Depot Operations project in Iraq. The task order called for EODT to operate two large ASPs and for associated mobile teams to secure, collapse, and transport weapons caches to the ASPs. Unlike the previous task orders, in which Huntsville used several contractors, this task order made EODT the sole awardee for the contract, which the company stated was worth as much as \$50 million per year in annual revenue.³⁰⁴ In addition to performing depot management and associated operations at the Buckmaster and Arlington Legacy depots, EODT was tasked with training Iraqi personnel in the proper way to handle and store munitions, so that the Coalition forces could turn over the depots to the MoD.

LEGACY ACTIVITIES AT BUCKMASTER DEPOT

The initial setup at Buckmaster faced many issues and required extra work by EODT. On 6 February 2006, EODT personnel arrived at Buckmaster to begin the process of taking over the depot. The initial team included the Site Manager, Security Manager, Depot Manager (Ammo), Ammunition Safety Officer, Ammunition Quality Control

Officer, and nine other key personnel.³⁰⁵ The team inspected all ammunition storage facilities for appropriateness in storing Class V commodities and found major shortfalls in the storage facilities, including no lightning protection systems, about 20 facilities with doors in need of repair or locking mechanisms, and earthen floors, which rapidly deteriorate when forklifts are used for warehousing the ammunition. After the necessary repairs, EODT officials estimated the storage capacity of the depot at 20,000 to 22,000 short tons. An additional 6,000 to 12,000 short tons could be stored in earthen cells after they were renovated. To plan for the new storage areas, the Corps asked EODT to prepare a master storage plan for ammunition. The EODT staff identified additional problems at Buckmaster. For example, during the inspection for the new storage area, EODT found stockpile labeling deficiencies. Additionally, the contractor found extensive amounts of debris and empty boxes in the ASP, which required a major cleanup effort. Also, EODT senior managers were worried by the storage of 40mm and 73mm RPGs; these stocks were located outside near outer perimeter fence lines and presented a serious security concern. Moreover, large quantities of 100mm high-explosive fixed rounds were also stored outside and presented similar problems.³⁰⁶ Soon after the takeover, EODT had to revise its work plan to meet the obstructions it faced at the depot.

BUCKMASTER DEPOT OPERATIONAL PHASES

There were four distinct operational phases associated with the Legacy depot mission at Buckmaster. The phases corresponded with changes in the missions assigned to EODT and how those changes affected the management of the Legacy depot. The senior management decisions at MNSTC-I J4 and the MoD changed the mission at Buckmaster.

From January 2006 to May 2006, MNSTC-I planned to operate dual depots and ordered the initial mobilization and transition actions. EODT designated Buckmaster Depot as the primary site for the training of the Iraqi Army Depot Ammunition Personnel. The training included academic training at Buckmaster with follow-up instruction, in the form of on-the-job training, at both depots. By May 2006, MNSTC-I J4 and the MoD designated Buckmaster Depot as both the training site for the IA and the only remaining functioning operational ammunition depot. They decided to demobilize Arlington Depot, and EODT began planning how to relocate the entire depot stockpile to Buckmaster Depot.

However, senior management at MNSTC-I J4 and the MoD again changed the plan. In early July, MNSTC-I senior leaders directed the formulation of an assessment team to formally compare/reevaluate Arlington and Buckmaster depots in regard to determining the optimum location for a single MoD ammunition depot. The assessment team worked several weeks compiling data through site visits and presented their recommendations to MNSTC-I J4 and the MoD. On 28 July 2006, the decision to close Buckmaster Depot and retain Arlington Depot was announced, and ammunition shipments began flowing from Buckmaster to Arlington on 8 August 2006.³⁰⁷

The demobilization of Buckmaster required changes to the operations there. In early August, EODT work teams began removing large amounts of munitions from storage igloos for shipment to Arlington Depot. Senior management also began developing plans, demolition explosive needs, and material requirements for the destruction of the Condition Code H (unserviceable assets) portion of the stockpile over the next three to four months.³⁰⁸

In September 2006, EODT moved 15 major convoys consisting of 2,897.54 short tons and 4,406 pallets of ammunition from Buckmaster to Arlington. The contractor also shipped 463 short tons of ammo to IA units. The EODT UXO team destroyed 470.8 short tons of ammunition that was determined to be unserviceable. The next month, the team took an additional 11 convoys to Arlington that included 4,719 pallets of ammo weighing 4,165.17 short tons. By the end of the month, only two convoys remained to complete the entire outload of MNSTC-I ammunition from Buckmaster Depot to Arlington Depot. After the decision to close Buckmaster, EODT began working on demobilizing the depot. During late 2006, EODT personnel completed Condition Code H disposal operations, ASP cleanup, government property and equipment management/turn-in/transfer, and personnel demobilization/transfer. The majority of the EODT ammo and UXO personnel (along with a few staff personnel) departed on 9–11 December 2006 via convoy.³⁰⁹

MNSTC-IJ4's original plan was to transfer Buckmaster to the IA. However, the IA failed to meet its staffing requirements and showed little interest in taking responsibility for the depot. Therefore, on 5 January 2007, Huntsville officials ordered the EODT Site Manager to destroy the remaining depot facilities, including buildings and generators. The destruction plan was executed the morning of 6 January 2007, beginning at 0800 hours and completed at 1100 hours. The Arlington convoy team arrived at 1000 hours to assist in the final convoy.³¹⁰

TRAINING AT BUCKMASTER

In addition to ammo operations, CEHNC tasked EODT with developing a training course for Iraqi military personnel to learn the proper way to store munitions. EODT developed 12 lesson plans and had them translated into Arabic. The course was divided into levels for Ammo 100 and Ammo 200. Buckmaster Depot began its first class with 11 students, including the two IA captains stationed at the base. The first class began on 4 May 2006 and graduated on 6 May 2006. EODT also completed a full Ammo 200 class during 2–13 July. After those classes, the EODT staff reviewed and updated the Ammo 100 and 200 lesson plans. However, when no IA students arrived for training in August, the program was shelved. With the announcement of the closure of Buckmaster, EODT shifted its training efforts to focus on preparation for moving the entire training mission to Arlington by the first week of October. The two Ammo-Training supervisors spent the latter portion of the month transferring training assets to Arlington.³¹¹

CONTINUED THREATS AT BUCKMASTER

While the Iraqi government and the Coalition forces were winning the fight against the insurgents, several incidents at Buckmaster illustrated the hazards of the area. On 8 June 2006, a logistics convoy departing Buckmaster for Arlington was attacked with an IED two kilometers from the gate, resulting in the loss of three contractor lives initially and one wounded who succumbed to his injuries two weeks later. Three days later, another IED attack on a departing AGI convoy caused the death of four more contractors. On 16 June, an inbound AGI convoy was attacked via small-arms fire several kilometers from the depot. Four insurgents were killed and two AGI contractors were wounded. Another incident occurred shortly thereafter when two local nationals probed the Buckmaster outer perimeter in a vehicle in the early morning hours; two LN contractors died during this incident. In late June 2006, USACE and MNSTC-I ordered a halt to the ammo convoy operations linked to the Arlington closure, given the high insurgent threat near Buckmaster Depot. To aid in security, EODT ordered an Eagle Eye system to provide extra surveillance. In addition to the Eagle Eye system, EODT security contractors began an active defensive patrol on the access road on the west side of Buckmaster Depot.³¹²

SUMMARY OF BUCKMASTER

EODT operated Buckmaster Depot from 6 February 2006 to 6 January 2007. During this period, EODT conducted full-scale depot ammo operations in support of USACE, MNSTC-I J4, and the Iraqi MoD. Beginning with 5,667 short tons of stockpiled ammunition, the depot ammo function received and shipped over 22,146 short tons of ammunition during the time frame of the contract. In addition to the primary depot mission, EODT began a program to train the Iraqi military in basic ammunition operations and management (later moved to Arlington Depot).³¹³ The contractor still faced the threats of the insurgents and changing political missions; however, it stood up the Legacy depot, and demobilized it as needed after the MoD decided to utilize Arlington as the primary Legacy depot.

LEGACY ACTIVITIES AT ARLINGTON DEPOT

As with the mobilization program at Buckmaster, EODT staff quickly took over Arlington and began an accounting of the munitions present. The EODT staff again faced issues with munitions accountability at Arlington. After the transfer of Buckmaster from ECC, EODT staff could not perform a 100 percent verification of the existing inventory because it included an estimation of munitions stored in over 1,400 open-storage sites and 178 storage facilities that had not been validated; therefore, an accurate inventory was not possible at that time.³¹⁴ To solve this and other issues, EODT staff began preparing a Master Storage Plan that would assess the condition of the munitions, verify munitions accountability, and inspect and store the munitions from outside locations into serviceable facilities. Additionally, the security of the munitions was a major concern as numerous storage facilities were along the perimeter fence line, some within 50 feet of the fence.³¹⁵

As previously discussed, on 15 May 2006, MNSTC-I J4 informed USACE and EODT of MNSTC-I's desire to close Arlington Depot. All munitions at Arlington would be prepared for shipment to Buckmaster Depot. Because Arlington Depot had more

real estate, more facilities, easier access, and close proximity to airfields and railroad tracks, EODT and CEHNC requested that MNSTC-I staff visit Arlington Depot prior to making their decision. The official response was that Arlington Depot was located too far north for the IA, and that Buckmaster would become the only depot.³¹⁶ However, on 15 July 2006, MNSTC-I visited Arlington Depot for the first time and quickly ordered the suspension of the ammunition shipments to Buckmaster. The MNSTC-I J4 officials decided to reevaluate which depot should stay open. On 26 July 2006, MNSTC-I recommended keeping Arlington Depot open and closing Buckmaster Depot.³¹⁷

Because the fate of the depot had changed again, the existing stockpile at Arlington was now scattered throughout the depot in holding areas, and 90 percent of the munitions were in outside storage awaiting transport. The EODT staff had to relocate and store the munitions. They developed a new Master Storage Plan for re-storing all existing munitions and for receiving the Buckmaster munitions, as well as receipt of approximately 1,500 short tons of MNSTC-I-purchased munitions and Coalition-donated munitions expected to arrive from Kuwait and Anaconda. The MNSTC-I requested that EODT attempt completion of all movements from Buckmaster in 12 weeks. Due to the desire of MNSTC-I to expedite the movements and close Buckmaster, CEHNC offered a modification in the contract to increase operations to a 72-hour workweek.³¹⁸

In addition to the reduction of depots, the overall mission changed in January 2007 to “Caretaker” status supported by a dedicated number of personnel required to run the program. Staffing went from 138 authorized personnel between the two depots to 68 personnel for Arlington Depot. MNSTC-I and the MoD continued to realize that the depot project was too expensive to maintain, and on 15 April 2007, they ordered EODT to further reduce its staff. EODT let go a Training Manager, Property Specialist, and Ammo Handler. Hours worked per week were also reduced from 72 to 70 at that time.³¹⁹ During the first three months of 2007, ammo personnel continued to concentrate on the repalletization and storage of munitions received from Buckmaster. Several warehouses and igloos had to be reorganized in the process in order to store like items.

