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Report No. D-2009-030

December 8, 2008

# Inspector General

United States  
Department of Defense



## Marine Corps Implementation of the Urgent Universal Needs Process for Mine Resistant Ambush Protected Vehicles

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## Acronyms and Abbreviations

DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities
G-BOSS	Ground-based Operational Surveillance System
HMMWV	High Mobility Multi-Purpose Wheeled Vehicle
IED	Improvised Explosive Device
JERRV	Joint Explosive Ordnance Disposal Rapid Response Vehicle
JRAC	Joint Rapid Acquisition Cell
JUON	Joint Urgent Operational Need
MAK	Marine Armor Kit
MCCDC	Marine Corps Combat Development Command
MCSC	Marine Corps Systems Command
MRAP	Mine Resistant Ambush Protected (vehicle)
MROC	Marine Corps Requirements Oversight Council
UUNS	Urgent Universal Need Statement





INSPECTOR GENERAL  
DEPARTMENT OF DEFENSE  
400 ARMY NAVY DRIVE  
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December 8, 2008

MEMORANDUM FOR DIRECTOR, JOINT STAFF  
NAVAL INSPECTOR GENERAL

SUBJECT: Marine Corps Implementation of the Urgent Universal Needs Process for Mine Resistant Ambush Protected Vehicles (Report No. D-2009-030)

We are providing this report for review and comment. We performed this audit in response to a request by the Assistant Commandant of the Marine Corps. We considered comments from the Joint Staff, the Department of the Navy, and the Marine Corps when preparing the final report.

DoD Directive 7650.3 requires that all recommendations be resolved promptly. The comments of the Director, Joint Staff and the Commanding General, Marine Corps Combat Development Command were responsive to the two report recommendations. However, based on comments made by the Director, we revised Recommendation 2. Therefore, we request additional comments on Recommendation 2. from the Commanding General, Marine Corps Combat Development Command by February 9, 2009.

If possible, send your comments in electronic format (Adobe Acrobat file only) to [AudACM@dodig.mil](mailto:AudACM@dodig.mil). Copies of your comments must have the actual signature of the authorizing official for your organization. We are unable to accept the / Signed / symbol in place of the actual signature. If you arrange to send classified comments electronically, you must send them over the SECRET Internet Protocol Router Network (SIPRNET).

We appreciate the courtesies extended to the staff. Questions should be directed to

[REDACTED] (DSN [REDACTED] or [REDACTED])  
(DSN [REDACTED]). Team members are listed inside the back cover.

Richard B. Jolliffe  
Assistant Inspector General  
Acquisition and Contract Management

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December 8, 2008



## **Results in Brief: Marine Corps Implementation of the Urgent Universal Needs Process for Mine Resistant Ambush Protected Vehicles**

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### **What We Did**

At the request of the Assistant Commandant of the Marine Corps, we reviewed the Marine Corps decision making process to determine whether the decision makers responded appropriately and timely to the February 2005 Urgent Universal Need Statement (UUNS) submitted by field commanders for Mine Resistant Ambush Protected (MRAP)-type vehicles.

### **What We Found**

Shortly after the June 2005 decision by the Commandant of the Marine Corps to replace all High Mobility Multi-Purpose Wheeled Vehicles (HMMWV) in theater with the M1114 up-armored HMMWV, the Deputy Commandant of the Marine Corps for Installations and Logistics advised Marine Corps generals that the M1114 up-armored HMMWV was the best available, most survivable asset to protect Marine Corps forces.

In reaction, the Marine Corps Combat Development Command (MCCDC) stopped processing the UUNS for MRAP-type vehicle capability in August 2005. Specifically, MCCDC officials did not develop a course of action for the UUNS, attempt to obtain funding for it, or present it to the Marine Corps Requirements Oversight Council for a decision on acquiring an MRAP-type vehicle capability. Further, the MCCDC did not, as it could and should have in July 2005, request that the Deputy Commanding General, I Marine Expeditionary Force (Forward) take advantage of new Joint Staff processes available to address an immediate and apparent joint warfighter need for an MRAP-type vehicle capability.

DoD was aware of the threat posed by mines and improvised explosive devices (IEDs) in low-intensity conflicts and of the availability of mine-resistant vehicles years before insurgent actions began in Iraq in 2003. Yet DoD did not develop requirements for, fund, or acquire MRAP-type vehicles for low-intensity conflicts

that involved mines and IEDs. As a result, the Department entered into operations in Iraq without having taken available steps to acquire technology to mitigate the known mine and IED risk to soldiers and Marines. We are making recommendations only to the Marine Corps because the scope of our audit was limited to a review of Marine Corps actions to address the IED threat. We plan to address other Services' actions to counter the IED threat during future audits.

### **What We Recommend**

We recommend that the Director, Joint Staff establish procedures in Chairman of the Joint Chiefs of Staff Instruction 3470.01, "Rapid Validation and Resourcing of Joint Urgent Operational Needs (JUONs) in the Year of Execution," July 15, 2005, and that the Commanding General, MCCDC establish procedures in Marine Corps Order 3900.17, "The Marine Corps Urgent Needs Process (UNP) and the Urgent Universal Need Statement (Urgent UNS)," October 17, 2008, to enable Service requirements developers to forward urgent requirements that may have joint-Service applicability directly to the appropriate combatant commander for endorsement and subsequent submission to the Joint Staff for validation as a Joint Urgent Operational Need.

### **Client Comments and Our Response**

The comments from the Director, Joint Staff and the Commanding General, Marine Corps Combat Development Command were responsive to our recommendations. Based on the comments of the Director, Joint Staff, we revised both recommendations to provide for combatant commander endorsement of urgent Service requirements before submission of UUNS that may have joint-Service applicability to the Joint Staff. Please see the recommendations table on the back of this page.

## Recommendations Table

Client	Recommendations Requiring Comment	No Additional Comments Required
Director, Joint Staff		1.
Commanding General, Marine Corps Combat Development Command	2.	

**Please provide comments by February 9, 2009.**

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### Example of Category I



Category I MRAPs are designed for use in urban environments and carry up to six personnel.

### Example of Category II



Category II MRAPs, for convoy escort, troop transport, and ambulance evacuation, transport up to 10 personnel.

### Example of Category III



Category III MRAPs are for route clearance and explosive ordinance disposal.

# Introduction

## Objective

The objective of the audit was to determine whether Marine Corps decision makers responded appropriately and timely to the February 2005 Urgent Universal Need Statement (UUNS) submitted by field commanders for Mine Resistant Ambush Protected (MRAP) vehicles. See Appendix A for a discussion of the scope and methodology and prior coverage related to the audit objective, and for a review of the internal controls.

## Background

This audit was initiated at the request of the Assistant Commandant of the Marine Corps in response to allegations of mismanagement regarding the identification and fulfillment of a requirement for MRAP-type vehicles made in the “Mine Resistant Ambush Protected Vehicle (MRAP) Ground Combat Element (GCE) Advocate Science and Technology (S&T) Advisor Case Study,” January 22, 2008. Specifically, the allegations stated that the Marine Corps did not promptly respond to the needs of deployed units, and that inaction by Marine Corps officials on acquiring MRAP-type vehicles cost Marines their lives.

The Assistant Commandant’s request also identified allegations that possible criminal negligence occurred in the acquisition of MRAPs. We did not find any evidence of criminal negligence in the Marine Corps’ processing of the February 2005 MRAP UUNS. In addition, the Assistant Commandant asked that we review the Marine Corps management actions taken in response to an UUNS submitted for a laser dazzler. Our subsequent review of the laser dazzler acquisition will be addressed in a separate report.

## ***Mine Resistant Ambush Protected Vehicles***

MRAP-type vehicles have a V-shaped armored hull and protect against the three primary kill mechanisms of mines and improvised explosive devices (IEDs): fragmentation, blast overpressure, and acceleration. These vehicles provide the best currently available protection against IEDs. Experience in theater shows that a Marine is four to five times less likely to be killed or injured in an MRAP-type vehicle than in an up-armored High Mobility Multi-Purpose Wheeled Vehicle (HMMWV). MRAP-type vehicles come in three categories.

- Category I, designed for use in urban environments, transports up to six personnel.
- Category II, for convoy escort, troop transport, and ambulance evacuation, transports up to 10 personnel.
- Category III is for route clearance and explosive ordnance disposal.

## ***Urgent Universal Needs Process***

The Marine Corps UUNS process enables deployed commanders to request equipment critical to the mission based on their recent experience in combat. Through the UUNS process, the Marine Corps is able to procure equipment faster than through the Defense acquisition process. The Marine Corps UUNS process currently uses a secure, Web-based system that allows stakeholders to track requests from their submission to the Marine Corps Combat Development Command (MCCDC) through resolution. Typically, the Marine Corps funds UUNS by reprogramming funds from approved programs or by using congressional supplemental funding.

## ***Requests for MRAP-type Vehicles***

On February 17, 2005, the Deputy Commanding General, I Marine Expeditionary Force, through the Commanding General, Marine Corps Forces, Pacific, submitted an UUNS for 1,169 MRAP-type vehicles to the MCCDC. The UUNS identified an immediate need for an MRAP-type vehicle capability to increase survivability and mobility of Marines operating in hazardous fire areas against known threats. See Appendix C for the February 17, 2005, UUNS describing the capabilities required of the MRAP-type vehicle.

On May 21, 2006, the Commanding General, Multi-National Force-West submitted a Joint Staff Rapid Validation and Resourcing Request<sup>1</sup> for 185 MRAP-type vehicles to the Joint Requirements Oversight Council (JROC). In July 2006, the Commanding General, Multi-National Force-West submitted a second Joint Staff Rapid Validation and Resourcing Request for 1,000 MRAP-type vehicles to the JROC. This request ultimately resulted in the identification of a requirement for 1,185 MRAP-type vehicles for the Army, Navy, and Marine Corps and the initiation of a joint MRAP acquisition program. On May 2, 2007, the Secretary of Defense declared that the MRAP acquisition program was the number one acquisition priority for the Department of Defense.

## ***Mine Resistant Ambush Protected Vehicle Program***

In July 2008, the Joint Requirements Oversight Council approved a total DoD requirement of 15,838 MRAP-type vehicles. Of these, 2,225 were allocated for the Marine Corps. The Navy is the executive agent for the program, and the Commander, Marine Corps Systems Command is the Joint Program Executive Officer. The Program Manager, Joint MRAP Vehicle Program Office, is responsible for managing the MRAP program and reports to the Joint Program Executive Officer. As an example of the Department's adaptation to evolving threats, the Joint MRAP Vehicle Program Office recently initiated a new MRAP II program for the Marine Corps and other forces. Marine Corps officials stated that vehicles procured through the MRAP II program should have the enhanced survivability and performance capability required by field commanders. As of October 2008, the MRAP Joint Program Office had issued contracts for

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<sup>1</sup> A Joint Staff Rapid Validation and Resourcing Request is a joint urgent operational need identified by a combatant commander to identify, and subsequently gain Joint Staff validation of, a solution to meet specific high-priority combatant commander needs, usually within days or weeks.

15,830 MRAP-type vehicles and as of November 2008, 12,073 MRAP-type vehicles had been shipped to theater.

### ***Earlier Actions To Address the IED Threat***

Before the MRAP UUNS was submitted in February 2005, the Army began procuring M1114 up-armored HMMWVs in 2004 to counter the IED threat. Marine Corps officials stated that, because the M1114 up-armored HMMWV production line was active, increasing production of the M1114 up-armored HMMWV was the fastest way to provide improved protection against IEDs for their soldiers in Iraq. Beginning in 2004, the Deputy Secretary of Defense took action to address all non-counter-IED immediate warfighter needs by establishing the Joint Rapid Acquisition Cell (JRAC) and also established the Joint IED Defeat Organization, which focuses on counter-IED immediate warfighter initiatives. The Secretary of Defense also took action by issuing memoranda regarding time-critical actions and guidance concerning Rapid Acquisition Authority for equipment urgently needed to reduce combat fatalities.

### ***Knowledge of the Mine and Improvised Explosive Device Threat***

Before insurgent activities began in Iraq in 2003, DoD knew that:

- the primary threat to tactical wheeled vehicles in low-intensity conflicts is from mines;
- unarmored HMMWVs, retrofitted HMMWVs, and those with armor improvised in the field were vulnerable to mines because of the vehicles' flat bottom, low weight, low ground clearance, and aluminum body;
- V-hull and monocoque<sup>2</sup> V-hull mine-resistant vehicle technology was available that could greatly reduce injuries caused by mines by as much as 70 percent while virtually eliminating fatalities; and
- Third- and fourth-generation mine-resistant vehicle designs were available.

Accordingly, the Department had time to develop requirements for, fund, and acquire MRAP-type vehicles to be prepared for potential low-intensity conflicts before insurgency actions began in Iraq in 2003. See Appendix D for further details on the identification of the need for MRAP-type vehicles in low-intensity conflicts before Iraq.

### ***Congressional Action***

Congress enacted the Duncan Hunter National Defense Authorization Act for FY 2009, and it requires the Secretary of Defense to commission a study and report by an independent body to assess both the effectiveness of the processes used by DoD for generating urgent operational need requirements and the acquisition processes used to fulfill such requirements. See Appendix E for the full text of the legislation.

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<sup>2</sup> For a definition of this and other terms, see the Glossary, Appendix B.