Along with the efforts to receive and store the Buckmaster munitions, EODT was tasked to support the receipt of MNSTC-I munitions from Regional Support Units and Iraqi-purchased munitions. Major efforts to prepare the 178 storage facilities for permanent storage of munitions were under way. All facilities required housekeeping operations to include removal of any scrap and munitions residue. During August–December 2006, ammo crews prepared and stored over 19,500 pallets of munitions in the igloos and warehouses.³²⁰

As Buckmaster Depot was closed, EODT relocated its personnel to Arlington Depot. EODT and USACE reviewed the request and submitted a proposed manning structure which included 15 positions: a Site Manager, an Ammunition Manager (Operations), an Ammunition Manager (Training), two Ammunition Safety/QC Specialists, two Ammunition Supervisors (Training), one Property/Logistics Manager, four Ammo Handlers, and three Medics. Depot operations continued with minimum staffing. The plan was not accepted and was later modified. At the same time, Iraqi ammunition

workers were released, as they were not funded for the extension of the contract. Operations were initially focused on supporting incoming and outgoing shipments and continued storage of munitions; however, the focus transitioned to training. All training material, lesson plans, and training aids were relocated to Arlington Depot during December.³²¹

CONTINUED INSURGENT THREATS AT ARLINGTON

As they had at Buckmaster, insurgents continued to target EODT and its subcontractors at Arlington. Security operations continued to be hampered with a high threat of IEDs and small-arms attacks on the Hershey and Tampa routes. On 28 August 2006, an EODT Security Specialist was killed as the armored Excursion he was driving hit an IED on the Hershey route. To combat the insurgents, the US Army and the security forces conducted counterinsurgency operations and soon regained control of the region.

TRAINING OF IRAQI ARMY MUNITION HANDLERS AT ARLINGTON

After the decision to close Buckmaster, EODT relocated the training activity to Arlington. However, due to the lack of logistical support from MNSTC-I to provide a training facility with adequate environmental control measures, EODT personnel utilized smaller classes and more hands-on training. On 26 February 2007, Arlington began its first Ammo 100 class with the IA Cadre and 10 students. After completion of the course, the graduates entered the Ammo 200 course on 28 February. However, training soon slowed. On 3 March 2007, only four of the 10 students arrived for training. The remaining students did not attend the training because the MoD and MNSTC-I failed to provide the students with adequate housing, food, water, and electricity. Because of the living conditions, all IA students departed the site on 3 March, resulting in temporary cancellation of the Ammo 200 course.³²²

After living conditions were improved, training resumed. On 26 April 2007, 13 students graduated from the first Ammo 200 course and four additional students graduated from the Ammo 100 course. On 7 June 2007, eight students were given the first site visit and orientation tour of the depot. However, the students refused to take part in any additional “on-the-job” training per direction of Colonel Sehel, IA Commanding Officer, until their internal life-support issues were resolved.³²³ After improvements in the IA’s living arrangements, they returned to work.

SUMMARY OF ARLINGTON DEPOT

EODT operated Arlington Depot from 6 March 2006 to 30 September 2008. Beginning with 9,612 short tons of stockpiled ammunition, the depot ammo function received and shipped over 25,797 short tons of ammunition during the time frame of the contract. In addition to the primary depot mission, a capability to train the IA soldiers in basic ammunition operations and management was developed and a cadre of soldiers was trained. Training also occurred toward the end of EODT involvement with the project. In addition, EODT helped an incoming contractor (ECC) to assume

a newly awarded IA ammunition advisory mission that entailed providing mission-related training including security requirements, property accountability and control requirements, and ammunition assistance protocols.³²⁴

CHAPTER 12 ENDNOTES

- 302 EODT, *Final Report for the Management of Coalition Munitions Clearance Buckmaster and Arlington Legacy Depots in Support of Corps of Engineers Overseas Operations. Draft. March 2009*, W912DY-04-D-0018, Task Order: 0005 (EODT, 2009), 1-2.
- 303 *Ibid.*, 1-1.
- 304 EODT Newsletter, December 2005. Available at <http://www.eodt.com/news/Fusillade-Dec-05.pdf>.
- 305 EODT, *Final Report for the Management of Coalition Munitions Clearance Buckmaster and Arlington Legacy Depots in Support of Corps of Engineers Overseas Operations*, 2-1, 2-25.
- 306 *Ibid.*, 2-3.
- 307 *Ibid.*, 2-15.
- 308 *Ibid.*, 2-16, 2-18, 2-21.
- 309 *Ibid.*, 2-17.
- 310 *Ibid.*, 2-21, 2-24, 2-25.
- 311 *Ibid.*, 2-9, 2-10, 2-16, 2-19, 2-20.
- 312 *Ibid.*, 2-10.
- 313 *Ibid.*, 5-1.
- 314 *Ibid.*, 2-27.
- 315 *Ibid.*, 2-34.
- 316 *Ibid.*, 2-35 – 2-36.
- 317 *Ibid.*, 2-37.
- 318 *Ibid.*, 2-37 – 2-38.
- 319 *Ibid.*, 6-1.
- 320 *Ibid.*, 2-38 – 2-39.
- 321 *Ibid.*, 2-40.
- 322 *Ibid.*, 2-41 – 2-42.
- 323 *Ibid.*, 2-43.
- 324 *Ibid.*, 5-1.

13.0 HANDOVER OF BAYJI NATIONAL AMMUNITION DEPOT

By the end of 2008, the CMC program had completed its mission and was ready to hand over control of BNAD to the IA. After the last “official detonation” occurred at Bayji Depot in early February 2006, CMC personnel focused on managing the two Legacy depots, Bayji and Buckmaster, to receive, store, and ship ammunition for the new IA. While Huntsville’s CMC program still operated eight mobile teams clearing ordnance at various sites throughout Iraq, early in 2008 the focus began to shift toward turning over BNAD to the IA and overseeing Iraqi soldiers in operating the depot.³²⁵

The turnover of BNAD represented another step in the reconstitution of the IA. Because part of the Army’s plan had always been to prepare a storehouse of munitions that the new IA could use, shifting the responsibility for the management and operations of the depot to the IA would indicate that the IA had gained a certain level of professionalism. However, even after several years of operation in Iraq, CEHNC and its contractors still faced several obstacles in performing their missions, many of which were related to the new IA.

In 2008, Joint Munitions Command, Rock Island, Illinois, tasked CEHNC to “perform depot management oversight and all associated oversight operations at BNAD for the Iraqi Ministry of Defense.”³²⁶ This BNAD was a Legacy depot under the control of the MNSTC-I and would serve as the national ammunition depot for the MoD. The task order would include oversight of BNAD and “closing down” the US presence at the site. On 1 August 2008, CEHNC awarded ECC the task order to provide depot management oversight and daily ammunition operational/quality-control oversight of the IA at BNAD.³²⁷ ECC’s tasks included the following specific objectives:

- Provide security for personnel, the Logistics Support Area (LSA), and Alternate Supply Route Hershey
- Operate a viable cantonment to support all project personnel
- Account for and maintain all Government Furnished Property/ Government Furnished Equipment/ Contractor Acquired Property (GFP/ GFE/CAP)
- Guide and mentor IA personnel to independent depot capability³²⁸

ECC’s mission at Bayji represented several differences from previous CMC task orders. First, ECC was to provide oversight of a depot, not to operate it, as was the previous responsibility of UXO contractors. After the handover, the IA would have operational control of the site, yet the US Army realized that the IA still needed to develop technical expertise. Next, ECC was responsible for all life-support functions

in addition to the mission-related work at that site. Previously, Parsons handled all of the life-support functions; however, this task order required ECC to operate its own cantonment to US military standards. Finally, ECC had the task of mentoring the Iraqi military personnel on doctrine and standard operating procedures to operate a munitions depot.³²⁹ While Huntsville's contractors had trained the IA in proper depot management as part of its mission from the start, with the immediate handover of BNAD, CMC and ECC both realized the importance of mentoring IA personnel. Although the CEA and CMC programs had been successful in removing munitions from the insurgency, the managers realized they needed to ensure that IA personnel had the proper training and resolve to maintain control of the munitions and ordnance.

ECC'S MOBILIZATION AT BAYJI

Upon notification of the task order award, ECC began development of its work plan and preparation for mobilization to the work site. Both BNAD and the LSA were located at Forward Operating Base (FOB) Summerall in Salah ad Din Province, Iraq. BNAD was a former Iraqi ASP, located approximately 200 kilometers north of Baghdad, and CMC had used the site as a consolidation point for captured enemy ammunition. Later, military officials decided that BNAD should serve as the munitions storage depot for Iraqi forces. On 9 September 2008, upon receipt of the Contracting Officer's Notice to Proceed, ECC sent a management team including a PM, a Project Quality Control Manager, a Depot Manager, and various IT personnel and equipment to Iraq. The team arrived at FOB Summerall on 13 September 2008. Three days before the arrival of the management team, ECC's Security Manager arrived at FOB Summerall with a SafeNet Personnel Security Detail and began coordinating security for the mission. On 24 September, ECC's Ammunition Handlers arrived at the site, and the next day, additional team personnel arrived from in-country sites. During the last week of September, ECC's security and logistics personnel all reached the site, and the company was fully mobilized and began all operations on 1 October 2008.³³⁰ Because of the countless deployments by CEHNC and contractor personnel, mobilization was not an issue.

During the ECC mobilization, the CMC mission continued with the plan to formally pass operational control of BNAD to the MoD on 29 September. Brigadier General Steven L. Salazar, Deputy Commanding General, Coalition Army Advisory Training Team (CAATT), MNSTC-I, ceremonially handed the site to General Mohammed Ali, Iraqi MoD; however, the agreement included provisions that the MNSTC-I would retain oversight of BNAD for several months. In addition, the US Army Corps of Engineers PM, who oversaw the contractor operations at Bayji, would remain on-site until 31 July 2009 to provide further oversight and guidance to the depot operations.³³¹ Colonel Dan Leatherman, Director of CAATT Logistics, stated that the turnover of BNAD was "another demonstration of the rapidly improving ability of the IA to conduct their own logistics operations."³³² While this was a first step, the IA still had many challenges to address before it could fully manage BNAD.

INVENTORY AND PROPERTY MANAGEMENT AT BNAD

One of the first duties of ECC during the Bayji Depot Oversight project was inventory of all Government Furnished Property transferred to ECC's jurisdiction. This proved to be one of the most labor-intensive, challenging objectives of the task order. On 29 September 2008, ECC began the process of transferring all GFP/GFE/CAP from the previous contractors, EODT (the UXO contractor) and Parsons (the logistics contractor). Because of the nature of the cantonment and the depot, ECC received a large variety of property from the incumbent contractors, in addition to the munitions. This included vehicles and equipment, such as Ford F-350 armored and soft-skin pickup trucks, a number of specially modified armored trucks and SUVs, and military vehicles. In addition to the vehicles and other equipment, ECC received all of the other radios, computers, etc., that had become standard equipment for the operations of the CMC program.³³³

To accomplish the inventory effort, ECC used the proprietary software Project Portal. This Web-based property asset management program operated on ECC's corporate Intranet site and provided an easy means to complete the property and financial data necessary to complete the annual DD Form 1662, "DoD Property in the Custody of Contractors."³³⁴ The handover and inventory went well, and ECC personnel later commented on the professionalism that EODT personnel showed during the transfer. Also, the presence of Internet connections at BNAD allowed ECC to utilize its Web-based programs. As seen in earlier parts of the mission, the ability to utilize high-speed Internet and other communications systems aided in many aspects of the CEA and CMC missions.

As had been standard operating procedure for most of the contractors, ECC subcontracted a local Iraqi contractor, Mohsin Transportation and Supply, to supply other vehicles needed at the depot and LSA. Parsons had used Mohsin, and Mohsin supplied ECC with a fuel tanker and other required equipment on an as-needed basis. Interestingly, Mohsin also sold local fresh vegetables and eggs to ECC for use in the cafeterias.³³⁵ As CMC personnel and contractors realized early in the mission, it was crucial for them to integrate themselves into the local economy by hiring local Iraqis, renting local equipment, and purchasing local produce.³³⁶

ECC'S DEPOT MANAGEMENT OF BNAD

Before the inventory and the handover, the ECC management team met with the departing EODT personnel to discuss the status of BNAD. The ECC staff soon realized that the major challenges facing them stemmed from inherent problems with the organization and culture of the reconstituted IA. The first problem was a lack of training. Soon after arriving, the IA Commander informed the Depot Manager that only two of the eight IA officers assigned to ammunition billets had any previous ammunition experience or background. The enlisted personnel also lacked ordnance experience. Because of the chaotic nature of the Iraqi military, the new officers had no ammunition logistics training prior to being assigned at BNAD; Iraqis' actions around the depot illustrated this lack of training.

ECC personnel noticed that, not only did the IA lack technically trained staff, but IA officers did not provide the necessary command and control over the enlisted personnel. Because the IA had operational control of BNAD, ECC managers stressed that the Iraqi officers needed to be present and exercise leadership in all operations, and that the ECC personnel were there to provide technical expertise, not military leadership. The ECC managers soon realized that the IA officers were also managing the day-to-day life support, administrative efforts, and depot operations efforts and did not have adequate staff for that endeavor. Using models from the American military, ECC helped the IA officers to select competent soldiers to lead work details and free up the officers for other duties.³³⁷

One of the reasons for the lack of soldiers capable of leading small unit tasks was the weakness of the Non-Commissioned Officer (NCO) corps in the IA. Armies based on the former Soviet Union system, including the IA under Hussein, maintained a weak NCO structure as a means to maintain control. The reconstituted IA did not have the tradition of a strong NCO corps (like that of the US Army) that would provide leadership during troop discipline, drill, and work-crew supervision.

In addition to weak leadership and a lack of technical skills, the IA also lacked organization. As of 1 October 2008, IA General Suheil Ali, Commander of BNAD, had 850 IA soldiers. He divided the force into two sections: the Ammunition Depot section and the Perimeter Security Force section. Because of random leave rotation and loose personnel accountability practices by the IA, ECC personnel could not determine the exact makeup of each section. For example, while approximately 90 ammunition personnel attended the daily morning formation, only 30 to 35 were available to work ammunition operations each day.³³⁸ The remaining 60 did not arrive for work for various reasons, including remaining home for fear of reprisal.

In addition to personnel issues, the ECC Depot Team still faced supply issues. The initial overview of BNAD showed that the IA had sufficient MHE to operate the depot; however, ECC personnel noticed that the IA had no logistical infrastructure for the maintenance and repair of the equipment. Additionally, the IA quartermaster system was slow and the troops did not receive essential items needed for basic living and work conditions.³³⁹

Finally, the IA soldiers resisted the use of Personal Protective Equipment. As mentioned before, many Iraqi troops maintained an almost fatalistic view based on their cultural and religious teachings that resulted in inattentive safety practices. The ECC Depot Team worked to instill the importance of safety and solved this problem through constant reinforcement and mentoring of the IA officers.³⁴⁰

Despite these issues, ECC and the IA accomplished several important goals at BNAD. Soldiers from the IA moved 2,005 pallets of ammunition from the outside storage sites into the warehouses. The IA also received one shipment of 866,000 rounds of 9mm ball ammunition, and they prepared 3,000,840 rounds of 5.56mm ball ammunition for shipment.³⁴¹ ECC staff noted that, by the end of the task order, the IA was beginning to understand and implement critical concepts of explosives safety, occupational safety, quality control, accountability, and receipt, storage, inspection, and issue of ammunition stocks. The Iraqis were taking proactive ownership in

developing viable programs that would eventually lead them to become independently depot-operations capable.³⁴²

DEMOBILIZATION OF CMC

Based on direction from MNSTC-I, on 3 November 2008, the Corps issued ECC notification of the Termination for Convenience of its task order to provide oversight at BNAD, and the company began demobilization. Using an already approved demobilization plan, ECC began to shift its personnel to other sites or the United States. Demobilization also involved the total accountability and transfer of all Government Furnished Property and Material. Upon notification of the Termination for Convenience, effective 4 November 2008, ECC transferred all equipment and material to the government or designated recipient. Many of the original tagged items in the ECC property book, such as air conditioners, had been formally de-tagged during October and November, leaving 912 items with an estimated value of \$8.6 million on the ECC property book.³⁴³

After the ECC demobilization of the final CMC mission, the mission changed. On 18 December 2008, the CMC mission in Iraq ended. The US Army changed CEHNC's mission in Iraq to the Coalition Munitions Disposal (CMD) program. Bill Sargent, CEHNC's Chief of International Operations, stated that "the ammunition sites that were a concern have all been cleared and the Ammunition Depot has been turned over to the IA for their own control and operation."³⁴⁴ The new mission, which illustrated the shift in overall American policy, included the centralized collection and disposal of US unserviceable munitions during the operation. The CMD would also be available to destroy caches of munitions still located in Iraq.³⁴⁵

CHAPTER 13 ENDNOTES

- 325 Bill Sargent, "COALITION MUNITIONS CLEARANCE PROGRAM IRAQ" Briefing April 2008. PowerPoint presentation. On file, CMD, CEHNC, Huntsville, Alabama. The training was more in the form of OJT; IA had already been trained.
- 326 ECC, *Final Report: Bayji National Ammunition Depot Oversight Program*, Prepared for US Army Engineering and Support Center, Huntsville. Contract Number W912DY-04-D-0008, Task Order Number 0006 (Huntsville, Alabama: ECC, 26 February 2009), 3. On file, CMD, CEHNC, Huntsville, Alabama.
- 327 Task Order 0006, under Contract W912DY-04-D-0008, Oversight of the Bayji National Ammunition Depot, in Support of Corps of Engineers Overseas Operations. On file, CMD office, CEHNC, Huntsville, Alabama.
- 328 ECC, *Final Report: Bayji National Ammunition Depot Oversight Program*, Prepared for US Army Engineering and Support Center, Huntsville, 33.
- 329 ECC, *Final Report: Bayji National Ammunition Depot Oversight Program*, Prepared for US Army Engineering and Support Center, Huntsville, 11-12.
- 330 Ibid., 9-10.
- 331 Ibid., 2; Michelle Harlan, "Bayji Depot Control Transitions to IA," *Huntsville Center Bulletin* 30 (January 2009), 11.
- 332 "IA Closer to Autonomy," UPI International Intelligence (Dec 17, 2008): NA. General One File. Gale. Middle Tennessee State University. 14 April 2009. Available at <http://find.galegroup.com.ezproxy.mtsu.edu/itx/start.do?prodId=ITOF>.
- 333 ECC, *Final Report: Bayji National Ammunition Depot Oversight Program*, Prepared for US Army Engineering and Support Center, Huntsville, 12-14.
- 334 Ibid., 14.
- 335 Ibid..
- 336 Ibid.
- 337 Ibid., 18.
- 338 Ibid., 2.
- 339 Ibid., 23.
- 340 Ibid., 19.
- 341 Ibid., 21.
- 342 Ibid., 33.
- 343 Ibid., 14.
- 344 Debra Valine, "Ordnance Clearance Mission in Iraq Ends, New Mission Emerges." Press Release Number 09-005, Nov. 28, 2008. On file, HNC Public Affairs Office, Huntsville, AL. Available at <http://www.hnd.usace.army.mil/pao/NewsReleases/2008/09-005%20Ordnance%20mission%20in%20Iraq%20changes%20focus.pdf>. Accessed 14 April 2009.
- 345 Debra Valine, "Ordnance Clearance Mission in Iraq Ends, New Disposal Mission Starts," *Huntsville Center Bulletin* 30 (January 2009), 11.

14.0 LESSONS LEARNED

The successful execution of the CEA/CMC mission by CEHNC was the result of cooperation between the Coalition forces, the Corps, and its contractors. All parties worked together to develop the program from its genesis to its completion. Because the mission had never been performed before, much of its initial setup, management, and operation were created by the parties “as they went along.”

As part of the management process, CEHNC requested “Lessons Learned” interviews, reports, and memos from the personnel throughout the project. That information was used by the management team to correct issues during the execution of the mission. Because the contractors and the Corps personnel had experience working together on other projects, most of these issues were quickly corrected. The lessons learned presented below came from contractors’ suggested lessons learned.

This document contains some of the more prominent lessons learned that might be beneficial in organizing another similar mission. This document does not discuss the technical lessons learned; that information has been collected and disseminated to the UXO contractors in other documents.

The lessons learned presented below represent major principles in the management and operation of a similar mission. Most of the lessons show that successfully executing this type of mission requires good communications, at all levels, and flexibility.

PLANNING OF MISSION

It is crucial to develop a rough draft of the operations order before the operation begins. A contingency plan should be in place to perform similar missions in other parts of the world. The plan should provide the basic structure of the mission, provide a list of the necessary personnel and equipment, and be provided to the proper military joint commands responsible for the areas of interest. It might be beneficial for the senior staff to provide briefing materials to the Engineering Sections of the Joint Commands.

The contingency plans should be regularly updated to reflect changes in technology, disposal procedures, contractor capabilities, and other factors. The revisions should be the product of planning sessions by the senior staff and appropriate technical personnel.

Pre-deployment planning is needed to ensure that proper equipment is provided for both government and contractor personnel. Both parties should develop and implement checklists of necessary equipment. The government should provide a representative to review the ordering and procuring process of an equipment/supplies request.³⁴⁶ This person should be supported by the necessary administrative staff.

Although the US Army offered promises of support, it could not meet the requirements for the mission. Contractors spent unproductive downtime waiting to be transported to the worksite because there was not a military convoy available when they needed it. In future operations, the government should prepare plans and determine the availability of critical items prior to the start of operations.³⁴⁷

CEHNC had success in using its current group of UXO contractors. During future operations, qualified UXO contractors that have previous working relationships should be utilized when possible.

MANAGEMENT OF THE OVERALL MISSION

One of the reasons for the success of the project was CEHNC's decision to deploy a contracting officer (KO) and program manager. The deployment of these individuals to the forward headquarters maximized the organization's flexibility and provided the CEA team with an immediate response when situations required it.³⁴⁸

The forward management team should retain all necessary authority to conduct the mission. The initial use of program managers in the forward and rear was very confusing to the contractors at the beginning of the project; however, that was quickly changed after CEHNC enumerated the duties of the forward and rear staffs. Because of the dual locations, there needed to be a clearly identified, single authority for definitive decisions and direction. The government's forward and rear management teams need to coordinate communications in order to minimize the conveyance of conflicting information to contractors.³⁴⁹ By the end of the mission, the roles of the rear and forward teams were clear and the system worked well.

The forward management team was supported by a centralized war room (IOC) that was manned around the clock. It had the necessary communications equipment and was located near the CONUS location's Operations Center. The CEA/CMC war room was a vital source for accurate communication flow from Iraq to Huntsville.³⁵⁰

The selection and deployment of qualified Corps personnel to the depots was important. The QASAS at the depots laid out the plans for and directed the safe construction of storage cells. These UXO specialists were also able to provide key and timely information that supported the depots.³⁵¹

STAFFING OF THE DEPOTS

The government should require that all contractors have a staff for operations, safety, logistics, and administrative/human resource issues in order to fully support personnel in the field environment. The staff should have at least the following personnel:

- A Safety Manager for in-country oversight of UXO team safety issues
- A Security Manager to oversee the subcontractor providing security for sites and convoys
- A Logistical Manager to coordinate support from the Logistical Contractor, as well as schedule the equipment and supplies required for UXO mobile teams' convoys
- A UXO Operations Manager for corporate oversight of field operations and compliance with existing directives, to process daily reports, travel to the various remote UXO sites, and perform initial site reconnaissance of UXO sites

The authorized strength of the SUXOS must be sufficient enough to support the maximum number of simultaneous and separate operations anticipated. If insufficient SUXOS positions are authorized, the consequences can include curtailment of operations and/or the necessity to accept increased safety risks at worksites. The authorized number of SUXOS should be adjusted in order to permit support of the maximum anticipated number of work locations.³⁵²

It is also crucial to integrate the local population into the mission. This includes hiring local nationals as munitions loaders, using equipment subcontracted from local firms, and purchasing food and materials from the local merchants. In addition, the management team should work with the local political leaders (i.e., sheiks) in all hiring and purchasing procedures. This integration of operations into the local sociopolitical economy will make the area less likely to create an insurgency because the local community is connected economically and socially to the mission.