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## **Finding. Marine Corps Actions in Response to the February 17, 2005, Urgent Universal Need Statement for Mine Resistant Ambush Protected Vehicles**

The MCCDC did not fulfill the requirements of the UUNS process or the Joint Urgent Operational Need (JUON) process in determining whether an acquisition program should be initiated in response to the MRAP UUNS submitted on February 17, 2005. In the UUNS, the Deputy Commanding General, I Marine Expeditionary Force (Forward)<sup>3</sup> requested the acquisition of 1,169 MRAP-type vehicles to support Marines engaged in Operation Iraqi Freedom. Specifically, the MCCDC did not:

- develop a course of action document in response to the February MRAP UUNS and submit it to the Marine Corps Requirements Oversight Council (MROC) to determine whether to initiate an acquisition program; or
- request that the Commander, I Marine Expeditionary Force (Forward) submit the urgent requirement through the JUON process, which was established while the MCCDC was reviewing the MRAP UUNS, to determine whether to initiate a joint acquisition program to meet the urgent warfighter need.

The MCCDC did not complete those actions because it considered the June 2005 decision by the Commandant, Marine Corps to acquire the M1114 up-armored HMMWV as the immediately available solution to the IED threat. As a result, in August 2005, the MCCDC stopped processing the February 17, 2005, MRAP UUNS, even though the M1114 up-armored HMMWV did not adequately protect Marines from under-body IED attacks, which were increasing in Iraq. As a consequence, the MROC was not afforded the opportunity to evaluate the need to acquire MRAPs to mitigate the risk to the lives of Marines in theater. See Appendix G for a timeline of fielded capabilities compared with mine and IED attack trends. For a graphic presentation of MCCDC's processing of the February 17, 2005, UUNS, see Appendix H.

### **Instructions and Guidance for Processing Urgent Needs**

The Secretary of Defense and the Deputy Secretary of Defense issued memoranda between September 2004 and June 2005 that established the JRAC and authorized it to expedite procurement of equipment to save lives. The Chairman of the Joint Chiefs of Staff and the Marine Corps, in Marine Corps Orders and Marine Administrative Messages, implemented instructions and guidance for processing urgent warfighter needs.

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<sup>3</sup> See Appendix F for a list of Marine Corps General Officers in key positions during the processing of the February 17, 2005, UUNS.

## ***Joint Chiefs of Staff Instruction***

The Chairman of the Joint Chiefs of Staff Instruction 3470.01, “Rapid Validation and Resourcing of Joint Urgent Operational Needs (JUONs) in the Year of Execution,” July 15, 2005,<sup>4</sup> established policy and procedures to facilitate assessment, validation, sourcing, resourcing, and fielding of urgent, operationally driven, execution-year combatant commander needs. The Instruction states that these needs must be considered life threatening or mission critical; based on unforeseen military requirements; and met in days, weeks, or months. The process is not intended to replace the Joint Capabilities Integration and Development System process, but to accelerate the fielding of readily available systems to satisfy joint urgent wartime needs. See Appendix I for a flowchart of the JUON process.

## ***Marine Corps Guidance***

Marine Corps Order 3900.15A, “Marine Corps Expeditionary Force Development System,” November 26, 2002, established the Expeditionary Force Development System. This system incorporates the use of advocates representing each element of the Marine Air-Ground Task Force in developing warfighting capabilities and requirements. The Order also supports the combat requirement-generating role of the advocates and the requirement-validating role of MROC, and enables the monitoring of emerging areas like expeditionary maneuver warfare and science and technology development.

After the Naval Audit Service report, “Marine Corps Urgent Universal Need Statement Process,” September 28, 2007, the Marine Corps revised MCO 3900.15A with the issuance of MCO 3900.15B, “Marine Corps Expeditionary Force Development System,” March 10, 2008. In the revision, the Marine Corps established policy for using the Expeditionary Force Development System to conduct capabilities-based planning, consistent with the Joint Capabilities Integration and Development System process, and described the relationships between the Deputy Commandant for Combat Development and Integration, other deputy commandants and functional advocates, commanders, Marine Corps forces, and offices within the Department of the Navy.

On July 1, 2008, the Marine Corps issued Marine Corps Bulletin 3901, “The Marine Corps Urgent Needs Process (UNP) and the Urgent Universal Need Statement (UUNS),” to supplement MCO 3900.15B. The bulletin defines the Marine Corps Urgent Needs Process and refines guidance for the submission and processing of an UUNS. On October 17, 2008, the Marine Corps issued Marine Corps Bulletin 3900.17, “The Marine Corps Urgent Needs Process (UNP) and the Urgent Universal Need Statement (UUNS),” to define the Marine Corps Urgent Needs Process and to refine guidance for the submission and processing of an UUNS.

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<sup>4</sup> On July 9, 2007, the Chairman of the Joint Chiefs of Staff published a draft revision to CJCSI 3470.01, “Rapid Validation and Resourcing of Joint Urgent Operational Needs (JUONs) in the Year of Execution,” which is currently in staffing.

Earlier, the Marine Corps issued administrative messages that established procedures for the operating forces to use to submit and staff an UUNS and defined the roles and responsibilities at each level of the staffing process.<sup>5</sup>

## **Marine Corps Response to the Mine and Improvised Explosive Device Threat**

(FOUO) Before the submission of the MRAP UUNS in February 2005, insurgents used mines and IEDs to conduct side and under-vehicle attacks against wheeled and tracked vehicles. The majority of the attacks against wheeled and tracked vehicles were side attacks. In response, the Marine Corps fielded additional capabilities<sup>6</sup> as part of a combined arms strategy with the M1114 up-armored HMMWVs to counter the IED threat. The insurgents, in response to the upgrading of the HMMWVs increased the use of under-vehicle mines to attack U.S. vehicles in the summer of 2006. To counter this evolving threat, the Secretary of Defense made the procurement of MRAP-type vehicles the Department's top acquisition priority in May 2007.

### ***Counter Improvised Explosive Device Actions Implemented by the Marine Corps***

To counter the IED threat, the Marine Corps began upgrading HMMWVs in theater with add-on armor in 2004. Later, the Marine Corps developed and fielded the Marine Armor Kit (MAK). As part of the emergency supplemental appropriation authorized by Congress, the Marine Corps received an additional \$216.8 million in funding in May 2005 to procure M1114 up-armored HMMWVs. With this and other funding, the Commandant of the Marine Corps ordered that all HMMWVs in theater be replaced with M1114 up-armored HMMWVs. As a part of a combined arms strategy to defeat IEDs, the Marine Corps also fielded frequency jammers, the Mine Roller System, and the Ground-based Operational Surveillance System (G-BOSS).

### **Add-On-Armoring Efforts**

In January 2004, the MROC approved an initiative to immediately provide armor to all vehicles engaged in Operation Iraqi Freedom. The Marine Corps procured and installed commercial off-the-shelf Generation I armor by April 2004. Also in April 2004, the Marine Corps began fielding Generation II armor, which included upgraded armor developed by the Marine Corps Logistics Command.

In September 2004, I Marine Expeditionary Force issued a policy letter defining its armoring requirements to include the use of the Marine Armor Kit, or Generation III armor. The MAK provides complete 360-degree protection, as well as overhead and underbody protection to the two-door, four-door, and armament variants of the

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<sup>5</sup> Marine Administrative Message (MARADMIN) 550/2, "Urgent USMC Requirements Generation Process for Operation Enduring Freedom," October 16, 2002; MARADMIN 533/03, "Operation Iraqi Freedom II UUNS Process," November 21, 2003; MARADMIN 424/04, "Operation Iraqi Freedom III UUNS Process," September 28, 2004; and MARADMIN 045/06, "UUNS Process," January 26, 2006.

<sup>6</sup> The fielding of the Marine Armor Kit and other counter-IED capabilities is discussed in detail later in the finding.

HMMWV. Options for the MAK include air-conditioning and steel overlay panels for the doors and rocker panels. The first MAKs were delivered to Marines in theater in January 2005, and the number of systems currently fielded is 5,550.

### **Decision by the Commandant of the Marine Corps To Field M1114 Up-Armored High Mobility Multi-Purpose Wheeled Vehicles**

After receiving the May 2005 emergency supplemental funds, the Commandant of the Marine Corps directed the Deputy Commandant, Installations and Logistics in June 2005 to coordinate an overall effort to procure enough M1114 up-armored HMMWVs to replace all HMMWVs in theater. Relaying the Commandant's decision in a June 2005 e-mail, the Deputy Commandant, Installations and Logistics stated that the M1114 up-armored HMMWV was the best available, most survivable asset to protect Marine forces and meet immediate mission requirements. He sent the e-mail to the Commandant of the Marine Corps, the Assistant Commandant of the Marine Corps, the Deputy Commandant of the Marine Corps for Programs and Resources, the Deputy Commandant of the Marine Corps for Combat Development and Integration, and the Commanding General, Marine Corps Forces Pacific, among others. In the e-mail, the Deputy Commandant, Installations and Logistics stated that in-theater requirements totaled 1,809 M1114 up-armored HMMWVs with an approximate cost of \$415 million. The Commanding General, Marine Corps Forces Pacific replied to the e-mail's recipients that, with the introduction of the Cougar and Buffalo MRAP-type vehicles, the Marine Corps needed more than M1114 up-armored HMMWVs in theater.

In an interview with the audit team, the former Commanding General, Marine Corps Forces Pacific<sup>7</sup> stated that in 2005, MRAP-type vehicles needed to be fielded in theater in addition to the M1114 up-armored HMMWV in some numbers for operations in high-risk areas. He stated that he did not know what action was taken on his recommendation for a mixed-vehicle fleet.

In a separate interview with the audit team, the former Commandant of the Marine Corps<sup>8</sup> stated that he did direct the 100-percent replacement of HMMWVs in theater with M1114 up-armored HMMWVs. However, he stated that his direction was not intended to preclude the Marine Corps from procuring MRAP-type vehicles or to stop MCCDC from completing the requirements of the UUNS process for considering the acquisition of MRAP-type vehicles in response to the February 17, 2005, UUNS.

### **Other Marine Corps Actions To Defeat Improvised Explosive Devices**

The Marine Corps, as part of a combined arms strategy, fielded frequency jammers, the Mine Roller System, and the G-BOSS to mitigate the threat posed by mines and IEDs. Specifically, the Marine Corps acquired and fielded frequency jammer systems that continuously radiate when switched on to counter radio-controlled IEDs in Iraq and

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<sup>7</sup> This person left the position of the Commanding General, Marine Corps Forces Pacific in August 2005, and is now retired from the Marine Corps.

<sup>8</sup> This person left the position of the Commandant of the Marine Corps in November 2006, when he retired from the Marine Corps.

Afghanistan. Since May 2006, the Marine Corps has installed 6,635 frequency jammers in support of Operation Iraqi Freedom.

The Mine Roller System is lightweight and can be attached to wheeled vehicles to counter pressure-detonated IEDs. The weight of the system causes buried IEDs to detonate before the crew compartment of the wheeled vehicle passes over the explosive device. The Marine Corps first used the Mine Roller System in Operation Iraqi Freedom in October 2006<sup>9</sup> and has an approved acquisition objective of 603 systems.

The Marine Corps also procured the G-BOSS to provide a continuous ground-based surveillance capability. The Marine Corps uses the G-BOSS to track insurgent movements and activities and to document insurgent cross-border activities. The system was not fielded until February 2007 because the G-BOSS capability had to be developed. As of July 2008, the Marine Corps had fielded 120 G-BOSSs in theater.

### ***Earlier Marine Corps Procurement of Mine Resistant Ambush Protected-type Vehicles***

In December 2003 and March 2005, the MCCDC validated MRAP-type vehicle requirements, separate from the February 2005 UUNS, and Marine Corps Systems Command (MCSC) subsequently contracted for MRAP-type vehicles. Further, in March 2005, midlevel Marine Corps officers briefed the Executive Safety Board on capabilities that MRAP-type vehicles could provide to protect forces in theater.

### **Mine Resistant Ambush Protected-Type Vehicles Previously Procured by the Marine Corps**

In April 2004, the MCCDC issued a statement of need for 27 Hardened Engineer Vehicles in response to a December 2003 UUNS from the I Marine Expeditionary Force. Hardened Engineer Vehicles are medium-sized blast-protected (MRAP-type) vehicles produced in four- and six-wheel layouts. They can be customized for multiple tasks, including troop transport, mine and explosive ordnance disposal, command and control, reconnaissance, and as a lead convoy vehicle. Hardened Engineer Vehicles were deployed in October 2004. In April 2005, the Joint IED Task Force approved the release of \$92.14 million from the Iraq Freedom Fund for the procurement of 122 Joint Explosive Ordnance Disposal Rapid Response Vehicles (JERRVs), the joint-Service version of the Hardened Engineer Vehicle. Of the 122 JERRVs, 38 were for the Marine Corps. The first JERRV was fielded in August 2005.

### **Executive Safety Board Briefing**

On March 29, 2005, midlevel Marine Corps officers briefed the Marine Corps Executive Safety Board on mine-resistant vehicles and proposed introducing MRAP-type vehicles in theater on a large scale. The Assistant Commandant of the Marine Corps chaired the Executive Safety Board briefing, attended by several Marine Corps General Officers, including the Deputy Commandant for Combat Development and Integration. The

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<sup>9</sup> The U.S. military previously used improvised mine roller systems in World War II, Vietnam, and Somalia.



briefers proposed using the MAK and Medium Tactical Vehicle Replacement Armor System to bridge the gap between the HMMWV and a commercial off-the-shelf MRAP-type vehicle, with the MRAP-type vehicle becoming the standard.

The officers' briefing noted that an MRAP UUNS had been signed in February 2005 and listed the different MRAP-type vehicles needed to fulfill the UUNS request. The Executive Safety Board minutes stated that the Assistant Commandant of the Marine Corps favored procuring mine-resistant vehicles.

The minutes stated that the Assistant Commandant of the Marine Corps directed the Deputy Commandant for Combat Development and Integration to review the feasibility of developing or buying a new, mine-resistant tactical vehicle to replace the HMMWV and to present the results at the next Executive Safety Board meeting. However, the MCCDC could not provide us with any evidence that the requested review was performed.

## **Marine Corps Response to the February 17, 2005, UUNS for Mine Resistant Ambush Protected-Type Vehicles**

After the Deputy Commanding General, I Marine Expeditionary Force (Forward) submitted the February 17, 2005, UUNS for 1,169 MRAP type-vehicles, the MCCDC and the MCSC began processing the requirement and working to identify a materiel solution.

### ***Justification for Acquiring Mine Resistant Ambush Protected Vehicles***

On February 17, 2005, the Deputy Commanding General, I Marine Expeditionary Force (Forward) signed the UUNS requesting 1,169 MRAP vehicles. The UUNS stated that Marine forces had an immediate need for an MRAP-type vehicle capability to increase survivability and mobility of Marines operating in hazardous fire areas against known threats. He stated in the UUNS that he identified the need through operational combat experience and critical analysis of casualty data from the Joint Theater Trauma Registry Report. The Deputy Commanding General also stated that MRAP-type vehicles significantly increased personnel survivability over existing motor vehicle equipment and would mitigate casualties resulting from IED and motor vehicle accidents. To mitigate Marine Corps casualties, he specified in the UUNS a need to acquire 1,169 MRAP-type vehicles as follows:

- 759 multimission combat vehicles,
- 229 troop transport vehicles,
- 58 flat bed, 7-ton-cargo truck-equivalent vehicles,
- 58 ambulance-variant vehicles, and
- 65 explosive ordnance disposal and engineer variants with a 50-foot investigating arm.

In the UUNS, the Deputy Commanding General recommended procuring the troop transport and multimission MRAP-type vehicles before funding other variants. In an interview with the audit team, the former Deputy Commanding General<sup>10</sup> stated that, at the time he signed the UUNS, the M1114 up-armored HMMWV met the current threat. He stated that he submitted the UUNS in anticipation of the enemy countering the M1114 up-armored HMMWV, and he expected the Marine Corps to field a vehicle in response to his UUNS within 2 to 5 years. The former Deputy Commanding General stated that, in retrospect, the February 17, 2005, UUNS probably should have been a joint-Service requirement.

More than 2 years later, on July 16, 2007, the former Deputy Commanding General issued a memorandum to the Director, Marine Corps Public Affairs, stating that the 2005 decision to field M1114 up-armored HMMWVs was the correct Marine Corps decision in response to the threat in 2005. The former Deputy Commanding General told the audit team that he issued the memorandum to clarify that his intent in signing the UUNS was for the Marine Corps to acquire and field the MRAP within 2 to 5 years, as stated earlier. However, as shown in Appendix C, the UUNS clearly indicated that the requirement for MRAP-type vehicles was priority 1 and urgently needed—not a capability desired in 2 to 5 years.

### ***Marine Corps Combat Development Command Actions***

MARADMIN 533/03<sup>11</sup> required the MCCDC to convene a Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF) Working Group to review the UUNS and for MCCDC to present a course of action to the MROC. On receipt of the MRAP UUNS on February 22, 2005, MCCDC entered it in MCCDC's Combat Development Tracking System. The system collects, organizes, presents, and stores information and documentation about initiatives being pursued by the Marine Corps to enhance combat capabilities and readiness. The system manages the flow of a requirements document generated for an UUNS that has been validated through the UUNS process.

The DOTMLPF Working Group reviewed the MRAP UUNS. DOTMLPF representatives stated that some of the key issues deliberated during the Working Group meetings included cost, how the MRAP-type vehicles fit with the Marine Corps doctrine of an expeditionary fighting force, whether the MRAP-type vehicle would be theater specific, whether a 100-percent solution existed, how the MRAP-type vehicle would be supported logistically, the reliability of MRAP-type vehicles such as the Cougar<sup>12</sup> already in theater, and whether to change the MRAP UUNS to a universal need statement and present it to the Marine Corps Warfighting Laboratory for further research. At the end of

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<sup>10</sup> The Deputy Commanding General, I Marine Expeditionary Force in February 2005, is now the Commanding General, II Marine Expeditionary Force.

<sup>11</sup> Marine Corps Order 3900.17, "The Marine Corps Urgent Needs Process (UNP) and the Urgent Universal Need Statement (Urgent UNS)," October 17, 2008, cancelled MARADMIN 533/03, MARADMIN 424/04, and MARADMIN 045/06.

<sup>12</sup> Several Marine Corps representatives that we interviewed stated that MRAP-type vehicles in theater were experiencing reliability issues in 2005 that caused the MRAP-type vehicles to be unusable at times.

March 2005, the DOTMLPF Working Group submitted an information paper with options for satisfying the UUNS to the Deputy Commandant, Combat Development and Integration.

Representatives from the DOTMLPF Working Group provided us three versions of the information paper but could not recall which version they forwarded to the Deputy Commandant, Combat Development and Integration. The version of the information paper with the latest date recommended to immediately begin efforts to procure limited quantities of MRAP-type vehicles for a tailored, specialty vehicle fleet to mitigate the effects of mines and IEDs. The information paper also stated that the MRAP fleet should be considered theater-specific equipment and should be delivered to the Marine Expeditionary Force and added to its table of equipment.

In an interview with the audit team, the former Deputy Commandant, Combat Development and Integration<sup>13</sup> acknowledged that he received an information paper and stated that he directed that work continue on a solution to the UUNS. He also stated that he did not know why the DOTMLPF Working Group did not develop a course of action for MROC review.

The Chairman, DOTMLPF Working Group briefs the MROC periodically on the status of UUNS being processed. The Chairman briefed the MROC on the status of the MRAP UUNS on three occasions.<sup>14</sup> The Chairman's last briefing to the MROC on the MRAP UUNS occurred on August 8, 2005. At that time, the DOTMLPF Working Group did not identify any processing issues with the UUNS and stated that a solution was being developed by the MCSC.

### ***Procurement Activities at Marine Corps System Command***

In anticipation of receiving an MROC-approved requirement for MRAP-type vehicles, the MCSC issued a request for information and developed a proposed acquisition strategy to procure a materiel solution to the February UUNS for MRAP-type vehicles.

#### **Request for Information**

In November 2004, the MCSC received a draft copy of the MRAP UUNS, submitted in February 2005. Based on the requirements in the draft UUNS, MCSC released a request for information in December 2004 on commercially available, off-road and highway-suitable vehicle platforms capable of providing Marines with ballistic and mine protection. The MCSC provided documentation showing that the request for information identified nine potential vendors of MRAP-type vehicles.

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<sup>13</sup> The person who held the position of Deputy Commandant, Combat Development and Integration during the processing of the MRAP UUNS left the position in August 2006 and is now the Commander, U.S. Joint Forces Command and the Supreme Allied Commander for Transformation.

<sup>14</sup> The Chairman DOTMLPF Working Group provided status briefs on the MRAP UUNS to the MROC on March 25, 2005; June 10, 2005; and August 8, 2005.

## Acquisition Strategy

In anticipation of receiving a requirement for a large number of MRAP-type vehicles, the Program Manager for Motor Transport at MCSC briefed other MCSC officials on an acquisition strategy to acquire MRAP-type vehicles that included two timelines for acquiring vehicles.<sup>15</sup> The program manager also addressed outstanding issues: requirements documentation, funding, purchasing from a foreign manufacturer, and personnel.

### ***Discontinuation of Marine Corps Actions in Response to the February 17, 2005, Urgent Universal Need Statement for Mine Resistant Ambush Protected-Type Vehicles***

As stated earlier, the Commandant of the Marine Corps directed the Deputy Commandant, Installations and Logistics in June 2005 to coordinate an overall effort to procure enough M1114 up-armored HMMWVs to replace all HMMWVs in theater. After this direction, the DOTMLPF Working Group briefed the MROC twice, the last time on August 8, 2005, on the status of actions being taken to address the February 17, 2005 UUNS for MRAP-type vehicles. The MCCDC was unable to provide documentation showing that after August 8, 2005, DOTMLPF Working Group fulfilled remaining actions for processing the UUNS as required in Marine Corps Order 3900.15A. Specifically, the DOTMLPF Working Group did not develop the course of action necessary to submit the UUNS to the MROC for a decision on whether to acquire MRAP-type vehicles.

Further, the DOTMLPF Working Group did not have documentation to show that a decision had been reached on options concerning the UUNS—that is, whether to recommend that the MROC support the immediate acquisition of MRAP-type vehicles or that the requirement for MRAP-type vehicles be changed to a universal need statement<sup>16</sup> that would not require the immediate acquisition of MRAP-type vehicles. The Combat Development Tracking System, which collects information on the processing of UUNS, did not include any information on the processing of the MRAP UUNS after March 22, 2005, until an information technology specialist closed the UUNS on November 7, 2006.

Apparently, the Commandant of the Marine Corps' decision to acquire up-armored HMMWVs at the same time as the UUNS for MRAP-type vehicles was being processed deterred MCCDC from completing the UUNS process as required, even though the then-Commandant stated that he did not intend for this to happen.

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<sup>15</sup> The first timeline assumed that funding was assured; the second assumed that funding was not assured.

<sup>16</sup> Representatives from MCCDC stated that they believed that Marine Corps Forces Pacific downgraded the MRAP UUNS to a universal need statement. We contacted representatives from Marine Corps Forces Pacific, including the universal need statement coordinator assigned to the MRAP UUNS, who did not have any documentation regarding changing the MRAP UUNS to a universal need statement. In addition, the representatives stated that they did not believe Marine Corps Forces Pacific had the authority to downgrade an UUNS that they had sent to the MCCDC.

As a consequence, the MROC was not afforded an opportunity to evaluate the need to acquire MRAP-type vehicles. In addition, because the MCCDC did not develop a statement of need or a concept of employment, submit to the MROC a recommended course of action on acquiring MRAP-type vehicles, or obtain assurance of program funding, the MCSC also discontinued its efforts to implement an acquisition strategy for MRAP-type vehicles.

### ***Joint Rapid Acquisition Cell***

On September 3, 2004, the Deputy Secretary of Defense established the JRAC to facilitate meeting the urgent materiel and logistics requirements that the combatant commanders certify as operationally critical. An immediate warfighter need is a JUON that requires a materiel or logistics solution in 120 days or less. If left unfulfilled, it could result in combat-related loss of life or mission failure.

In addition, Chairman of the Joint Chiefs of Staff Instruction 3470.01 states that, once a JUON is validated by the Joint Staff, J-8, resourcing of a solution should occur, usually within days or weeks, to meet a specific high-priority combatant commander need. After validation by Joint Staff, J-8, the JUON is forwarded to the JRAC for a decision on whether to assign the JUON to a Service or to the Joint IED Defeat Organization.

Because of the potential for joint-Service applicability, the MCCDC could and should have requested the Deputy Commanding General, I Marine Expeditionary Force (Forward) to submit the requirement identified in the MRAP UUNS through the JUON process. However, Chairman of the Joint Chiefs of Staff Instruction 3470.01 did not establish procedures to enable Service requirements developers to forward urgent requirements that potentially have joint-Service applicability to the Joint Staff.

## **Changes to Urgent Universal Needs Process Since March 2005**

After the Naval Audit Service Report No. N2007-0060, “Marine Corps Urgent Universal Need Statement Process,” September 28, 2007, the Marine Corps issued Marine Corps Order 3900.15B and Marine Corps Bulletin 3901. Representatives of the Naval Audit Service concluded that Marine Corps Order 3900.15B, along with Marine Corps Bulletin 3901, adequately defined the roles, responsibilities, and desired outcome of the UUNS process within the Marine Corps. Specifically, Marine Corps Bulletin 3901, issued during the audit, includes a procedure to send every UUNS received by the MCCDC to the MROC for a decision. We believe that this practice will give the UUNS process greater visibility and transparency. Also during the audit, the Marine Corps issued Marine Corps Order 3900.17, “The Marine Corps Urgent Needs Process (UNP) and the Urgent Universal Need Statement (Urgent UNS), October 17, 2008, which defines and refines the UUNS process.

## **Conclusion**

Shortly after the Commandant of the Marine Corps decided to replace all HMMWVs in theater with the M1114 up-armored HMMWV, the Deputy Commandant of the Marine



Corps for Installations and Logistics advised Marine Corps generals that the M1114 up-armored HMMWV was the best available, most survivable asset to protect Marine Corps forces, and that it met immediate mission requirements. In reaction, the MCCDC stopped processing the UUNS. That is, it did not develop a course of action on the February 17, 2005, MRAP UUNS; attempt to obtain funding for it; or present the UUNS to the MROC for approval of the immediate acquisition of MRAP-type vehicles to mitigate risk to the lives of Marines in theater. Further, the MCCDC did not take advantage of Joint Staff processes designed to address an immediate and apparent Joint warfighter need for the MRAP-type vehicle.