THE NEED FOR ADEQUATE COMMUNICATIONS

In addition to proper management and personnel, communications were a vital key to the mission. The advent of the Internet, satellite phones, and VPN allowed personnel in Iraq to have real-time conversations with Huntsville. To complete a mission like this, it is vital that all forms of communications (e.g., cell phones, satellite phones, Internet, VPN) are provided to the forward staff.

In addition, conference calls between the forward and rear staff are crucial for ongoing effective communications between stateside and in-country management, especially during mobilization and demobilization.³⁵³ There should be regularly scheduled conference calls.

Project personnel, at all levels, need to be actively involved in the program conference calls and discussions. The appropriate staff should be available to answer questions about impacts when activities and anticipated changes are discussed. This is critical to ensure the accuracy of cost projections and burn rates, as well as many other issues.³⁵⁴

Because of the time difference and the work schedule, the rear group should plan for the availability of project personnel on weekends. The in-country contractors may need information that requires a quick response. The use of a designated official with proper communications links would allow the rear team to be responsive to the forward client's needs and questions.³⁵⁵

In addition to communications from the forward base to the rear office, it is crucial to provide deployed personnel adequate long-range communication. Reliable long-range radios should be provided to all sites. These radios should be compatible with the radios used by supporting Coalition forces and MEDEVAC units.³⁵⁶ Additionally, the depots should have a supply of floaters to replace items that are damaged, as well as additional batteries and chargers required to support 24-hour operations.³⁵⁷

The Logistics Contractor should provide enough IT support for maintenance of computers and direct-wave satellite systems. Having additional IT/communications staff would allow them to travel to depots or remote cache sites as necessary for equipment repairs.³⁵⁸

MANAGEMENT AT DEPOT AND UXO SITES

The management model used during the CEA/CMC mission worked well. However, it should be flexible in order to meet the unique needs of this type of operation. Each site should have a contractor Site Manager as well as the government management team. The site manager would have full operational control over both the SUXOS and the Security Team Leader, thus eliminating competing priorities for operational needs. The Site Manager would interface with other contractors to ensure priorities are being filled in a timely manner. Most importantly, the Site Manager has primary responsibility for interfacing with the government representative on site. The site manager would oversee and track individuals mobilizing into a site or demobilization off the site.

Security personnel work for and report to the Site Manager. In addition, effective communication is essential between the management staff and the security personnel to ensure that program security can support changing missions at the sites. The location of security and ordnance managers at forward and rear offices would support this.³⁵⁹

Because of the stressful nature of the mission, the government should require the contractors to rotate personnel among teams or installations under their control to keep the teams fresh.³⁶⁰

Finally, at the beginning of the operation, the contractors and the government should utilize a transition team at project startup to ensure a quick, efficient, and seamless transition of responsibilities from an incumbent contractor(s). This was especially useful in property, security, and staffing/HR areas during the CEA/CMC mission.³⁶¹

LOGISTICS

A single contractor should remain responsible for providing all of the logistics for the other UXO contractors. This would allow the UXO contractors to focus on their mission. However, the Logistics Contractor must be capable of furnishing the proper supplies to the other contractors in a timely manner. One of the capabilities of the contractor is to be able to “meet and greet” Government representatives and contractors as they arrive on site. This would facilitate communication and ensure that priority logistical needs are addressed immediately. The logistics contractor

should supply a dedicated property specialist at each site to receive and electronically track items issued to and between the UXO contractors. This will ensure that the US government retains control over its property and that it is utilized in the proper manner. It will also protect the contractors from future disputes.³⁶²

The Logistics Contractor should attempt to obtain vehicles for site operations that require the same type of tires, repair parts, and fuel to reduce the logistical requirements. The plan should include a fleet of vehicles for the contract that can be easily supported (e.g., F-350 pickup trucks). In addition to incorporating a qualified mechanic as part of the team, the Logistics Contractor should maintain sufficient parts for repair and replacement as part of the Initial Mandatory Parts List for each vehicle and add to the Prescribed Load List (PLL) maintained for the vehicle fleet.³⁶³

LOGISTICS OF MOBILE TEAMS

For future deployments, the Logistics Contractor must establish all initial base camps and the flow of logistical resupply. Also, the UXO contractors must coordinate and direct LN logistical subcontractor personnel during the sustainment phase of operations. This would reduce the cost to the government for large numbers of Logistical Contractor personnel deploying in-theater. Scopes of work should be structured for future logistical contractors to support all types of logistics.

A tracking system should be instituted for all GFP/GFE/CAP issued, which requires the Logistical Contractor to perform on-site inventories on a regularly scheduled basis. UXO Mobile Teams require a Logistics Contractor representative to be on-site to handle the subcontracts for heavy equipment, fuel, water, and other support for the mobile teams.³⁶⁴

EXPERIMENTATION OF DISPOSAL TECHNIQUES

Senior UXO Technicians should be given opportunities to test and experiment with new methods of safely destroying the largest amount of captured enemy ammunition possible while using the least amount of Coalition-provided demolitions material. The government should encourage the companies to conduct safe experimentation to facilitate the destruction of UXO. This experimentation could result in contractors' finding cheaper and faster ways to conduct their work and therefore provide a cost savings to the US government.³⁶⁵

In future operations, the government should approve the destruction of CEA within storage bunkers and warehouses, when appropriate. This would allow for the most rapid and safest method for the destruction of munitions that otherwise would have to be handled and transported many times prior to their destruction. The option to destroy the munitions inside their storage facilities at their current location eliminates the need to transport the munitions to a range and reduces UXO Technician "touch time" per munitions, thereby increasing operational safety.³⁶⁶

SECURITY OPERATIONS

In the future, a security company should be directly employed as a Prime Contractor by the government for servicing all contractors, instead of each contractor providing its own security company. This way the government would have more oversight of the security operations.

Vehicles for transporting both security and UXO personnel must have the capability to return fire from gun ports and roof positions to effectively deal with threats to the front, side, and rear of a convoy.³⁶⁷

CHAPTER 14 ENDNOTES

- 346 Lessons Learned Submittal, Tracking Number 24, 15 April 2004.
- 347 Lessons Learned Submittal, Tracking Number 7, 5 November 2003.
- 348 EOD Technology, *Management of Captured Enemy Ammunition in Various Locations Throughout Iraq in Support of Corp of Engineers Overseas Operations - Transmittal of (Draft) Site Specific Final Report* (2005), 59.
- 349 Lessons Learned Submittal, Tracking Number 28, 21 April 2004.
- 350 Lessons Learned Submittal, Tracking Number 33, 11 May 2004.
- 351 EODT, *Management of Captured Enemy Ammunition*, 59.
- 352 Lesson Learned Submittal, Tracking Number 21, 14 April 2004.
- 353 EODT, CMC.
- 354 Ibid.
- 355 Ibid.
- 356 Lessons Learned Submittal, Tracking Number 32, 3 May 2004.
- 357 USAE, *UXO Mobile*, 5-7.
- 358 USAE, *UXO Mobile*, 5-8.
- 359 EODT, CMC, 6.1-6.2.
- 360 Ibid.
- 361 Ibid.
- 362 Parsons, *CEA*, 6.1.
- 363 USAE, Final Report – *Coalition Munitions Clearance, Arlington, Jaguar, and Paladin Depots-Iraq*, 5.8-5.9; Parsons, *CMC Iraq*, 6.2; Parsons, *Legacy and Mobile*, 7.2.
- 364 Ibid.
- 365 EODT, *Management of Captured Enemy Ammunition*, 60.
- 366 Ibid.
- 367 USAE, *UXO Mobile*, 5-10 – 5-11

15.0 SUMMARY

By using experienced private contractors to consolidate and properly dispose of the munitions, the DoD argued, military units would be free to fulfill their primary mission of fighting insurgent forces and rebuilding the Iraqi nation.³⁶⁸ As during the first Gulf War, the DoD called on the CEHNC to provide its technical expertise, contracting capabilities, and programmatic management.³⁶⁹ The scope of work also called for securing serviceable munitions for the new Iraqi Army. By 8 August 2003, the Huntsville Center received funding for the program and awarded \$285 million in four initial contracts.³⁷⁰ In southern Iraq, TTFWI established operations at An Najaf and Az Zubayr depots. EODT occupied the depots in central Iraq at Paladin and Buckmaster, and USAE set up operations at two depots, Bayji and Jaguar, north of Baghdad. These ASPs had an existing capability for ammunition storage and disposal operations, but many had also been targeted by air strikes.³⁷¹

In selecting demolition grounds at the ASPs, the munitions contractors considered a variety of factors, including proximity to the local civilian population and potential impacts to cultural resources. For example, at Jaguar, contractors conducted a study to ensure that demolition air blasts or shock waves would not damage the Hatra World Heritage Site. Demolition grounds also had to be close enough to the ASPs to provide constant security for personnel transporting munitions to the sites. Despite the lack of environmental sensitivity by the Ba'athist regime, CEA contractors performed all demolition functions according to environmental methods approved in the United States.³⁷²

While assessing and destroying several hundred thousand tons of captured materiel, contractors encountered a “cornucopia of ammunition.” Hussein’s regime had secured or purchased the country’s arsenal from several other nations. Some of the ammunition dated to the late nineteenth century, when the area was part of the Ottoman Empire. Workers also uncovered ammunition from Nazi Germany and more than three million rounds of Russian 8mm small-arms ammunition from the mid-1930s. In addition to small-caliber munitions, contractors found bombing materiel that could not be delivered by any aircraft in the Iraqi arsenal. Moreover, loose or scattered propellant resulting from improperly stored or scavenged materiel created an additional safety hazard. For instance, white phosphorus, a difficult material to dispose of in the best environment, liquefies in the Iraqi heat.³⁷³

During 2004, the Iraqi insurgency matured from a loose organization into a “multifaceted and cohesive network.” Anti-Coalition forces also capitalized on available materiel to develop IEDs, and “the fact that Iraq was covered with ammunition caches

replete with large artillery shells and other types of explosives only aided the insurgent IED effort.”³⁷⁴ By August 2004, MNF-I refocused the CEA mission from demilitarizing captured munitions at ASPs to collapsing “unsecured remote caches.”³⁷⁵ Renamed Coalition Munitions Clearance, the program accommodated up to 20 mobile teams to excavate and clear sites with prioritized UXO issues.

The Center’s CMC mobile teams evaluated caches and destroyed materiel on site when feasible and safe, or transported the UXO to one of the depots for demolition. Mobile teams set up self-sustaining camps, performed demolition operations, and secured the site upon closure. Any empty shells were buried to prevent their being used as IED casings, and the coordinates were recorded. Remote caches, many of which had been impacted by Coalition air strikes, initial ground assault forces, scavengers, and even brush fires, proved a meticulous task. Often, much of the materiel lay buried beneath tons of concrete and steel rebar, and workers had to carefully uncover the ordnance before consolidating it into shot boxes for demolition.³⁷⁶ Contractors also recovered a large quantity of munitions from the surface, unsecured warehouses, or trenches.

As the CMC team processed munitions, CEHNC consolidated the six ASPs into two “Legacy depots,” Bayji and Buckmaster, both designed to serve the new Iraqi Ministry of Defense. The last official and largest CEA detonation occurred at the Bayji depot in February 2006 and included more than 245 tons of ammunition. EODT was contracted to operate the two remaining depots and train Iraqis to maintain, pack, and store munitions. Before the US Army assumed control of the depots, “The Iraqis had no storage or compatibility procedures [and even] high explosive items were stored with detonators.”³⁷⁷

Throughout the program, the CEA/CMC team employed local civilians to support both demilitarization and life-support programs. For instance, locally hired personnel performed tasks such as removing munitions from storage bunkers, building shot boxes, loading and unloading ammunition from trucks, and conducting maintenance activities on the demolition ranges. This local assistance enabled CMC personnel to meet production goals, augment the local economy, and build “bridges of trust between American and Iraqi personnel.” Importantly, local nationals hired for handling munitions received valuable training for possible long-term employment with the Iraqi Army. The number of participating individuals varied from the start of the program, however, as many locals were threatened, kidnapped, or even killed. During the insurgency, in particular, the number of locally employed personnel fluctuated and often affected daily production schedules. The CMC team responded by constructing labor camps near the ASPs with safe housing and a secure environment.³⁷⁸

Four years into the program, CEHNC’s contractors had secured or destroyed more than 400,000 tons of munitions, a “task never before attempted under fire.” By using private contractors, the CEA/CMC team enabled coalition forces to use the military for its primary role to stabilize the new Iraqi nation. Moreover, the program successfully removed a substantial amount of accessible IED materiel from insurgents and secured the landscape for both the military and local civilian population. As Colonel John Rivenburgh, former Commander of CEHNC, noted, “Here in the states, we’re still

cleaning up [UXO] from the greatest generation. So, whatever we do in Iraq today, their greatest generation won't be a victim."³⁷⁹

CHAPTER 15 ENDNOTES

- 368 GAO, *Captured Enemy Ammunition*, 11.
- 369 During the first Gulf War, the Huntsville Division led and administered contracts for the Kuwait Emergency Recovery Office (KERO) and provided technical support for the Army Facilities Components Systems. See Manders, *1988-1992 Historical Update*, 95-96. For additional information regarding KERO, see McDonnell, *After Desert Storm*.
- 370 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 21-24. Contracts included \$80 million for Parsons Corporation for logistics support work and \$67 million each to the munitions management contractors EODT, TTFWI, and USAE; see Zahaczewsky, "Mother of All Arsenals."
- 371 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 57-62. For descriptions of the individual depots, see Miller, 62-68.
- 372 Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 57-61.
- 373 Rivenburgh interview, 6 January 2009; Zahaczewsky, "Mother of All Arsenals"; Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 83-87; Sargent interview, 6 May 2008; Elaine Eliah, "U.S. Contractors Work to Destroy, Recycle Munitions in Iraq," *Huntsville Center Bulletin* (December 2005), 7.
- 374 Wright and Reese, *On Point II*, 102.
- 375 On 15 May 2004, Multinational Force-Iraq replaced CJTF-7.
- 376 Sargent interview, 6 May 2008.
- 377 Andrea Takash, "Corps of Engineers Completes Last Demolition in Iraq," dated 10 April 2006, News Release Number 06-12.
- 378 US Army Engineering and Support Center, Report to Congress, 13-14; Miller, *A History of CJTF-7 and CEA Coalition Munitions Clearance Program*, 73-74. Reports provided by the munitions contractors tracked the local workforce; see USA Environmental, Inc., *Final Report Coalition Munitions Clearance: Arlington, Jaguar and Paladin Depots—Iraq* (5 January 2007), 2.6. Report provided by the US Army Engineering and Support Center, Coalition Munitions Clearance Program.
- 379 Zahaczewsky, "Mother of All Arsenals"; Rivenburgh interview, 6 January 2009.

LIST OF ACRONYMS

4ID	4th Infantry Division
AGI	Armor Group International
AOR	Area of Responsibility
ARCENT	Army Central Command
ASP	Ammunition Storage Point
ASP/CP	Ammunition Supply Points/Collection Points
BNAD	Bayji National Ammunition Depot
CAATT	Coalition Army Advisory Training Team
CEA	Captured Enemy Ammunition
CEHNC	US Army Engineering and Support Center, Huntsville
CENTCOM	Central Command
CFF	Combined Field Form
CFLCC	Coalition Forces Land Component Command
CJTF-7	Combined Joint Task Force-7
CMC	Coalition Munitions Clearance
CMD	Coalition Munitions Disposal
CMOC	Civil Military Operations Center
CONUS	Continental United States
CPA	Coalition Provisional Authority
CRC	CONUS Replacement Center
DoD	Department of Defense
DU	Depleted Uranium
ECC	Environmental Chemical Corporation
ECM	Earth-Covered Magazine
EOD	Explosive Ordnance Disposal
EODT	EOD Technology, Inc.
FAR	Federal Acquisition Regulation
FOB	Forward Operating Base
FSA	Forward Support Area
GWOT	Global War on Terrorism
GFP/GFE/CAP	Government Furnished Property/Government Furnished

Equipment/Contractor Acquired Property

HCN	Host Country National
IA	Iraqi Army
IDIQ	Indefinite Delivery/Indefinite Quantity
IED	Improvised Explosive Device
IOC	International Operations Center
ISG	Iraqi Study Group
IT	Information Technology
KIA	Killed in Action
KO	Contracting Officer
LN	Local National
LNO	Liaison Office
LOA	Letters of Authorization
LSA	Logistics Support Area
MEC	Munitions and Explosives of Concern
MEK	Mujahedeen-e Khalq
MHE	Material Handling Equipment
MNC-I	Multi-National Corps–Iraq
MNF-I	Multi-National Force–Iraq
MNSTC-I	Multi-National Security Transition Command–Iraq
MoD	Ministry of Defense
MP	Military Police
MRE	Meals-Ready-to-Eat
MWR	Morale, Welfare and Recreation
NCO	Non-Commissioned Officer
OE	Ordnance and Explosives
OIF	Operation Iraqi Freedom
OP	Observation Post
PLL	Prescribed Load List
PLS	Palletized Loading System
PM	Project Manager
PWS	Performance Work Statement
QASAS	Quality Assurance Specialists Ammunitions Surveillance
QRF	Quick Reaction Force
RBGAN	Regional Broadband Global Area Network
RPG	Rocket-Propelled Grenade
RSG	Rafidain Security Guard
SAR	Site Assessment Report

SASO	Stability and Support Operations
SIR	Serious Incident Report
SITREP	Situation Report
SOC-SMG	Special Operations Consulting–Security Management Group, Inc.
SOP	Standard Operating Procedure
SOW	Scope of Work
SSWP	Site Specific Work Plan
SUXOS	Senior UXO Supervisor
TCN	Third Country National
TTFWI	Tetra Tech–Foster Wheeler, Inc.
USACE	US Army Corps of Engineers
USAE	USA Environmental
USAID	US Agency for International Development
UXO	Unexploded Ordnance
WP	White Phosphorus

REFERENCES

A Note on Sources

In conducting the archival research for this history, the CEHNC CMD and Public Affairs Office proved instrumental in gathering existing information, including files, briefings, news releases, fact sheets, and photographs. Unless noted in the text, all photographs were provided through the US Army Engineering and Support Center, Huntsville, CMD Office. No classified documents were used in the development of this history.

US Army Engineering and Support Center, Huntsville, CMD Office

An Najaf Depot, Iraq, SITREP.

Arlington Depot SITREP

Ashraf Depot, Iraq, SITREP.

CEA/CMC Situation Report SITREP.

CEA Final Stats, as of 30 Sept 04 Presentation, October 2004.

“CEHNC Awards Munitions Contracts,” News Release dated 29 February 2004, Number 04-02, US Army Corps of Engineers Engineering and Support Center, Huntsville Public Affairs Office.

“CEHNC awards \$20 million task order for support to Coalition Munitions Clearance Program,” dated 10 April 2006, News Release Number 06-013.

E-mail, From: Joseph Rothenberger Sent: Tuesday, July 20, 2004 9:53 AM To: Robert Prospero; Daniel J. Smith; Henry Mincke.

EODT Daily SITREP.

EODT Newsletter, December 2005. Available at [http://www.eodt.com/news/Fusillade December 05.pdf](http://www.eodt.com/news/Fusillade%20December%2005.pdf).

HNC news release #06-012, April 10, 2006. On file at the HNC Public Affairs Office.

Jaguar Depot SITREP.

Lessons Learned Program Reports

Paladin SITREP.

Parsons Daily Situations Reports

“Policies and Procedures for Huntsville International Operations Center,” DRAFT, March 2007.

Sargent, Bill. “Coalition Munitions Clearance Program Iraq.” Briefing April 2008. PowerPoint Presentation. On file, CMD, CEHNC, Huntsville, Alabama.

Statement of Work Non-Personal Engineering Administrative Support Services in Support of US Corps of Engineers for Coalition Munitions Clearance Program 11 MAR 2005.

Sullivan, James. *Telling the Fallujah Story to the World*; IMEF & MNC-I Effects Exploitation Team, Presentation, 20 November 2004; <http://www.diggersrealm.com/mt/archives/000452.html>.

Taji SITREP.

Takash, Andrea. “Corps of Engineers Completes Last Demolition in Iraq,” dated 10 April 2006, News Release Number 06-12.

Task Order 0006, under Contract W912DY-04-D-0008, Oversight of the Bayji National Ammunition Depot, in Support of Corps of Engineers Overseas Operations. On file, CMD office, CEHNC, Huntsville, Alabama.

Government Documents

Abizaïd, GEN John P. Commander, United States Central Command, *Testimony before the US House Committee on Armed Services*, 25 September 2003, http://commdocs.house.gov/committees/security/has268000.000/has268000_0.HTM.

“Allied Forces. Supreme Headquarters Operation ECLIPSE Appreciation and Outline Plan,” AG 381-1 GCT-AGM. ECLIPSE Memorandum Number 1. 25 April 1945. Available at <http://ibiblio.net/hyperwar/ETO/Surrender/ECLIPSE/index.html>. Accessed 6 April 2009.

“Coalition Munitions Clearance Program changes mission, reflects on past accomplishments. Multi-National Corps – Iraq PAO.” RELEASE No. 20081123-10, Nov. 23, 2008. Available at http://www.mnf-iraq.com/index.php?option=com_content&task=view&id=23942&Itemid=128. Accessed 6 April 2009.

Earhart, Glenn. "Coalition Munitions Clearance Knowledge Asset," US Army Corps of Engineers Engineering Knowledge Online, https://eko.usace.army.mil/virtualteams/cmcpprogram/knowledge_assets. Accessed February 22, 2005.

Feickert, Andrew. "Does the army need a full-spectrum force or specialized units? Background and issues for Congress US Army Report." *Congressional Research Service CRS Reports and Issue Briefs*. Congressional Research Service CRS Reports and Issue Briefs, 2008. NA.

Hack, LTG Richard. Executive Director for Conventional Ammunition, *Fiscal Year 2004 Annual Report, Single Manager for Conventional Ammunition*, http://www.amc.army.mil/edca/annualrpt/FY04_Ann_Report.pdf.

Iraqi Contingency Planning Memo, 7 February 2003. Available at <http://www.gwu.edu/~nsarchiv/NSAEBB/NSAEBB163/iraq-state-03.pdf>.

Iraq Survey Group Final Report, Iraq's Chemical Warfare Program, Annex H. Available at http://www.globalsecurity.org/wmd/library/report/2004/isg-final-report/isg-final-report_vol3_cw-anx-h.htm.

Miller, Paul L. A History of CJTF-7 and CEA Coalition Munitions Clearance Program: Operation Iraqi Freedom Phase IV Post-Combat Operations Captured Enemy Ammunition, August 2003-December 2004 hereafter cited as CJTF-7.

National Security Archive Electronic Briefing Book No. 163. Posted August 17, 2005. Available at <http://www.gwu.edu/~nsarchiv/NSAEBB/>.