The revisions to the UUNS process included in Marine Corps Order 3900.15B and Marine Corps Bulletin 3901 did clarify the UUNS process and updated the policy to require that the MCCDC submit all UUNS to the MROC. However, the policy should be revised to incorporate a requirement that any UUNS submitted that has the potential to be a joint-Service requirement be immediately elevated to the appropriate Joint Staff organization.

As discussed in the Background section of this report and in Appendix D, DoD was aware of the threat posed by mines and IEDs in low-intensity conflicts and of the availability of mine-resistant vehicles before insurgent activities began in Iraq in 2003. However, the Department did not take action to develop requirements for, fund, or acquire MRAP-type vehicles for low-intensity conflicts involving the use of mines and IEDs. As a result, the Department entered into operations in Iraq less prepared than it could have been to mitigate the threat posed by mines and IEDs to the lives of soldiers and Marines.

## **Client Comments on the Finding, and Our Response**

Summaries of client comments on the finding and audit responses are in Appendix J.

## **Recommendations, Client Comments, and Our Response**

### ***Revised Recommendations***

In response to the draft report, the Director, Joint Staff requested that both Recommendations 1. and 2. be changed to direct the Service requirements developers to forward urgent requirements that may have joint-Service applicability to the appropriate combatant commander, instead of directly to the Joint Chiefs of Staff. We agree with the Director, Joint Staff's comments and revised Recommendations 1. and 2. to direct Service requirements developers to forward urgent requirements that may have joint-Service applicability to the appropriate combatant commander for endorsement and then to the Joint Staff for validation as Joint Urgent Operational Needs.

**1. We recommend that the Director, Joint Staff revise Chairman of the Joint Chiefs of Staff Instruction 3470.01, "Rapid Validation and Resourcing of Joint Urgent Operational Needs (JUONs) in the Year of Execution," July 15, 2005, to include**

**procedures that Service requirements developers can follow to forward urgent requirements that may have joint-Service applicability directly to the appropriate combatant commander for endorsement and subsequent submission to the Joint Staff for validation as Joint Urgent Operational Needs.**

### ***Director, Joint Staff Comments***

The Director, Joint Staff, recommended revising both recommendations to ensure that the combatant commander has the opportunity to review and endorse Service urgent requirements that may have joint-Service applicability within the assigned area of responsibility. He stated that the change will also ensure consistency with the Deputy Secretary of Defense memorandum of November 2004 regarding immediate warfighter needs.

### ***Audit Response***

The comments of the Director, Joint Staff were responsive. We agree with the Director's suggested revisions and have revised both recommendations accordingly.

### ***Department of the Navy Comments***

Although not required to comment, the Assistant Secretary of the Navy (Research, Development and Acquisition) concurred with the recommendation.

**2. We recommend that the Commanding General, Marine Corps Combat Development Command revise Marine Corps Order 3900.17, "The Marine Corps Urgent Needs Process (UNP) and the Urgent Universal Need Statement (Urgent UNS)," October 17, 2008, to instruct the Capabilities Development and Integration Board<sup>17</sup> to immediately submit urgent universal need statements that have joint-Service applicability or have the potential to affect or replace any joint program to the appropriate combatant commander for endorsement and subsequent submission to the Joint Staff for validation as Joint Urgent Operational Needs.**

### ***Department of the Navy and Marine Corps Combat Development Command Comments***

The Assistant Secretary of the Navy (Research, Development and Acquisition) and the Commanding General, MCCDC concurred. The Commanding General, MCCDC stated that, within 45 days of the adoption of Recommendation 1. by the Chairman of the Joint Chiefs of Staff, the Marine Corps will issue appropriate implementing instructions. The Commanding General also stated that the ability of the Services to serve as an additional entry point into the JUON process would simplify actions required of operational commanders and avoid duplication of effort by Service capability development staffs. He also noted that Marine Corps Bulletin 3901 has been superseded by Marine Corps Order 3900.17, "The Marine Corps Urgent Needs Process (UNP) and the Urgent Universal Need Statement (Urgent UNS)," October 17, 2008.

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<sup>17</sup> The Capabilities Development and Integration Board replaced the Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities Working Group.

### ***Audit Response***

The Commanding General's comments were responsive. However, as discussed above in response to the suggestion by the Director, Joint Staff, we revised the recommendation to ensure that the combatant commander has the opportunity to review and endorse Service urgent requirements that may have joint-Service applicability within the assigned area of responsibility before submitting them to the Joint Staff for validation as Joint Urgent Operational Needs. Accordingly, we request that the Commanding General, MCCDC provide comments on the revised Recommendation 2. in response to the final report.

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## Appendix A. Scope and Methodology

We conducted this performance audit from March through September 2008 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our finding and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our finding and conclusions based on our audit objectives.

At the request of the Assistant Commandant of the Marine Corps, in response to allegations of mismanagement regarding the identification and fulfillment of an urgent requirement for MRAP-type vehicles, we reviewed the Marine Corps process to determine whether the decision makers responded appropriately and timely to the February 17, 2005, UUNS submitted by field commanders for MRAP-type vehicles.

We reviewed documentation and information dated from November 1991 through August 2008. Documents reviewed included the following:

- After Action Report, Operations Desert Shield and Desert Storm, November 12, 1991;
- After Action Report, Operation Restore Hope, June 13, 1994;
- Marine Corps Order 3900.15A, “Marine Corps Expeditionary Force Development System,” November 26, 2002;
- Marine Administrative Message 533/03, “OIF [Operation Iraqi Freedom] II Urgent Universal Need Statement (UNS) Process,” November 21, 2003;
- Deputy Secretary of Defense Memorandum, “Meeting the Immediate Warfighter Needs (IWNs),” September 3, 2004;
- Marine Corps Systems Command request for information on MRAP-type vehicles, December 2004;
- Secretary of Defense Memorandum, “Fiscal Year 2005 Rapid Acquisition Authority (RAA),” January 25, 2005;
- Urgent Universal Need Statement for MRAP vehicles, February 17, 2005;
- Deputy Secretary of Defense Memorandum, “Joint Improvised Explosive Device (IED) Defeat,” June 27, 2005;
- Chairman of the Joint Chiefs of Staff Instruction, CJCSI 3470.01, “Rapid Validation and Resourcing of Joint Urgent Operational Needs (JUONs) in the Year of Execution,” July 15, 2005;
- Marine Corps Order 3900.15B, “Marine Corps Expeditionary Force Development System (EFDS),” March 10, 2008; and
- Marine Corps Bulletin 3901, “The Marine Corps Urgent Needs Process (UNP) and the Urgent Universal Need Statement (Urgent UNS),” July 1, 2008.



In addition, we conducted 68 interviews with Department of Defense personnel. The interviews included current and former Marine Corps officers and civilians who occupied the following positions in 2005 or 2006:

Commandant of the Marine Corps  
Assistant Commandant of the Marine Corps  
Deputy Commandant, Programs and Resources, U.S. Marine Corps  
Deputy Commandant, Plans, Policies and Operations, U.S. Marine Corps  
Deputy Commandant, Installations and Logistics, U.S. Marine Corps  
Deputy Commandant, Combat Development and Integration, U.S. Marine Corps, and  
Commanding General, Marine Corps Combat Development Command  
Commanding General, Marine Corps Forces Pacific and Marine Corps Central Command  
Commanding General, II Marine Expeditionary Force  
Commanding General, I Marine Expeditionary Force (Forward)  
Commanding General, II Marine Expeditionary Force (Forward)  
Inspector General of the Marine Corps  
Deputy Commanding General, I Marine Expeditionary Force (Forward)  
Commanding General, Marine Corps Systems Command  
Commanding General, Marine Corps Warfighting Laboratory  
Director, Operations Division, Plans, Policies and Operations, U.S. Marine Corps  
Director, Expeditionary Force Development Center, Marine Corps Combat Development  
Command  
Director, Capabilities Development Directorate, Marine Corps Combat Development  
Command  
Director, External Coordination for the Deputy Commandant, Programs and Resources,  
U.S. Marine Corps  
Executive Director, Marine Corps Systems Command  
Deputy Director, Capabilities Development Directorate, Marine Corps Combat  
Development Command

We also interviewed staff from the Marine Corps Requirements Oversight Council, Joint Rapid Acquisition Cell, Joint Improvised Explosive Device Defeat Organization, Army Program Executive Office Ground Combat Systems, the Army Project Manager for MRAP, the Army Program Executive Office Combat Support and Combat Service Support, and the Project Manager for Tactical Vehicles.

## **Review of Internal Controls**

We determined that a material internal control weakness in the UUNS process existed as defined by DoD Instruction 5010.40, “Managers’ Internal Control (MIC) Program Procedures,” January 4, 2006. The Commanding General, Marine Corps Combat Development Command’s process did not ensure that the February 17, 2005, MRAP UUNS was either presented to the Marine Corps Requirements Oversight Council or sent to the Joint Staff for a decision concerning the need to acquire MRAP-type vehicles. Implementing Recommendation 1. will provide a means for Services to forward urgent requirements with potential joint-Service applicability to the combatant commanders and

Joint Chiefs of Staff for their consideration. We reviewed changes made to the Marine Corps UUNS process implemented as a result of a Naval Audit Service report, “Marine Corps Urgent Universal Need Statement Process,” September 28, 2007, and determined that implementing Recommendation 2. will further improve the Marine Corps process for evaluating and fulfilling future UUNS requirements. We will provide a copy of this report to the senior official responsible for internal controls in the Marine Corps. We are not making recommendations to the Army because the scope of our audit was limited to actions taken by the Marine Corps to address the IED threat. We plan to address Army actions to counter the IED threat during future audits.

## **Use of Computer-Processed Data**

We did not use computer-processed data to perform this audit.

## **Prior Coverage**

During the last 5 years, the Government Accountability Office (GAO), the Department of Defense Inspector General (DoD IG), the Naval Audit Service, and the Inspector General of the Marine Corps have issued eight reports discussing armor protection or the MRAP vehicle. Unrestricted GAO reports can be accessed over the Internet at <http://www.gao.gov>. Unrestricted DoD IG reports can be accessed at <http://www.dodig.mil/audit/reports>.

### **GAO**

GAO Report No. GAO-08-884R, “Rapid Acquisition of Mine Resistant Ambush Protected Vehicles,” July 15, 2008

GAO Report No. GAO-06-274, “Defense Logistics: Lack of a Synchronized Approach between the Marine Corps and Army Affected the Timely Production and Installation of Marine Corps Truck Armor,” June 22, 2006

GAO Report No. GAO-06-160, “Defense Logistics: Several Factors Limited the Production and Installation of Army Truck Armor during Current Wartime Operations,” March 22, 2006

GAO Report No. GAO-05-275, “Defense Logistics: Actions Needed to Improve the Availability of Critical Items during Current and Future Operations,” April 8, 2005

### **DoD IG**

DoD IG Report No. D-2007-107, “Procurement Policy for Armored Vehicles,” June 27, 2007

### **Navy**

Naval Audit Service Report No. N2007-0060, “Marine Corps Urgent Universal Need Statement Process,” September 28, 2007

***Marine Corps***

Inspector General of the Marine Corps Control Number 0001713, Readiness Assessment,  
“US Marine Corps Ground Equipment in Iraq,” May 18, 2006

Inspector General of the Marine Corps Control Number 0001714, Readiness Assessment,  
“US Marine Corps Ground Equipment in Iraq,” May 2005

## Appendix B. Glossary

**Acceleration.** Generically, acceleration is the rate of change of velocity with respect to time. In military terms, acceleration is a high-intensity explosion (penetrating or nonpenetrating) that may transmit accelerative forces through the armored vehicle structure, causing injury to the crew. Types of injuries include:

- direct impingement of a vehicle part onto a body part;
- force loading the body through the vehicle's seat;
- displacement of the soldier into a vehicle part; or
- trauma from displaced objects.

**Acquisition Strategy.** An acquisition strategy is a business and technical management approach designed to achieve program objectives within the resource constraints imposed. It is the framework for planning, directing, contracting for, and managing a program. It provides a master schedule for research, development, test, production, fielding, modification, postproduction management, and other activities essential for program success. The acquisition strategy is the basis for formulating functional plans and strategies such as the test and evaluation master plan, the acquisition plan, competition, and systems engineering.

**Armored Vehicle Generations.** There are four generations of armor-protected vehicles:

- 1<sup>st</sup> Generation – a combination of 3/16-inch-steel L-shaped doors; ballistic blankets; and appliqué panels;
- 2<sup>nd</sup> Generation – Marine Corps depot built 3/8-inch rolled homogeneous armor or “zonal” armor;
- 3<sup>rd</sup> Generation – integrated kit armor such as the Marine Armor Kit (see definition for Marine Armor Kit); and
- 4<sup>th</sup> Generation – designed and built with armor from the ground up.

**Armor Levels.** There are three levels of armor for vehicles:

- Level I –permanent armor fitted on by the manufacturer;
- Level II – add-on armor available in kits such as the Marine Armor Kit (see definition for Marine Armor Kit); and
- Level III – fabricated and attached armor.

**Blast Overpressure.** Blast overpressure is a complex pressure wave that occurs inside an armored vehicle defeated by an antitank round. The primary blast injury is limited to the air-containing structures of the body such as the lungs, gastrointestinal tract, and ears, and occurs as a result of an incident pressure wave directly impacting the body.

**Course of Action.** A possible plan open to an individual or commander that would accomplish or is related to the accomplishment of a particular mission.