United States, *Ordnance Field Manual* Washington, DC: US Government Printing Office, 1939.

_____. *Ordnance Field Manual, Ammunition Supply, FM 9-6* Washington DC: War Department, 1944.

US Army Engineering and Support Center, Iraq Coalition Munitions Clearance Report to Congress-Unclassified May 2005.

US Government Accountability Office, Operation Iraqi Freedom: DoD Should Apply Lessons Learned Concerning the Need for Security over Conventional Munitions Storage Sites to Future Operations Planning Report # GAO-07-444, 6-7.

Contractor Reports

ECC. *Site Specific Final Report Management of Coalition Munitions Clearance Various Locations in Iraq, Volume I, Prepared for US Army Engineering and Support Center, Huntsville*. Contract Number: W912DY-04-D-0008, Task Order Number: 0001. Huntsville, AL: ECC, September 2006.

_____. *Final Report: Bayji National Ammunition Depot Oversight Program, Prepared for US Army Engineering and Support Center, Huntsville.* Contract Number W912DY-04-D-0008, Task Order Number 0006. Huntsville, AL: ECC, 26 February 2009, 3. On file, CMD, CEHNC, Huntsville, AL.

EOD Technology, Inc. *Management of Captured Enemy Ammunition in Various Locations Throughout Iraq in Support of Corp of Engineers Overseas Operations - Transmittal of Draft Site Specific Final Report.* Contract No. DACA87-00-D-0037, Task Order 0033. Knoxville, TN: EOD Technology, Inc., 2005.

_____. *Final Report for the Management of Coalition Munitions Clearance, Various Locations Throughout Iraq in Support of Corps of Engineers Overseas Operations.* Performed under Contract W912DY-04-D-0018, Task Order 0006.

_____. *Final Report for the Management of Coalition Munitions Clearance Buckmaster & Arlington Legacy Depots in Support of Corps of Engineers Overseas Operations.* Draft. March 2009, W912DY-04-D-0018, Task Order 0005. EODT, 2009.

Parsons Corporation. *Site Specific Final Report: Engineering Support Activities of Corps of Engineers for Captured Enemy Ammunition, Iraq, Prepared for the US Army Engineering and Support Center, Huntsville.* Contract No. DACA87-00-D-0038, Delivery Order Nos. 0035 and 0039, 28 February 2005.

_____. *Site Specific Final Report: Engineering Support Activities of Corps of Engineers for Coalition Munitions Clearance Legacy Depots and Mobile Team Support, Iraq, Prepared for the US Army Engineering and Support Center, Huntsville.* Contract No. W912DY-04-D-0005, Delivery Order No. 0010, June 2009.

Tetra Tech–Foster Wheeler, Inc. *Site Specific Final Report Management of Captured Enemy Ammunition/Coalition Munitions Clearance in Various Locations Throughout Iraq.* Draft. Contract Number W912DY-04-D-0011, Task Order TO-0001, Project Number 2921.0001.0206.00000. Huntsville, AL: Tetra Tech EC, Inc., 2005.

_____. *Site Specific Final Report: Mobile Teams in Support of Iraq Coalition Munitions Clearance Program, Prepared for the US Army Engineering and Support Center, Huntsville.* Contract W912DY-04-D-0011, Task Order 0005, March 2009.

USA Environmental, Inc., *Management and Disposal of Captured Enemy Ammunition, Arlington Ammunition Supply.* Draft. DACA87-00-D-0036, Task Order 0019, October 2003.

_____. *Final Report Coalition Munitions Clearance, Arlington, Jaguar, and Paladin*

Depots - Iraq Contract No: W912DY-04-D-0006, Task Order No: 0001, December 2006.

_____. *Site-Specific Final Report: UXO Mobile Teams, Various Locations in Iraq, Prepared for the US Army Engineering and Support Center, Huntsville.* Contract W912DY-04-D-0006, Task Order 0002, 30 December 2006.

Zapata Engineering, *Draft Site Specific Final Removal Report Management of Coalition Munitions Clearance in Various Locations, Paladin Site, Iraq, 7-1; USA Environmental, Inc., Final Report Coalition Munitions Clearance, Arlington, Jaguar, and Paladin Depots – Iraq.* Contract No. W912DY-04-D-0006, Task Order No. 0001, December 2006.

_____. *Draft Site Specific Final Removal Report Management of Coalition Munitions Clearance in Various Locations, Paladin Site, Iraq.* Contract No. W912DY-04-D-0007, Task Order No. 0001.

Books

Berry, Patrick J. “The Occupation of Germany from 1945 to 1948 Versus The Occupation of Iraq from 2003 to 2005: Is America on a Road to Success?” Fort Leavenworth, KS: US Army Command and General Staff College, 2007.

Campbell, Levin H., Jr., *The Industry-Ordnance Team.* New York: McGraw-Hill, 1946.

Center of Military History. *Operation Enduring Freedom: October 2001-March 2002.* CMH pub. 70-83-1. Washington, DC: US Army Center of Military History, 2004.

Clement, John G. *Operation Enduring Freedom as an Enabling Campaign in the War on Terrorism.* Fort Leavenworth, KS, Army Command and General Staff College, 2003.

Clifford, James H. “The Origins of US Army Explosive Ordnance Disposal.” Army History Research. Available at <http://www.armyhistory.org/armyhistorical.aspx?pgID=868&id=70&exCompID=32>. Accessed 10 September 2008.

Cooper, Willis M. *US Army Explosive Ordnance Disposal Detachment Operations in the Republic of Vietnam.* ACTIV Project No. ACG-81F APO San Francisco: Army Concept Team in Vietnam, 1972, n.p. Available at <http://handle.dtic.mil/100.2/AD737669>. Accessed 28 September 2008.

Cordesman, Anthony H. “Iraq’s Evolving Insurgency: The Nature of Attacks and Patterns and Cycles in the Conflict.” Center for Strategic and International Studies, Washington, DC, 3 February 2006. Available online at http://csis.org/files/media/csis/pubs/060202_iraqicombattrends.pdf.

- _____. "Iraq's Evolving Insurgency and the Risk of Civil War." Center for Strategic and International Studies, Washington, DC, 3 April 2006. Available at http://csis.org/files/media/csis/pubs/060622_insurgency.pdf.
- Frederiksen, Oliver J. *The American Military Occupation of Germany, 1945-1953*. Washington, DC: Historical Division, Headquarters, United States Army, Europe, 1953.
- General Board, United States Forces, European Theater. *Ammunition Supply and Operations: European Campaign*. File 471/2, Study Number 100 1945.
- Gordon, Michael, and Bernard E. Trainor. *Cobra II: The Inside Story of the Invasion and Occupation of Iraq*. New York: Pantheon, 2006.
- Gropman, Alan, ed. *The Big 'L': American Logistics in World War II*. Washington, DC: National Defense University Press, 1997.
- Gunaratna, Rohan. *Inside Al Qaeda: Global Network of Terror*. New York: Columbia University Press, 2002.
- Heiser, LT GEN Joseph M., Jr. *Vietnam Studies: Logistics Support* Washington, DC: Department of the Army, 1991.
- Hughes, Stephen E. *The Iraqi Threat and Saddam Hussein's Weapons of Mass Destruction*. Victoria, BC: Trafford, 2002.
- Huston, James A. *Outposts and Allies: US Army Logistics in the Cold War, 1945-1953* Cranbury, NJ: Associated University Presses, 1988.
- Klingelhofer, COL Mark D. *Captured Enemy Ammunition in Operation Iraqi Freedom and Its Strategic Importance in Post-Conflict Operations*. Carlisle Barracks, Pennsylvania: US Army War College, 2005.
- Lederman, Gordon Nathaniel. *Reorganizing the Joint Chiefs of Staff: The Goldwater-Nichols Act of 1986*. Greenwood Press, 1999.
- Locher III, James R. *Victory on the Potomac: The Goldwater-Nichols Act Unifies the Pentagon*. Texas A&M University Press, 2004.
- Ordnance Ammunition Company Manual Field Manual 9-17*. Washington DC: Headquarters, US Army, 1961.
- Reports of General MacArthur in Japan: The Occupation: Military Phase Volume I Supplement, Facsimile Reprint*, 1994, CMH Pub 13-4, 135. Available at <http://www.history.army.mil/books/wwii/macarthur%20reports/macarthur%20v1%20sup/index.htm>. Accessed 24 March 2009.

Sterling, Keir B. *Serving the Line with Excellence: The Development of the US Army Ordnance Corps*. Aberdeen Proving Ground, Maryland: US Army Ordnance Center and School, 1987.

Stewart, Richard W. *American Military History, Volume II: The United States Army in a Global Era, 1917-2003*. Washington, DC: Center of Military History, 2005.

Ullman, Harlan. *Shock and Awe Achieving Rapid Dominance*. Washington, DC: Center for Advanced Concepts and Technology, 1996.

Woodward, Bob. *Plan of Attack*. New York: Simon & Schuster, 2004.

Wright, Donald P., and Colonel Timothy R. Reese. *The United States Army in Operation Iraqi Freedom, May 2003-January 2005. On Point II: Transition to the New Campaign*. Fort Leavenworth, KS: Combat Studies Institute Press, 2008.

Articles

“1st Armored Division Artillery,” *FA Journal* 9.5 Nov-Dec 2004: 27.

“Accidents Involving Munitions Around the World, 15 June 2003 – 10 September 2003.” *Lettre du Newsletter* 3rd Quarter 2003, 4. Available at http://www.nato.int/related/nimic/newsletter/Q3_2003.pdf. Accessed 25 August 2009.

Bonner, Raymond, and Ian Fischer, “Missiles Plentiful, No Guards in Sight – Munition Dumps a Problem in Iraq.” *Houston Chronicle*; 19 October 2003. Available at <http://www.chron.com/cs/CDA/printstory.mpl/special/iraq/2164640>.

Burns, John. “A Nation at War: The Iraqis, Looting and a Suicide Attack as Chaos Grows in Baghdad.” *The New York Times*, 11 April 2003.

“Business Today.” *The St. Petersburg Times*, 27 September 2003: 1E.

“Camp Ashraf.” Available at <http://www.globalsecurity.org/military/world/iraq/camp-ashraf.htm>. Accessed 25 August 2009.

“Central Iraq Marines Secure Ammunition Dump: Huge arms cache seized, some US-made weapons found at compound large enough ‘to supply a small army.’” *The Denver Post* 31 March 2003: A-07.

Diamond, John. “Small Weapons Prove the Real Threat in Iraq;” *USA TODAY*, 29 September 2003, http://www.usatoday.com/news/world/iraq/2003-09-29-cover-small-arms_x.htm.