**Casualty Levels.** Military medicine organizes the delivery of care for battlefield injuries into five levels based on location and capability:

- Level I care is immediate first aid delivered at the scene.
- Level II care consists of surgical resuscitation provided by highly mobile forward surgical teams that directly support combat units in the field.
- Level III care is more advanced medical, surgical, and trauma care that can be provided through combat support hospitals, similar to civilian trauma centers.
- Level IV care is definitive surgical management provided outside the combat zone.
- Level V care is definitive stabilization, reconstruction, or amputation performed at one of the major military centers in the United States to which the injured warfighter has been evacuated.

**Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF) Working Group.** The DOTMLPF Working Group is chartered to review, analyze, and prepare individual universal need statements for further processing within the Combat Development Tracking System and in accordance with the Expeditionary Force Development System order. The DOTMLPF Working Group reviews, analyzes, and assists in the development of an urgent need statement course of action and ultimately recommends one course of action to the lead advocate. The DOTMLPF Working Group has been replaced with the Capabilities Development and Integration Board.

**Executive Safety Board.** The Executive Safety Board within the Marine Corps seeks to enhance unit and individual readiness through the reduction of on- and off-duty mishaps, injuries, and fatalities to Marines and sailors, their family members, and civilian personnel. The board is responsible to provide recommendations to the Commandant that will raise safety and suicide prevention awareness among senior leadership of the Marine Corps; to determine the effectiveness of safety, policy, mishap, and suicide-prevention programs; and to identify innovative safety and suicide-prevention initiatives that may have Marine Corps-wide applicability. The Executive Safety Board is chaired by the Assistant Commandant of the Marine Corps, and members include the Commander, Marine Corps Forces Atlantic; the Commander, Marine Corps Forces Pacific; the Commander, Marine Corps Forces Reserve; the Commanding Generals of all three Marine Expeditionary Forces; the Commanding General of Marine Corps Base Lejeune; the Commanding General of Marine Corps Base Pendleton; the Commanding General of Marine Corps Materiel Command; the Commanding General of Marine Corps Recruiting Command; the Commander, Marine Corps Air Base East; and the Commander, Marine Corps Air Base West.

**Fragmentation.** Fragmentation is one of the main effects of an exploding bomb or shell. The casing shatters, and metal fragments fly in all directions.



**Frequency Jammers.** Frequency jammers broadcast electromagnetic waves, preventing user-selected electromagnetic receivers from receiving an electromagnetic communication. Frequency jammers can be used to jam detonation of remote-controlled explosive devices.

**Ground-based Operational Surveillance System (G-BOSS).** G-BOSS is an expeditionary, camera-oriented tool that provides 24-hour detection, tracking, and recording capability to disrupt insurgent activities in the emplacement and employment of improvised explosive devices.

**High Mobility Multi-Purpose Wheeled Vehicle (HMMWV).** The HMMWV is a lightweight, highly mobile, diesel-powered, four-wheel-drive tactical vehicle that uses a common chassis to carry a wide variety of military hardware, ranging from machine guns to tube-launched, optically tracked, wire command-guided antitank missile launchers. There are 15 HMMWV configurations consisting of cargo and troop carriers, weapons carriers, ambulances, and shelter carriers. The variants share a common engine, chassis, and transmission, with 44 interchangeable parts that are used in more than 1 position.

**Immediate Warfighter Need.** An immediate warfighter need must be resolved in 120 days with a materiel or logistics solution. This special category conveys added emphasis on timely resolution and enhanced visibility, raising it to the level of the Office of the Secretary of Defense and the Deputy Secretary of Defense.

**Improvised Explosive Device (IED).** An IED is a bomb constructed and deployed in ways other than in conventional military action. An IED may be partially made up of conventional military explosives, such as an artillery round, attached to a detonating mechanism.

**Joint Rapid Acquisition Cell (JRAC).** The JRAC provides a single point of contact and accountability in the Office of the Secretary of Defense for tracking the timeliness of actions on combatant commanders' validated immediate warfighter needs. The JRAC facilitates meeting the urgent materiel and logistics requirements that the combatant commanders certify as operationally critical. The JRAC provides regular status reports to the Deputy Secretary of Defense on the Department's progress.

**Joint Improvised Explosive Device Defeat Organization (JIEDDO).** The JIEDDO was established in January 2006 (previously referred to as the Joint Improvised Explosive Device Defeat Task Force). The JIEDDO leads, advocates, and coordinates all DoD actions in support of the combatant commanders and their joint task forces' efforts to defeat improvised explosive devices as weapons of strategic influence.

**Joint Requirements Oversight Council (JROC).** The JROC reviews programs designated as being of JROC interest and supports the acquisition review process. In accordance with Chairman of the Joint Chiefs of Staff Instruction 3170.01, the Joint Staff reviews all Joint Capabilities Integration and Development System documents; the JROC, at its discretion, may review any Joint Capabilities Integration and Development

System issues that may have joint interest or impact. The JROC also reviews programs at the request of, and makes recommendations as appropriate to, the Secretary of Defense, the Deputy Secretary of Defense, the Under Secretary of Defense (Acquisition, Logistics, and Technology), the Assistant Secretary of Defense (Networks and Information Integration), and the Under Secretary of the Air Force.

**Joint Urgent Operational Need (JUON).** A JUON is an urgent operational need identified by a combatant commander involved in an ongoing named operation. The main purpose of a JUON is to identify and subsequently gain Joint Staff validation and resourcing of a solution, usually within days or weeks, to meet a specific high-priority combatant commander need. A JUON should not involve the development of a new technology or capability; however, the acceleration of an advanced concept technology demonstration or minor modification of an existing system to adapt to a new or similar mission is within the scope of the JUON validation and resourcing process.

**Low-Intensity Conflict.** Low-intensity conflict is a political-military confrontation between contending states or groups below conventional war and above the routine, peaceful competition among states. It frequently involves protracted struggles of competing principles and ideologies. Low-intensity conflict ranges from subversion to the use of armed force. It is waged in a combination of ways, employing political, economic, informational, and military instruments. Low-intensity conflicts are often localized, generally in developing countries, but may have global security implications.

**Major Defense Acquisition Program.** A major Defense acquisition program is an acquisition program that is estimated by the Under Secretary of Defense for Acquisition, Technology, and Logistics to require an eventual total expenditure for research, development, test and evaluation of more than \$365 million in FY 2000 constant dollars or, for procurement, of more than \$2.19 billion in FY 2000 constant dollars.

**Marine Corps Requirements Oversight Council.** The Marine Corps Requirements Oversight Council advises the Commandant of the Marine Corps on policy matters related to concepts, force structure, and requirements validation. The Council is chaired by the Assistant Commandant of the Marine Corps.

**Mine.** A mine is an explosive weapon that is hidden underground or underwater and triggers when an individual or vehicle moves over it or nearby. Mines are often placed in groups, forming a mine field. Because of the use of mines, most nations now include specialist mine disposal teams in their armed forces.

**Mine Roller.** A mine roller is a demining device mounted on the front of a tank or armored personnel carrier and designed to detonate antitank mines.

**Monocoque Vehicle.** In a monocoque vehicle, the body is combined with the chassis in a single unit that utilizes the external skin to support some of the load. This type of vehicle construction is an alternative to using an internal frame or chassis that is covered with cosmetic body panels.

**Operation Iraqi Freedom.** Operation Iraqi Freedom funds the continuing efforts to stabilize Iraq: conducting stability and support operations throughout Iraq, capturing Hussein regime loyalists, and stopping terrorists from using Iraq as a staging area for terrorism activities.

**Request for Information.** A request for information is any specific ad hoc, time-sensitive requirement for information or products to support an ongoing crisis or operation not necessarily related to standing requirements. A request for information can be initiated to respond to operational requirements and is validated in accordance with the theater command's procedures.

**Urgent Universal Need Statement (UUNS).** A UUNS is an exceptional request from a combatant command-level Marine commander for an additional warfighting capability critically needed by operating forces conducting combat or contingency operations. Failure to deliver the capability requested by the UUNS is likely to result in the inability of units to accomplish their missions and increases the probability of casualties and loss of life.

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# Appendix C. February 17, 2005, Urgent Universal Need Statement for Mine Resistant Ambush Protected Vehicles

## UNIVERSAL NEED STATEMENT (UNS)

### Part 1a of 5 - Originator's Request

Name (Last, First, Initial)		Rank/Grade	Phone DSN		FAX DSN
Available for phone or personal follow-up?	YES	Interested in participation on Solution Course of Action IPT?	YES	Request UNS status updates by e-mail?	E-mail
					RUC

### Type of Need (select one that best describes the need)

ADD a new capability that does not exist	<input type="checkbox"/>	IMPROVE or FIX an existing capability	<input checked="" type="checkbox"/>	REMOVE an existing capability	<input type="checkbox"/>
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**Description of Need** Describe the nature of the need and the cause (if known). Explain how the need was identified (operational deployment, training exercise, experimentation, formal study, mission area analysis, observed operating deficiencies).

#### **MINE RESISTANT AMBUSH PROTECTED (MRAP) VEHICLE. This is a Priority 1 Urgent UNS in support of OIF EDL. Total AO requirement is 1169.**

There is an immediate need for an MRAP vehicle capability to increase survivability and mobility of Marines operating in a hazardous fire area against known threats. The expanded use of IED /RPG and small arm fire (SAF) in the AO requires a more robust **family of vehicles** capable of surviving the IED/RPG/SAF threat as we operate throughout these areas. The necessity to operate across known GLOCs makes us susceptible to ambushes, IED/VBIED/SVBIED/RPG/SAF attacks at the discretion of the enemy. Marines are expected to respond rapidly, and without a large security contingent, therefore we need a vehicle that enables us to survive the first blow and then counter attack. GCE, CSSE, ACE, CAG, MEG & MHG units are acutely exposed to the IED/RPG/SAF threat as they continue to prosecute offensive operations and stability and security operations simultaneously and often within sight of each other.

This need was identified through operational combat experience and critical analysis of casualty data from the Joint Theater Trauma Registry Report (JTTR) in order to determine if a technological solution is available to reduce the number of injured personnel who require Level III and IV medical treatment. JTTR for Oct 04 indicates IEDs are number one Level III and Level IV mechanisms of injury. Motor Vehicle accidents are number two mechanism of injury requiring Level III treatment. Together IED and MVAs account for 68% or over 750 level III and IV grave and serious casualties.

MRAP-designed vehicles represent a significant increase in their survivability baseline over existing motor vehicle equipment and will mitigate level III and IV casualties resulting from IED and MVA.

Operational experience dictates current and anticipated missions in theater are a better supported by a family of MRAP vehicles: multi-mission (HMMWV-like), troop transport (troop carrying 7 ton-like), cargo (flatbed 7 ton-like), ambulance and EOD/Eng mission platform with Buffalo-like 50ft investigating arm.

Family of vehicles should possess the following **survivability baseline** characteristics:

- Protect the crew from IED/mine threat through integrated V-shaped monocoque hull designed specifically to disperse explosive blast and fragmentary effects. Minimum protection should be 30 lbs TNT under any wheel and 15 lbs anywhere under vehicle.
- Protect the crew against 7.62 x 54mm armor-piercing ammunition at 30 meters.



- Protect from overhead airburst and side protection against fragmentation from 155mm shells and blast protection against contact-detonated anti-personnel and anti-tank mines.
- Fully NBC protected (this is an objective requirement, not threshold).
- Vehicles should have transparent armor with rifle firing-ports on all four sides (similar to the Cougar or Casspir) that permit aimed fire from the standard service rifle with iron sights or optics.
- Vehicle requires remotely operated weapon system to enable the gunner to operate, aim, and engage targets from the fully protected sanctuary of the armored hull. Access hatch to weapon system for loading/unloading or for manual operation of the weapon system is required.
- The vehicle should be easily recoverable and repairable in the field, with modular components that are designed to break away from the vehicle in the case of a blast, with replacement components that can be reattached to the vehicle on site.
- H-60-like, non-retracting four-point restraint system bolted to floor for every single occupant of the vehicle – no one sits unharnessed. All harnesses have single point quick release feature.
- Crashworthy, shock absorbing seat cushion material similar to aircraft seats designed to mitigate accelerative effects of mine blasts. Seats should also be multi-positional with the emphasis on ability to fight effectively (outward field of vision to facilitate rapid weapons employment) and removed completely as required.
- 360 degree rollover protection.
- Air conditioning and heat.
- Vehicles should be modular and scalable. Beyond their baseline survivability, they must be capable of having additional armor/stand-off screens attached to increase the protection to predestinate and defeat the primary kill mechanisms of explosively formed penetrators and shaped charges.
- The vehicle needs to have ample cargo space for pax and the secure stowage of their equipment in anchored "bussle boxes" to minimize secondary projectiles that acceleration forces produce during a bottom attack mine incident.
- The vehicle should have a fire suppression system in the cab and PAX compartment.

This would also relate to the capabilities sought in the Program of Record for the Engineer Squad Vehicle, CDTS (97051FF), approved as a MNS on 990326.

The recommended concept of operations would be to create an initial capability for all MAGTF elements and re-assess at designated intervals after the capability is operational. Forces may increase or decrease according to mission requirements and the equipment capability could be right-sized to conform to supportability requirements. The OIF EDL will be reinforced with 4th generation (designed and built from the ground up to withstand IED/ RPG/ SAF) MRAP vehicles.

**A logistics support package must be fielded with this UUNS, to include operator and maintenance training, tool sets (if required) and an appropriate amount of spares for consumables like tires, batteries, belts, filters, etc.**

The following quantities and vehicle types are submitted:

**Qty: 759 Multi-mission combat vehicles.**  
**Qty: 229 Troop transport vehicles (16 PAX min capacity)**  
**Qty: 58 7-ton cargo flat bed truck equivalent vehicles**

Qty: 58 Ambulance variant vehicles.  
 Qty: 65 EOD/Engineer variants with 50 ft investigating arm  
 Total: 1169 MRAP vehicle capability

When Needed

Urgent	<input checked="" type="checkbox"/>	6 Months	<input type="checkbox"/>	1 Year	<input type="checkbox"/>	2 Years	<input type="checkbox"/>	5 Years	<input type="checkbox"/>	10 Year	<input type="checkbox"/>	Other (c)
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Rationale Describe why the need requires resolution in timeframe selected (e.g., safety issues, Congressional mandate, etc.)

The MEF cannot continue to lose level III and IV serious and grave casualties to IED and MVA at current rates when a commercial off the shelf capability exists to mitigate the technological casual factors regarding these particular threats. Urgent universal needs statement (UUNS) must be submitted immediately in order to respond to HQMC I&L Code LPC request for operating forces to identify combat requirements through UUNS process for consideration in the supplemental funding available for FY 05.

Describe mission or task to be accomplished that is related to the need.

Operating forces and component commanders must come together to specify requirement for multi-role/multi-mission MRAP vehicles. The GTV fleet is constantly exposed to IED/RPG/SAF threat while conducting active combat, combat support and combat service support as well as the inherent dangers that accrue to vehicles conducting line and long haul missions over the open roads. Operating forces, service components and supporting establishments have come together to modify and enhance vehicle protection from unprotected to 2nd generation factory produced armor add-on kits in response to enemy threat. Operating forces see fleeting opportunity to utilize supplemental funding to replace 1st/2nd generation vehicles, by skipping a generation and procure 4th generation MRAP vehicles. This would provide the operating forces with a modular and scalable system capable of increasing the level of protection in accordance with the type of weapons available to the enemy. MRAP capability will provide the operating forces a multi-role vehicle system capable of mitigating four of the greatest casualty-producing agents during OIF: IEDs, RPGs, SAF and motor vehicle accident (MVA) casualties. The MRAP will mitigate or eliminate the three primary kill mechanisms of mines and IEDs – fragmentation, blast overpressure, and acceleration. It will also counter the secondary kill mechanisms of vehicle crashes following mines strikes and fire aboard vehicles. The MRAP vehicle capability will help establish a **baseline survivability index** that will increase protection and reduce the number of casualties requiring level III and IV medical treatment in a given theater of operations. against an increasing and changing IED/RPGSAF threat and mitigate grave and serious injury risks inherent to combat support and combat service support units conducting line and long haul convoy operations.

How does the need improve your ability to perform the mission or task?

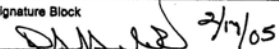
MRAP capability will provide the operating forces a multi-role (truck or ambulance) and multi-mission (C2 or recon) family of vehicles capable of mitigating four of the greatest casualty-producing agents during OIF: IEDs, RPGs, SAF and MVA casualties. MRAP vehicles are inherently robust with modern safety features that include NASCAR style multi-point seat harnesses, crashworthy seats, (I'm not the best one to weigh in here but given the primary threat and the other ways we can deal with this threat, overpressure systems add a great deal of weight, cost, and complexity – maybe have some of the C2 models so equipped) , ballistic armor and monocoque hulls and heavy-duty parts that are designed to withstand and react to IEDs, SAF and RPGs in such as way that reduces traumatic injury to the occupants. Together these systems will significantly mitigate the risks associated with

non-battle injuries resulting from motor vehicle accidents as well as the current and projected enemy threats from IED/RPG/SAF.

If the need is not satisfied, how will it affect your ability to perform the mission or task?

Operating forces will remain unnecessarily exposed to IED, RPG, SAF threat and will continue to accrue preventable level III and IV serious and grave casualties resulting from MVAs and IED/ RPG/ SAF while operating vehicle systems that do not have basic safety, crashworthy protection. Without MRAP, personnel loss rates are likely to continue at their current rate. Continued casualty accumulation exhibits potential to jeopardize mission success. MRAP vehicles will mitigate risks associated with number one and two level III casualty producing agents; IEDs and MVA. MRAP vehicles will protect Marines, reduce casualties, increase mobility and enhance mission success.

**Approval Authority – MEF Level or as appropriate (Division, Wing, Service Support Group, etc.)**

Command I Marine Expeditionary Force	Name of Approval Authority (Last, First, Initial) Hejlik, D. J.	Rank/Grade BGen
Mailing Address I MEF P.O. Box 555300 Camp Pendleton, CA 92055-5300	Phone DSN 361-0445	FAX
	E-mail	
	Date Received	Date Forwarded
Approval Authority Comments (optional) Due to anticipated funding constraints, I MEF recommends procurement of the troop transport and multi-mission MRAP requirements before funding the other variants. This will provide the most protection for the greatest amount of forces based on injury statistics.		
Signature Block  2/17/05		

**Approval Authority – MARFOR Level or as appropriate\***

Command Marine Corps Forces, Pacific	Name of Approval Authority (Last, First, Initial)	Rank/Grade LtGen
Mailing Address Commander, Marine Corps Forces, Pacific Box 64138 Camp Smith, HI 96861-4138	Phone DSN 477-8800	FAX
	E-mail	
	Date Received 12 Dec 2003	Date For'd to Assessment Br. MCCDC
Approval Authority Comments (optional)		
General Officer's Signature Block Signed ※		

NAVMC 11475 (Oct 02)

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\* There is not a version of the UUNS that has a signature from Marine Corps Forces Pacific. The Deputy Commanding General, Marine Forces Pacific sent e-mail approval of the UUNS, and the UUNS was forwarded to the MCCDC for processing.

**I MEF MRAP REQUIREMENT**

<b>MAGTF component</b>	<b>Multi-mission</b>	<b>troop transport</b>	<b>flatbed/cargo</b>	<b>ambulance</b>	<b>EOD/Eng</b>	<b>total</b>
MHG	10	10	10	1	0	31
CAG	12	2	2	0	0	16
Comm Bn	4	10	2	1	0	17
Rad Bn	26	10	0	0	0	36
Intel Bn	20	0	0	0	0	20
Force Recon	20	0	0	0	0	20
ANGLICO	10	2	0	0	0	12
FP	5	2	2	0	0	9
<b>MHG Roll up</b>	<b>107</b>	<b>36</b>	<b>16</b>	<b>2</b>	<b>0</b>	<b>161</b>
<b>DIV</b>	<b>461</b>	<b>132</b>	<b>0</b>	<b>30</b>	<b>29</b>	<b>652</b>
<b>MAW</b>	<b>76</b>	<b>6</b>	<b>27</b>	<b>4</b>		<b>113</b>
<b>FSSG</b>	<b>90</b>	<b>45</b>	<b>0</b>	<b>22</b>	<b>36</b>	<b>193</b>
<b>MEG</b>	<b>25</b>	<b>10</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>50</b>
<b>MEF TOTAL</b>	<b>759</b>	<b>229</b>	<b>58</b>	<b>58</b>	<b>65</b>	<b>1169</b>

multi-mission	HMMWV-like capability
troop transport	16 or more PAX
flatbed/cargo	7 ton-like capability
ambulance	modified multi-mission platform
EOD/Eng	Buffalo-like 50ft arm arm for investigating



MAGTF component	Multi-mission	troop transport	flatbed/cargo	ambulance	EOD/Eng	total
MHG	10	10	10	1	0	31
CAG	12	2	2	0	0	16
Comm Bn	4	10	2	1	0	17
Rad Bn	26	10	0	0	0	36
Intel Bn	20	0	0	0	0	20
Force Recon	20	0	0	0	0	20
ANGLICO	10	2	0	0	0	12
FP	5	2	2	0	0	9
<b>MHG Roll up</b>	<b>107</b>	<b>36</b>	<b>16</b>	<b>2</b>	<b>0</b>	<b>161</b>
O/H	44		121		2	
percent request	243%		13%		100%	
<b>DIV</b>	<b>461</b>	<b>132</b>	<b>0</b>	<b>30</b>	<b>29</b>	<b>652</b>
O/H	324		427		27	
percent request	142%		0%		111%	
<b>MAW</b>	<b>76</b>	<b>6</b>	<b>27</b>	<b>4</b>		<b>113</b>
O/H	18		157		8	
percent request	422%		17%		50%	
<b>FSSG</b>	<b>90</b>	<b>45</b>	<b>0</b>	<b>22</b>	<b>36</b>	<b>193</b>
O/H	50		234		40	
percent request	180%		0%		55%	
<b>MEG</b>	<b>25</b>	<b>10</b>	<b>15</b>	<b>0</b>	<b>0</b>	<b>50</b>
O/H	NA	NA	NA	NA	NA	NA
percent request	NA	NA	NA	NA	NA	NA
<b>total</b>	<b>759</b>	<b>229</b>	<b>58</b>	<b>58</b>	<b>65</b>	<b>1169</b>
O/H	392	0	818	75	0	
percent request	194%		7%		77%	
			287			
			818			
			35%			

multi-mission	HMMWV-like capability	
troop transport	16 or more PAX	3664
flatbed/cargo	7 ton-like capability	
ambulance	modified multi-mission platform	
EOD/Eng	Buffalo-like arm for investigating	

# Appendix D. Mines and Improvised Explosive Devices: Lessons Learned and Recommended Actions

DoD has known about the severity of the landmine and IED threat experienced in low-intensity conflicts at least since its experience in the Vietnam War. Table D-1 shows the U.S. vehicular loss rates attributable to mines from World War II through Operation Restore Hope (Somalia).

**Table D-1. U.S. Vehicular Loss Rates Attributable to Mines**

<u>Conflict</u>	<u>Loss Rate (percent)</u>
World War II	23
Korea	56
Vietnam	70
Operation Desert Storm	59
Operation Restore Hope	60

Regardless, the Department was unprepared for the landmine and IED threat to tactical wheeled vehicles participating in Operation Iraqi Freedom, just as it was unprepared for the threat during the Vietnam War, Operations Desert Shield and Desert Storm, and Operation Restore Hope. Table D-2 indicates the severity of the threat posed by antivehicular landmines.

**Table D-2. More than Two-Thirds of Antivehicular Landmines Weigh More than 13 Pounds<sup>1</sup>**

<u>Size of Mine (lbs)</u>	<u>Mines (Percentage)</u>
0 - 2.2	0
2.2 - 4.4	3.5
4.4 - 6.6	2
6.6 - 8.8	0
8.8 - 11.0	10
11.0 - 13.2	17
13.2 - 15.4	24.5
15.4 - 17.6	29
17.6 - 19.8	3.5
19.8 - 22.0	5.5
> 22.0	5

<sup>1</sup> This data is an approximation of information obtained from “The Technical Cooperation Program, Subcommittee on Conventional Weapons Technology, Protection of Soft-Skinned Vehicle Occupants from Landmine Effects, Technical Report,” 2nd edition, September 1999.



HMWWV retrofit kits used in Somalia provided mine protection against less than 12 pounds of high explosives. As shown in Table D-2, those HMMWVs were potentially overmatched by nearly two-thirds of antivehicular landmines. The reaction to landmines and IEDs was similar in each case—that is, to field vulnerable unarmored tactical wheeled vehicles and retrofit them with armor kits as they became available to improve crew survivability. The armor kits addressed side- and under-vehicle attacks from mines and IEDs. However, in response, the Department over the years did not address the threat to tactical vehicles by developing requirements for, funding, and acquiring MRAP-type vehicles to prepare for potential low-intensity conflicts before the beginning of the insurgent activities in Iraq in 2003.

## **Landmine Threat**

The primary threats to tactical wheeled vehicles in low-intensity conflicts are from mines and IEDs. Landmines are preformed explosive charges designed to destroy personnel, vehicles, and tanks. An IED is a bomb constructed and deployed in ways other than in conventional military action. An IED may be partially made up of conventional military explosives, such as an artillery round, attached to a detonating mechanism. Mines and IEDs can attack vehicles from the bottom, sides, or top, employing blast, shaped charge, or explosively formed penetrators. Landmines are inexpensive and readily available on the international arms market, and soldiers require minimal training to use landmines. Information on the preparation of explosives, shaped charges, and explosively formed penetrators is also readily available to terrorists and insurgents on the Internet. The landmine is a weapon that is militarily effective at the tactical level because it restricts the ability to maneuver; at the operational level because it slows operational tempo needed to keep pressure on an adversary; and at the strategic level because it creates casualties that undermine public support. As a result, landmines and IEDs are used in low-intensity conflicts.

The Army, before the 2003 Iraq invasion, warned both commanders and soldiers that the Iraqi military had extensive knowledge and 22 years of experience in the use of mines, booby traps, and IEDs. Ground commanders were told to expect U.S. forces to encounter significant, sophisticated, and improvised devices, including remote-controlled roadside bombs and car bombs during the war and occupation of Iraq.

## **Tactical Vehicle Operations**

The Army has historically employed unarmored or lightly armored light tactical wheeled vehicles in low-intensity conflicts. During the Vietnam War, Operations Desert Shield and Desert Storm, Operation Restore Hope, and Operation Iraqi Freedom, U.S. personnel resorted to fielding improvised protection for their tactical wheeled vehicles, such as sandbagging and steel plate reinforcement. Improvised tactical wheeled vehicle protection, unless done correctly, can decrease the survivability of the crew and overload the vehicle, causing serious deterioration in suspension system components.

Mine protection can be accomplished in three ways:

- as part of the basic design of the vehicle;
- through permanent factory retrofitting of an existing vehicle; and
- with a field-installed, removable bolt-on kit.

A vehicle initially designed to be mine protected provides the best protection. Unarmored HMMWVs and those with armor improvised in the field or retrofitted are vulnerable to mines because of the HMMWV's flat bottom,<sup>2</sup> low weight, low ground clearance, and aluminum body. The "After Action Report on Operation Restore Hope," June 13, 1994, observed that the HMMWV, even with a mine protection retrofit kit developed for Somalia, remained a death trap in the event of an antitank mine detonation. The mine threat in Somalia included pressure-fused antitank mines with 12 to 16 pounds of high explosives and remote-controlled antitank mines with 30 to 60 pounds of high explosives, which easily exceeded the level of mine protection (less than 12 pounds of high explosives) that was provided by the HMMWV retrofit kits.

In response to the landmine and IED threat encountered in Operation Iraqi Freedom, DoD has made extensive use of retrofit armor kits to protect their unarmored HMMWV fleet. The M1114 up-armored HMMWV is an armored version of the HMMWV fielded to partially address the Iraqi landmine and IED threat. Retrofit kits have been successfully employed on tactical cargo trucks because trucks ride higher off the ground away from the explosive blast and provide room to fit wheel and centerline blast deflector and other protective devices.

The "After Action Report, Operation Restore Hope" June 13, 1994, recommended that during a low-intensity conflict HMMWVs be used only along a secured, main supply route. In addition, vehicular movement through unsecured areas should be made only in mine-resistant and small arms-protected vehicles. The report also recommended that U.S. Army Training and Doctrine Command, in conjunction with U.S. Army TACOM Life Cycle Management Command, publish a mission needs statement for mine-resistant medium tactical vehicle variants to include a personnel carrier, a cargo carrier, a fuel tanker, a wrecker, a tractor, and convoy security (a gun truck) capable of withstanding blasts from 16 to 30 pounds of high explosives. Also, the report recommended that TACOM initiate research into developing mine protection for vehicles that would permit a mine-damaged vehicle to drive out of an engagement area and to withstand larger mines and possibly shaped-charge-equipped mines. The "After Action Report, Operations Desert Shield and Desert Storm" recommended the Army Tank Automotive Command require mine-resistant technologies be included in the design of all future tactical vehicles. Both the "After Action Report, Operation Restore Hope" and the "After Action Report, Operations Desert Shield and Desert Storm" were distributed throughout the Army and the Marine Corps.

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<sup>2</sup> According to an Army representative, a flat bottom tactical wheeled vehicle with a monocoque hull that is properly engineered to protect against landmines may provide protection from a landmine underbody attack.

## **Mine Resistant Ambush Protected Vehicles**

MRAP vehicles are special-purpose vehicles that have a V-shaped monocoque hull and protect against the three primary kill mechanisms of mines and IEDs: fragmentation, blast overpressure, and acceleration. Several countries have countered the mining of routes by terrorists by developing mine-resistant vehicles that reduce mine injuries by as much as 60 to 70 percent while virtually eliminating fatalities. Rhodesia developed mine-resistant vehicle technology during the Rhodesian Bush War (1960-1980), and in the early 1970s South Africa began to develop mine-resistant vehicles.

A “Mine Protected Vehicle (MPV) Study Report,” April 2, 2002, prepared for the Army Project Manager for Mines, Countermine and Demolitions, Countermine Division, stated that since the early 1990s U.S. forces have been increasingly engaged in a number of peacekeeping, peace enforcement, and humanitarian missions where landmines present a significant challenge. The nature of the missions means greater exposure to the hazards of landmines to occupants of tactical wheeled vehicles since these vehicles are used more extensively in low-intensity conflicts. For more than 10 years, the Project Manager for Mines, Countermine and Demolitions has been exploring materiel options to provide increased protection for U.S. forces against landmines. As of April 2002, only a limited number of specially designed mine-resistant or mine-protected vehicles have been procured, based on requests from Bosnia and Kosovo. In addition, the report stated that there is no separate formal operational requirement for a mine-protected vehicle. An effort to obtain additional limited quantities of mine-protected control vehicles to meet contingency needs was terminated in May 2001 by the Department of the Army Deputy Chief of Staff for Plans and Operations. The study looked at mine-resistant or mine-protected vehicles in use by other countries to determine which system or systems offered the most promise to the United States. The April 2002 study examined mine-protected vehicle alternatives such as the Dingo, Lion I (also known as the Cougar), Lion II (also known as the Buffalo), RG-32 Scout, Casspir MKII, RG-31, and Mamba II.

## **Vehicle Availability**

In November 2004, the MCSC received a draft copy of the MRAP UUNS submitted in February 2005. The former Program Manager for Motor Transport stated that, based on the draft requirements in that UUNS, MCSC released a request for information in December 2004 on commercially available, off-road and highway-suitable vehicle platforms capable of providing Marines with ballistic and mine protection. The request for information identified nine potential vendors of MRAP-type vehicles including the makers of Casspir, Mamba MK III, RG-31, Cougar, and Eagle IV.

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“Final Report on Mine Protection for Vehicular Systems in South Africa for Past 30 Years,” June 6, 2003, U.S. Army European Research Office, London

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## Appendix E. Congressional Legislation

The Duncan Hunter National Defense Authorization Act for Fiscal Year 2009 has enacted the following language regarding the fulfillment of urgent operational needs.

### SEC. 801. ASSESSMENT OF URGENT OPERATIONAL NEEDS FULFILLMENT.

(a) ASSESSMENT REQUIRED.—The Secretary of Defense shall commission a study and report by an independent commission or a federally funded research and development center to assess the effectiveness of the processes used by the Department of Defense for the generation of urgent operational need requirements, and the acquisition processes used to fulfill such requirements. Such assessment should include the following:

(1) A description and evaluation of the effectiveness of the procedures used to generate, validate, and fulfill warfighting requirements through the urgent operational need and joint urgent operational need processes, including—

(A) the extent to which joint and urgent operational need statements are used to document required capability gaps or are used to request specific acquisition outcomes, such as specific systems or equipment;

(B) the effectiveness of the processes used by each of the Military Departments and the various elements of the Department of Defense to prioritize and fulfill joint and urgent operational needs, including the rapid acquisition processes of the Military Departments, as well as the Joint Improvised Explosive Device Defeat Organization and the Joint Rapid Acquisition Cell; and

(C) the timeliness and responsiveness of the processes used by the Military Departments and the various elements of the Department of Defense to review and validate urgent operational need statements and joint urgent operational need statements.

(2) An evaluation of the extent to which joint urgent operational need statements are used to avoid using service-specific urgent operational need and acquisition processes or to document non-urgent capability gaps.

(3) An evaluation of the extent to which joint acquisition entities maintain oversight, once a Military Department or Defense agency has been designated as responsible for execution and fielding of a capability in response to a joint urgent operational need statement, including oversight of—

(A) the responsiveness of the Military Department or agency in execution;

(B) the field performance of the capability delivered in response to the joint urgent operational need statement; and

(C) the concurrent development of a long term acquisition and sustainment strategy.

(4) Recommendations regarding—

(A) best practices and process improvements to ensure that urgent operational needs statements and joint urgent operational needs statements are presented to



appropriate authorities for review and validation not later than 60 days after the documents are submitted;

(B) common definitions and standards for urgent operational needs statements and joint urgent operational need statements;

(C) best practices and process improvements for the creation, evaluation, prioritization, and fulfillment of urgent operational need statements and joint urgent operational need statements; and

(D) the extent to which rapid acquisition processes should be consolidated or expanded.

(b) **SUBMISSION TO CONGRESS.** —Not later than 270 days after the date of the enactment of this Act, the Secretary of Defense shall submit to the congressional defense committees the report resulting from the study conducted pursuant to subsection (a).

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## Appendix F. Key Marine Corps Officials

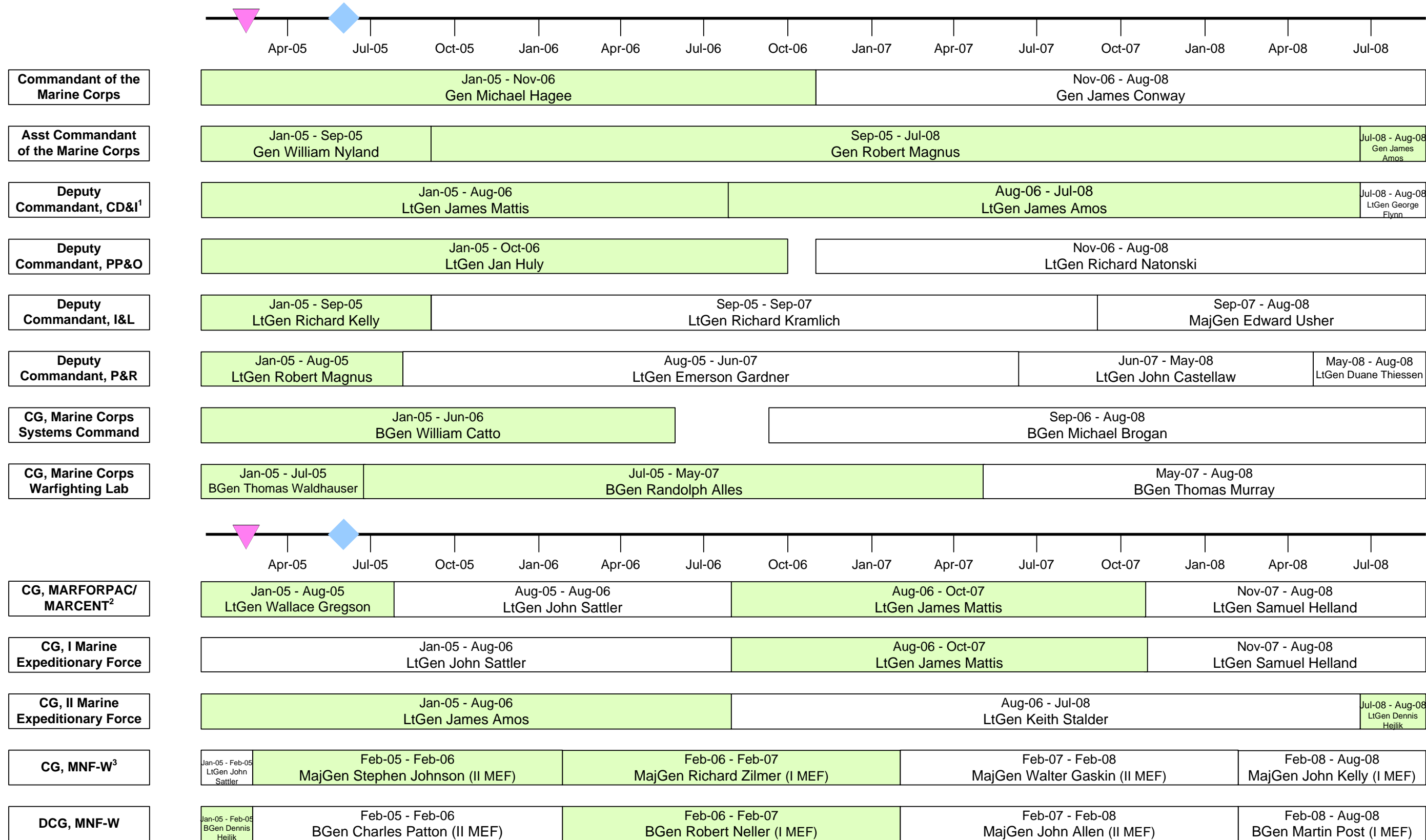
The following chart lists key Marine Corps officials and their tenure in their positions between January 2005 and August 2008. Each key position title is listed to the left of the chart and is followed by the names and length of tenure of each individual.

For the bottom two lines on the chart, Commanding General and Deputy Commanding General, Multi-National Force-West, the dates only represent when the Marine Expeditionary Forces were in theater. The dates those individuals held those positions may be different.

If a line on the chart is shaded in green, that individual was interviewed by the audit team. The upside-down pink triangle signifies the date I Marine Expeditionary Force (Forward) submitted the MRAP UUNS. The blue square represents when the Commandant of the Marine Corps directed the replacement of all HMMWVs in theater with the M1114 up-armored HMMWV. The key is located in the bottom right-hand corner of the page, and the acronyms used on the chart are defined below.

### Acronyms and Abbreviations

Asst	Assistant
BGen	Brigadier General
CD&I	Combat Development and Integration
CG	Commanding General
DCG	Deputy Commanding General
Gen	General
LtGen	Lieutenant General
I&L	Installation and Logistics
MajGen	Major General
MARFORPAC	Marine Corps Forces, Pacific
MARCENT	Marine Corps Central Command
MEF	Marine Expeditionary Force
MNF-W	Multi-National Force-West
PP&O	Plans, Policies and Operations
P&R	Programs and Resources



<sup>1</sup> The Deputy Commandant, Combat Development and Integration (DC CD&I) also serves as the Commanding General, Marine Corps Combat Development Command.

<sup>2</sup> In August 2005, the command responsibilities of Marine Forces Pacific (MARFORPAC) were combined with those of Marine Corps Central Command (MARCENT).

<sup>3</sup> The Commanding General, Multi-National Force-West is also the Commanding General, Marine Expeditionary Force (Forward) (MEF (Fwd)). The Marine Corps rotates I MEF and II MEF into Iraq each year. When the February 17, 2005, MRAP UUNS was signed, I MEF (Fwd) was in Iraq. It rotated out after February 17, 2005, and II MEF (Fwd) took its place.

**KEY:**

- = Interviewed by audit team
- = February 17, 2005, MRAP UUNS
- = Commandant's M1114 decision

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# Appendix G. Timeline for the Urgent Universal Need Statement for Mine Resistant Ambush Protected Vehicles

The following chart is a timeline of fielded capabilities compared with mine and IED attack trends. The top line of the chart depicts Multi-National Force-West IED attack trends from January 2004 to December 2007.

Letters A through E on the second line of the chart represent the Secretary of Defense and the Deputy Secretary of Defense memoranda, issued between September 2004 and June 2005, that established the JRAC and Joint Improvised Explosive Device Defeat Task Force and authorized them to expedite procurement of equipment to save lives. In addition, letter F on the second line represents when the Chairman of the Joint Chiefs of Staff issued an instruction on the JUON process. Specifically, letters A through F represent:

- A** Deputy Secretary of Defense Memorandum, “Meeting the Immediate Warfighter Needs (IWNs),” September 3, 2004
- B** Deputy Secretary of Defense Memorandum, “Meeting Immediate Warfighter Needs (IWNs),” November 15, 2004
- C** Secretary of Defense Memorandum, “Fiscal Year 2005 Rapid Acquisition Authority (RAA),” January 25, 2005
- D** Secretary of Defense Memorandum, “Time Critical Actions,” March 22, 2005
- E** Deputy Secretary of Defense Memorandum, “Joint Improvised Explosive Device (IED) Defeat,” June 27, 2005
- F** Chairman of the Joint Chiefs of Staff Instruction, CJCSI 3470.01, “Rapid Validation and Resourcing of Joint Urgent Operational Needs (JUONs) in the Year of Execution,” July 15, 2005

There are three timelines on the chart. The top timeline shows the MRAP events pertaining to the two MRAP UUNSS. The first dark blue area on the timeline represents the first UUNS and the second dark blue area represents the two MRAP JUONs and the second MRAP UUNS.

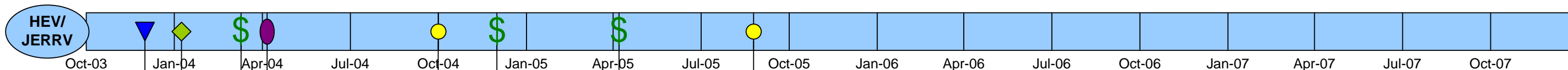
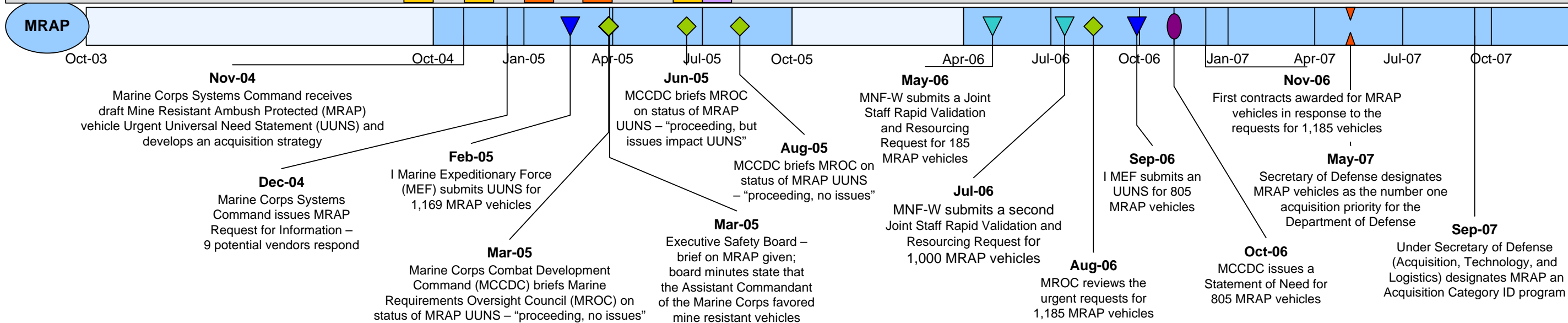
The second timeline shows the Hardened Engineer Vehicle (HEV) and Joint Explosive Ordnance Disposal Rapid Response Vehicle (JERRV) events, both MRAP-type vehicles. The bottom timeline shows other counter-IED capabilities the Marine Corps fielded between April 2004 and February 2007. The key for the timelines can be found in the middle of the chart on the right-hand side, as well as the definitions of the acronyms.



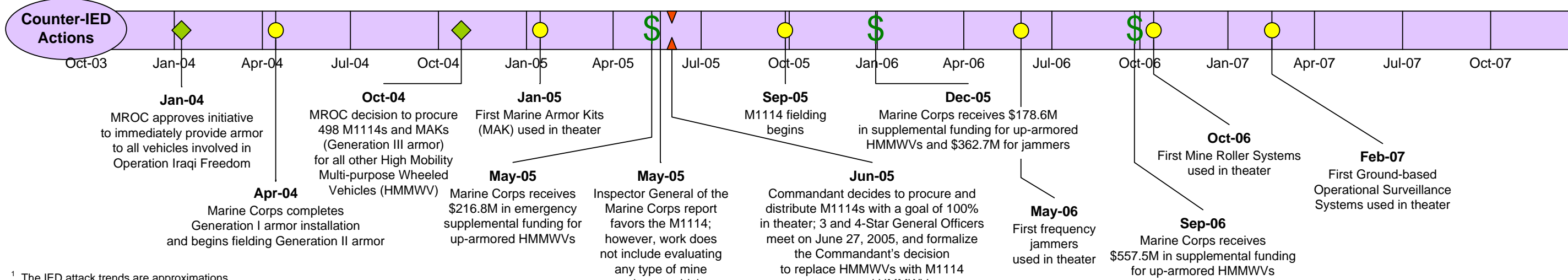
# Multi-National Force-West (MNF-W) Improvised Explosive Device (IED) Attack Trends from January 2004 to December 2007<sup>1</sup>



## Memoranda / Instruction



Acronyms:		Key:	
HEV	Heavy Engineering Vehicle	▲	Important Event
HMMWV	High Mobility Multi-Purpose Wheeled Vehicle	▼	Urgent Universal Need Statement
JERRV	Joint Explosive Ordnance Disposal Rapid Recovery Vehicle	▽	Joint Staff Rapid Validation and Resourcing Request
MAK	Marine Armor Kit	●	Statement of Need
MCCDC	Marine Corps Combat Development Command	◆	Marine Requirements Oversight Council Event
MEF	Marine Expeditionary Force	\$	Funding
MNF-W	Multi-National Force-West	●	Fielding
MRAP	Mine Resistant Ambush Protected		
MROC	Marine Requirements Oversight Council		
UUNS	Urgent Universal Need Statement		



<sup>1</sup> The IED attack trends are approximations.  
<sup>2</sup> The name of the Joint IED Defeat Task Force changed to the Joint IED Defeat Organization on February 14, 2006.

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## **Appendix H. Mine Resistant Ambush Protected Vehicle: Urgent Needs Process and Management Objectives**

The following chart illustrates the Marine Corps Urgent Universal Need Statement (UUNS) process and the management objectives it is designed to achieve. The chart also depicts whether or not the Marine Corps met those management objectives in the processing of the February 17, 2005, Mine Resistant Ambush Protected (MRAP) Vehicle UUNS.

The management objectives of the UUNS process are listed in the top left-hand corner of the page, and are shaded in different colors. Those colors correspond with the documents and procedures listed in the process section of the chart. In other words, if a document or action helped to meet management objective #1, it would be blue. The chart's key and a list of acronym definitions can be found in the lower right-hand corner of the page.

The chart itself is divided into three sections: General Officer Activities, UUNS Process, and Marine Corps Systems Command Activities. The top section of the chart shows relevant Marine Corps General Officer activities and decisions made during the MRAP UUNS processing.

The middle section depicts the UUNS process as prescribed by Marine Corps Order 3900.15A and also shows the MRAP UUNS as it moved through that process. If there is a red "x" on the chart, it means that part of the process was not completed.

Finally, the bottom section of the chart shows the activities Marine Corps Systems Command was working on in advance of the MRAP UUNS being formally submitted to the Marine Corps Requirements Oversight Council for approval.

**Management Objectives**

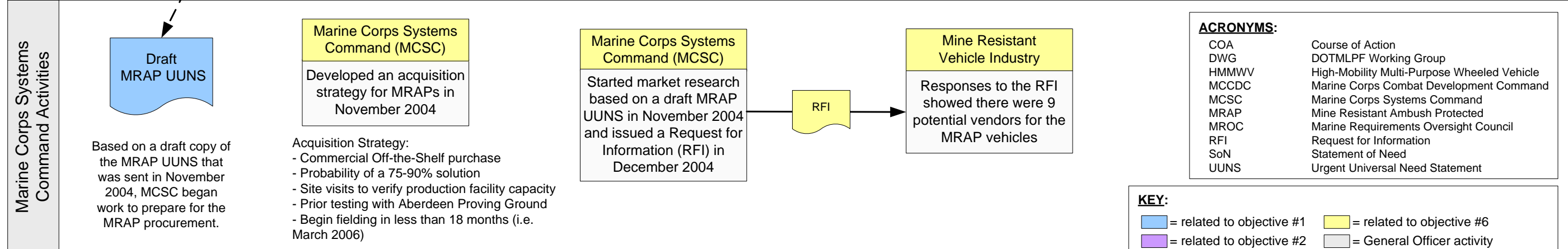
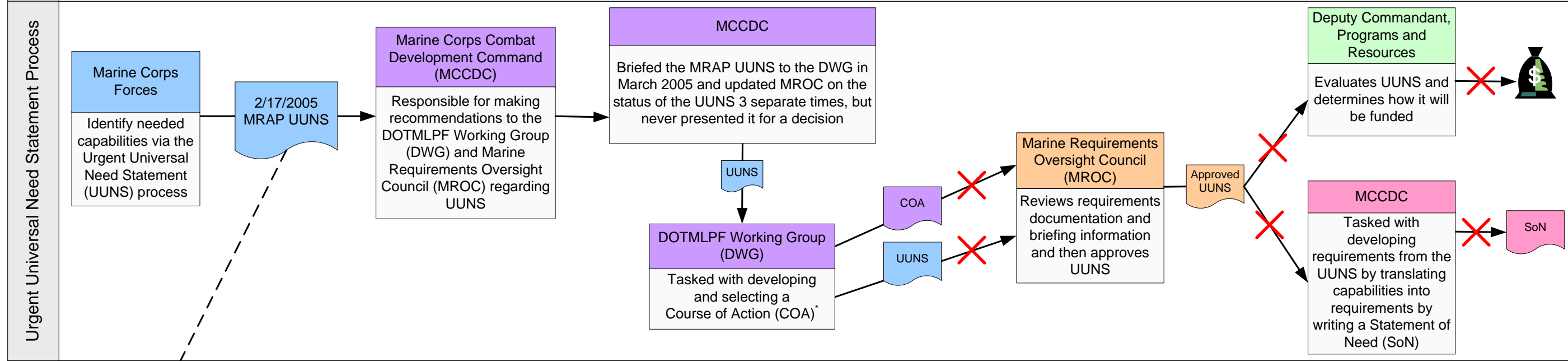
Provide a systematic approach for warfighting development by:

- 1.) Identifying warfighter-needed capabilities
- 2.) Identifying a course of action to meet the warfighter-needed capability
- 3.) Validating warfighter needs
- 4.) Obtaining funding
- 5.) Translating capabilities into requirements
- 6.) Obtaining and fielding capability

Based on the processes laid out below, were the management objectives met?

- 1.) Yes, the warfighter need was identified by the UUNS.
- 2.) No, MCCDC and the DWG did not develop a Course of Action for MRAP vehicles.
- 3.) No, the UUNS was never presented to the MROC; therefore, it could not be validated.
- 4.) No, the UUNS was not MROC approved so funding was not sought.
- 5.) No, MCCDC did not write a Statement of Need.
- 6.) No, MRAPs were not fielded as a result of the 2005 UUNS.

General Officer Activities	<div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Executive Safety Board</b></p> <p>Held a conference in March 2005 in which a brief about mine resistant vehicles was presented</p> <p>Notes from the conference state that the Assistant Commandant "favors new mine resistant vehicles"</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Inspector General of the Marine Corps</b></p> <p>Issued a report in May 2005 that favored the M1114; however, work did not include evaluating any type of mine resistant vehicle</p> </div> <div style="border: 1px solid black; padding: 5px; margin-bottom: 5px;"> <p><b>Deputy Commandant, Installation and Logistics</b></p> <p>Notified several General Officers by e-mail that on June 7, 2005, the Commandant decided to procure and distribute M1114s with a goal of 100% in theater and stated "we are still operating in a HMMWV world"</p> </div> <div style="border: 1px solid black; padding: 5px;"> <p><b>Executive Off-Site</b></p> <p>3- and 4-