- Erwin, Sandra I. "Army Not Producing Enough Ammunition – Aging Stockpile and Shortage of Suppliers Pose Serious Risks, Experts Contend," *National Defense*, May 2003, http://www.nationaldefensemagazine.org/issues/2003/May/Army_Not.htm.
- Gant, Greg. "Behind the Bomb Makers," *Defense Technology International* January-February 2006: 30-32.
- Gordon, Michael. "The Struggle for Iraq: The Resistance; Reality Check in Iraq: US Faces a Long Stay," *New York Times*, 19 October 2003. Available at <http://www.nytimes.com/2003/10/19/world/the-struggle-for-iraq-the-resistance-reality-check-in-iraq-us-faces-a-long-stay.html?pagewanted=1>. Accessed 23 March 2009.
- Hanley, Charles. "Discreetly but loudly, ordnance experts get rid of old Iraqi munitions." *New York Times* 12 June 2007.
- Harlan, Michelle. "Bayji Depot control transitions to IA," *CEHNC Bulletin* 30 January 2009, 11.
- "IA closer to autonomy." *UPI International Intelligence*. Dec 17, 2008: NA. General One File. Gale. Middle Tennessee State University. 14 April 2009. Available at <http://find.galegroup.com.ezproxy.mtsu.edu/itx/start.do?prodId=ITOF>.
- "Iraqi Update;" *Defend America*, <http://www.defendamerica.mil/iraq/update/june2003/iu06103.html>.
- Janosko, Theodore J., and Robert G. Cheatham Jr., "The sound of thunder: VCA in Operation Iraqi Freedom." *FA Journal* 8.5 Sept-Oct 2003: 37.
- Lowe, James R. "EOD in Vietnam," *Ordnance* LIII Jul-Aug 1968: 71-74.
- Lukas, Susan E. "House and Senate Appropriations Committee Report for FY05," *The Officer* 80.7 September 2004: 12.
- McFate, Montgomery. "Iraq: the Social Context of IEDs," *Military Review* May-June 2005: 37-40.
- "Mission." United States Army. Available at <http://www.goordnance.apg.army.mil/sitefiles/OrdnanceMission.htm>. Retrieved on 8 April 2009.
- "Munitions Clearance Program Complete," *Huntsville Times*, December 8, 2008. Available at <http://www.al.com/news/huntsvilletimes/local.ssf?/base/news/1228747508112670.xml&coll=1>. Accessed 8 April 2009.
- "Parsons to Manage Program to Destroy Captured Enemy Ammunition In Iraq; \$89 Million Contract Awarded to Parsons by the US Army Engineering and Support Center, Huntsville," *Business Wire* 25 August 2003: 5490.

Rhodes, Cpl. Shawn C. "Marines Discover Thousands of Pounds of Iraqi Ammunition," *Defend America* Web site, <http://www.defendamerica.mil/articles/apr2003/a041403c.html>.

Ruess, Martin, "Maintenance Past and Present," *Army Logistician* [March-April 1980], 3-6.

Spolar, Christine. "Munitions easy pickings in Iraq; US fears pilfered weapons will end up with guerrillas," *Chicago Tribune*, 7 September 2003, 3.

"Tetra Tech Wins US Army Corps of Engineers Worldwide UXO Contract," *Business Wire* 26 April 2004: 6167.

Toomey, Christopher J. "Task Force Able supporting Operation Iraqi Freedom," *Engineer: The Professional Bulletin for Army Engineers* 34 July-Sept 2004: 13.

"US quartet win arms disposal contracts," *MEED Middle East Economic Digest* 47.35 29 August 2003: 6.

"US Army selects contractors to destroy enemy ammunition in Iraq," *Asia Africa Intelligence Wire* 26 August 2003: NA.

Valine, Debra. "Ordnance clearance mission in Iraq ends, new mission emerges," Press Release Number 09-005, Nov. 28, 2008. On file, HNC PAO, Huntsville, AL. Available at <http://www.hnd.usace.army.mil/pao/NewsReleases/2008/09-005%20Ordnance%20mission%20in%20Iraq%20changes%20focus.pdf>. Accessed 14 April 2009.

Weiner, Betsy. "Captured Enemy Ammunition," *Soldiers Magazine* 59.6 June 2004: 26.

Zahaczewsky, COL George. "Destroying the Mother of All Arsenals: Captured Enemy Ammunition Operations in Iraq," *Journal of Mine Action* February 2006, unpaginated. Available at <http://maic.jmu.edu/journal/9.2/focus/zahaczewsky/zahaczewsky.htm>.

Interviews

Angles, Keith, Project Manager – forward, 17 December 2008.

Britton, Bob, Project Manager – forward, 16 December 2008.

Cadle, Angela, IOC Administrative Manager, 1 December 2008.

Crossley, David, Project Manager forward for TTFWI, 17 December 2008.

Douthat, David, former Director, OE - put the CEA mission in place, 6 January 2009.

Earhart, Glenn, initial Program Manager - CEA mission, 7 January 2009.

Galloway, Wayne, Chief, Safety, OE Directorate - participated in putting CEA/CMC missions in place; responsible for safety oversight of the programs, 7 January 2009.

Groell, David, Property Manager - forward, 17 December 2008.

Iaiennaro, Nick, Project Manager forward for EODT, 7 January 2009.

McCallister, COL (RET) Larry, former HNC Commander - involved with CMC mission, 8 January 2009.

McCowan, Brad, Project Manager - forward, 5 January 2009.

Nixon, Phil, Project Manager for Parsons, 8 December 2008.

Potter, John, Former Director, OE - in place for CMC mission, 6 January 2009.

Rhodes, Dusty, Safety Manager - forward, 6 January 2009.

Rider, Scott, Safety Specialist - forward, 6 January 2009.

Rivenburgh, COL (RET) John, former HNC Commander - when CEA/CMC put in place, 6 January 2009.

Rudolph, Sandy, Project Manager supporting CEA and CMC - from a financial perspective, 16 December 2008.

Sargent, Bill, Program Manager - CEA/CMC Mission and Current Chief of International Operations - CMD, 6 May 2008.

Spear, COL (RET) Harry, former HNC Commander - when CEA/CMC initiated, 8 January 2009.

Stephenson, Bill, Project Manager - forward, 8 January 2009.

Walker, Jimmy, Security Manager - forward, 18 December 2008.

Younghans, John, Project Manager supporting CEA and CMC, 5 January 2009.

**APPENDIX A: NAMES OF THOSE
CONTRACTORS WHO DIED DURING
THE CEA/CMC PROGRAM**

CMC Contractors KIA List (November 2, 2003 to December 9, 2007)

Name	Date KIA
Roy C. Buckmaster	2 November 2003
David Dyess	2 November 2003
Thomas J. Carter, Jr.	25 April 2004
Vincent Foster	25 April 2004
Michael S. Price	30 April 2004
Johannes Wessels	29 July 2004
Allan Wimpenny	27 September 2004
Iain B. Hunter	22 September 2004
Brian Wagoner	3 March 2005
Jimmy Riddle	3 March 2005
Benjamin K. Hodges	3 July 2005
Ali Khaled	27 October 2005
JoSeptember P. Smith	27 October 2005
Thomas M. Thomas	17 November 2005
Stephen Enright	19 January 2006
David Little	19 March 2006
Alivereti Cereilagi	30 April 2006
Sevuloni Nawaduadua	30 April 2006
Josaia Seniasi	30 April 2006
Vilimane Rovutugaga	2 May 2006
Jerry A. Palinsky	3 May 2006
Wayne T. Schultz	8 June 2006
Mikaele Banidawa	8 June 2006
Vilisoni Gauna	8 June 2006
Penaia K. Vakaotia	8 June 2006
Edward L. Cunahan	19 June 2006
Rogelio A. Saraida	13 August 2006
Richard T. Rhodes	17 August 2006
Brenton T. Gray	18 August 2006
Edmund J. Bruwer	18 August 2006
Carey G. Robinson	28 August 2006
Gerald J. Lambert	11 October 2006
Misaele M. Raiwale	15 November 2006
Hussein A. Mohamed	18 November 2006
Amir Kaun	4 January 2007
Donald J. Neil	8 March 2007
Serupepeli Vunisa Buruso	10 July 2007
Darryle Grant DE Thierry	10 July 2007
Raymond Moore	7 September 2007
Robert Frans Brand	28 August 2007
Michael B. Doheny	9 Dec 2007
Steven E. Evrard	9 Dec 2007
Micah G. Shaw	9 Dec 2007

APPENDIX B: RESEARCH DESIGN

RESEARCH DESIGN AND PROPOSED SCHEDULE
CAPTURED ENEMY AMMUNITION AND COALITION
MUNITIONS
CLEARANCE PROGRAMS HISTORY UPDATE

CONTRACT NO. W91278-07-D-0111
TASK ORDER ZW02

Prepared for:

The US Army Engineering and Support Center,
Huntsville
Huntsville, Alabama

Prepared by:

Edward G. Salo and F. Patricia Stallings
Principal Investigators

September 2008

1.0 OVERVIEW

On September 19, 2008, Brockington and Associates, Inc., contracted with the US Army Engineering and Support Center, Huntsville (Huntsville Center) to prepare a history update of the Captured Enemy Ammunition (CEA) and Coalition Munitions Clearance (CMC) Programs. Brockington Senior Historians Edward G. Salo and F. Patricia Stallings will serve as Principal Investigators and will carry out all archival research and report development for the project. The following pages provide a proposed research design, completion schedule, and preliminary bibliography, as required by the Scope of Work.

2.0 RESEARCH DESIGN

The CEA and CMC programs were operated by the US Army Engineering and Support Center, Huntsville, in support of the Global War on Terror. These programs focused on dealing with large caches of enemy ammunition and munitions captured in Iraq. In 2006 a history of the CEA mission was prepared. That history provided a chronological and factual narrative of the CEA mission. Brockington has been contracted to prepare a clear, accurate, illustrated, and chronological written history of the CEA and CMC programs. We will use the 2006 history as the starting point to develop and format a cohesive document that describes in the appropriate level of detail these missions, how they evolved, how they were accomplished, and to the extent possible, quantification of program accomplishments. The work will examine and describe these missions in a historical context and will address the experience and working conditions of the team responsible for execution of the mission. Ultimately, this document is expected to provide an intensive analysis of the CEA and CMC programs, which may be referenced by similar military operations in the future.

2.1 Proposed Historical Themes

The Scope of Work requests that the historical narrative address, at a minimum, the following issues:

1. An introduction and overview of the history of the US Army's doctrine in handling captured enemy munitions.

2. An overview of the development of CEA and CMC as part of the planning for Operation Iraqi Freedom.
3. The role of Center personnel, with emphasis on their leadership in meeting the challenges presented by a wide variety of missions, customers, manpower, and funding.
4. Relationships between the CEA and CMC and the Office of the Chief of Engineers (HQUSACE), other federal agencies, and academic institutions (if applicable).
5. The use of contractors in the conducting of CEA and CMC.
6. Historical analysis of trends/strategic direction of the destruction of munitions in relation to CEA and CMC work during this time frame.
7. Changes in doctrine that occurred during the CEA and CMC.
8. The role of the Center in providing personnel and support to the CEA and CMC.
9. Discussion of historical lessons learned, including analysis of the extent to which lessons were or were not applied.

In reviewing available literature, we have developed a series of themes and questions with which to begin our research. Questions for discussion include, but are not limited to, the following: How has the program's management and operational organization changed during this time? How did the program adapt to different types of munitions? What new technologies or strategies have been developed by or implemented into the program? Who were the contractors used, why were they selected, and how did they perform? Preliminary research has identified a shift from destroying munitions caches at depots to mobile units in 2005. Why did this shift occur and how was it implemented? What type of doctrinal changes occurred? What were the lessons learned? How did the programs fit into the large program of pacification of the Iraqi military? Have Iraqi military or government personnel assisted in the programs and to what extent? How did the programs fit into the broader US military strategic planning? How did the program address personnel security issues? Preliminary research has also suggested the program's

desire to use its acquired equipment and infrastructure to assist in destruction of Condition Code H materiel. In what other similar missions have CEA/CMC personnel participated?

2.2 Proposed Schedule

To adequately address these topics and those broader issues outlined in the project Scope of Work, we propose the following research plan.

The Principal Investigators will attend a project kickoff meeting with the Contracting Officer's Representative (COR) on Monday, September 22, 2008, to discuss the work required under the contract. To maximize research opportunities and travel time, we propose to initiate our archival research at Huntsville during the remainder of that week. The Principal Investigators have familiarized themselves with the CEA and CMC, their history, and their missions through available online documentation, which will facilitate this initial week of research. Anticipated files for review include previous history, back issues of the Huntsville *Bulletin*, and other documents from the CEA and CMC offices. We will also identify other applicable archival information, and we will begin the process of identifying former and current employees for the oral history component.

We will conduct additional research at the Center during the months of October and November as we begin preparing our annotated outline. We anticipate at least two weeks of research at the Center and its offices, with an additional two weeks set aside for research at an appropriate academic institution. This archival work will be a joint effort between the Principal Investigators but may not be conducted concurrently. During these months, we also anticipate conducting an initial set of interviews (up to 15), either at the Center or over the telephone, with an estimated two weeks allocated for this task.

The archival/interview material collected during this period will enable the Principal Investigators to develop a detailed, or annotated, outline no later than the week of October 20, 2008, for COR review. The detailed outline will provide a significant amount of information on each topic to be addressed and will include a preliminary bibliography. The outline will be

a key step between research and writing, for it allows the Principal Investigators to compile and arrange its research, thereby demonstrating their understanding of the material and allowing the COR the opportunity to alter research methodology or historical focus before writing begins.

The Principal Investigators will begin developing the document's initial chapters during November and December 2008. The first chapter will be submitted to the COR for review and comment no later than December 19, 2008. Huntsville Center's COR will review and comment on each chapter no later than 30 days after its submittal. At this time, we have allocated approximately two weeks of preparation for each chapter of the manuscript. We anticipate that some topics may require additional investigation and research time as we develop the draft document. During this time, we may also conduct additional archival research at the Center or other identified repositories. We will also schedule additional interviews if necessary.

We will prepare and submit the entire draft for review on or before the week of July 19, 2009. We will revise the draft according to the COR's comments and will submit the final manuscript no later than the week of September 19, 2009, as stipulated in the Scope of Work.

2.3 Progress Reports

Throughout the total period of the project, Brockington will submit monthly written progress reports to the COR on the 10th of each month, beginning with month one following notice to proceed. Any circumstances which might cause delay in meeting schedules will be immediately brought to the attention of the COR.

2.4 Oral Histories Methodology

Oral history interviews with former staff and partners will also be conducted as part of this project. Brockington will coordinate with the COR to identify appropriate USACE personnel or contractors to be interviewed for this project. At this time, we anticipate approximately 10 to 20 interviews. The interviews will be recorded using high-quality digital recording equipment and transcribed at Brockington's expense using a format provided by the government. Brockington's oral historians utilize the Marantz PDM 670 recorder and

the Sony M-430 microrecorder for backup. The Oral Historian will contact prospective interviewees using methods outlined in the *US Army Guide to Oral History* (Lofgren 2006) and *Doing Oral History: A Practical Guide* (Ritchie 2003).

2.5 Production of Draft Manuscript

The Principal Investigators will serve as the primary authors for the history. Draft copies of each chapter, including text and footnotes, will be prepared and submitted to the COR for review and comment based on the schedule above. The narrative will be descriptive and analytical in style and will conform to format, style, and grammar as specified in *A Manual of Style* (14th edition, revised), published by the University of Chicago Press, supplemented by the Headquarters, US Army Corps of Engineers' "Style and Publications Guide," 2006.

3.0 KEY TEAM MEMBERS

3.1 Principal Investigators

Mr. Edward Salo (PhD in Public History Candidate, Middle Tennessee State University; MA in History, Middle Tennessee State University) serves as project manager for history projects at our South Carolina office and will be a Principal Investigator for this project. Mr. Salo has over ten years of experience in conducting research and authoring historical contexts, including many for military institutions. He has five years of experience in writing the history of the US Army and the Texas-Arkansas-Oklahoma region. Mr. Salo is experienced in using the various archival organizational structures available by numerous data collection methods, in efficiently accessing computers and their information sources, and in documenting historic properties. He is well acquainted with primary resource materials (including maps, manuscripts, records, real property cards, tax roll information, census data, city directories, building permits, and deed/title records) and has conducted research at numerous libraries and archives, including the National Archives, the Library of Congress, the Air Force Historical Research Agency, state archives, and local repositories. In addition, Mr. Salo has training and experience in the use of oral history as a component in the historical narrative. Furthermore,

Mr. Salo works directly with active, retired, and federal personnel, as well as the historical community and the public, on a daily basis. His ability to listen and communicate with staff, customers, and interested parties is a key aspect to the success of the projects he manages. He coauthored portions of the history of the US Army Corps of Engineers, South Atlantic Division. Additionally, he is currently assisting in the preparation of oral histories for the USACE History Office for Corps personnel who served in Task Force Restore Iraqi Oil and Corps operations in support of Hurricane Katrina recovery.

Ms. Patricia Stallings (MA in History, University of Georgia) has been with Brockington and Associates since 2002 as a historian and architectural historian and will be a co-Principal Investigator for this project. Ms. Stallings has conducted archival research at several state, local, and university archives as well as at regional branches of the National Archives for a variety of project types. These include archaeological data recoveries at St. Annie's slave row and Oglethorpe's watch house on St. Simon's Island, Georgia, a rare War of 1812 military encampment near St. Mary's, Georgia, and the Granite Hill Plantation in Hancock County, Georgia. Ms. Stallings's experience with military properties includes surveys and documentation of the former Olathe Naval Air Station in Kansas, National Guard Armories in Missouri and Florida, and Army Reserve Centers throughout the Southeast. Ms. Stallings has also completed multiple architectural survey and photographic documentation reports for the Anniston Army Depot in Alabama. Most recently, she completed an at-length historical narrative as mitigation for the installation's East Area, titled *From Shermans to Strykers: Industrial Maintenance at the Anniston Army Depot, 1940-2007*.

3.2 Support Team Members

After the document is written, Brockington's staff of editors, production personnel, and graphics specialists will assist in preparing a final report that is grammatically correct, easy to comprehend, and visually appealing.

Ms. Jennifer Salo (MA in History, Middle Tennessee State University) serves as editor and production specialist for the Charleston office. She has a bachelor's degree in American Studies and a master's

degree in American History, in addition to numerous years of experience in editing. Ms. Salo's experience in both copy editing and cultural resources studies ensures quality control for Brockington's reports.

Ms. Allison Wind (BS in Anthropology, College of Charleston) is a graphics specialist in the Charleston office. Before becoming a graphics specialist, Ms. Wind worked as a technician in Brockington's archaeological laboratory. She has expertise in creating maps in Corel Draw and Surfer, as well as experience in using other graphics programs.

4.0 PROPOSED RESEARCH STRATEGY

Mr. Salo and Ms. Stallings have been collecting archival information about the CEA/CMC programs for the pending *Huntsville Center Historical Update: 1998-2007*. Information collected for that history is appropriate for a broad program overview and its context within the Huntsville Center's mission. Material collected includes interviews with Mr. Bill Sargent and Dr. John Potter of the OE Directorate, along with appropriate news releases, briefings, and Paul Miller's CEA/CMC history compiled in 2005. We will build on this basic information through additional archival research and oral interviews.

Specifically, after the post-award meeting, the Principal Investigators will undertake a comprehensive literature search. The archival research will include a review of published documents (books and articles at both the scholarly and popular levels, if available), newspaper articles, maps, and other data accessible through libraries, the Internet, interlibrary loan, or by request. We will examine the CEA/CMC Program file collection and other appropriate records on file at the Huntsville Center. Additional archival research conducted during the project may include, but is not limited to, the following:

- Prints and electronic image files from the CEA/CMC files
- CEA/CMC project files such as briefings, technical documents, etc.
- Contractor documents (as appropriate)

We will also make use of soldier interviews on file at the Combined Arms Research Digital Library, Command

and General Staff College, Fort Leavenworth. A cursory search of these files has revealed several soldier interviews containing an in-country perspective of discovered enemy munitions.

4.1 Preliminary Bibliography

Primary Sources at Huntsville Center:

CEA/CMC Files
CEA/CMC Digital Photograph Collection
Huntsville Bulletin
PAO Fact Sheets for CEA/CMC Programs

Journals:

The Combat Edge
Contractor
Engineer: The Professional Bulletin for Army Engineers
Engineered Systems
Military Technology
Parameters

Newspapers and News Services:

Army News Service
Army Times
Engineer Update
New York Times
Stars and Stripes Online

Interviews:

Oral histories of Operation Iraqi Freedom soldiers collected by the Combined Arms Research Digital Library, Command and General Staff College, Fort Leavenworth. Available online at <http://cgsc.leavenworth.army.mil/carl/contentdm/home.htm>.

Secondary Works:

Bergman, Lowell, and Eric Schmitt. "Extent of Unguarded Munitions in Iraq is Said to Exceed Estimate," *New York Times*, September 30, 2003, A1.

Bonner, Raymond, and Ian Fisher. "Missiles Plentiful, No Guards in Sight," *New York Times*, October 19, 2003.

Center for Army Lessons Learned. *Operation Iraqi Freedom (OIF) CAAT II Initial Impressions Report (IIR)* 24 June 2003. Available online at http://www.globalsecurity.org/military/library/report/call/call_04-13_chap03-c.htm.

Comprehensive Report of the Special Advisor to the DCI on Iraq's WMD. Iraq Survey group Final Report, 30 September 2004. Available online at http://globalsecurity.org/wmd/library/report/2004/isg-final-report/isg-fianreport_vol3_cw-anx-h.htm.

Crane, Conrad C., and W. Andrew Terrill. "Reconstructing Iraq: Insights, Challenges, and Missions for Military Forces in a Post-Conflict Scenario" (Carlisle Barracks PA: US Army War College, February 2003).

Dereemer, Kevin M. *Army Explosive Ordnance Disposal and Army Transformation: Is Army Explosive Ordnance Disposal Prepared to Support Forces in the Emerging Environment?* MA Thesis, Fort Leavenworth, Kansas, 2003.

Earhart, H. Glenn and David Douthat. "Captured Enemy Ammunition (CEA) – An Iraqi Legacy." *Proceedings of the Thirty-First Department of Defense Explosive Safety Seminar*, Paper 5C5. August 24-26, 2004.

Erwin, Sandra I. "Army Not Producing Enough Ammunition – Aging Stockpile and Shortage of Suppliers Pose Serious Risks, Experts Contend." *National Defense*, May 2003.

Fella, George. *Security Strategy for Postwar Iraq*. Strategy Research Project. Carlisle Barracks: US Army War College, 19 March 2004.

Gellman, Barton. "Frustrated, U.S. Arms Team to Leave Iraq." *Washington Post Online*, 11 May 2003. Available online at <http://ebird.dtic.mil/May2003/e20030512184338.html>.

Government Accountability Office. *Operation Iraqi Freedom: DoD Should Apply Lessons Learned Concerning the Need for Security over Conventional Munitions Storage Sites for Future Operations Planning*. GAO Report 07-444, March 2007.

Graham, Bradley, and Thomas E. Ricks. "Munitions Issue Dwarfs the Big Picture." *Washington Post Online*, 29 October 2004. Available online at <http://ebirds.afis.osd.mil/ebfiles/e20041029332995html>.

King, COL J. C., *JMC Support for Captured Enemy Ammunition (CEA)*; Presentation to MG Stevenson, September 7, 2004.

Klingelhofer, Mark. *Captured Enemy Ammunition in Operation Iraqi Freedom and its Strategic Importance in Post-Conflict Operations*. USAWC Strategy Research Project, 18 March 2005.

Larry, Dick A. "EOD Perspectives." *Ordnance Magazine* (Fall 2004): 17-20.

Miller, Paul L. *A History of CJTF-7 and CEA Coalition Munitions Clearance Program: Operation Iraqi Freedom Phase IV Post-Combat Operations Captured Enemy Ammunition, August 2003-December 2004*. Prepared for the US Army Engineering and Support Center, Huntsville, 2005.

Weiner, Betsy. "Captured Enemy Ammunition." *Soldiers* (June 2004): 27-29.

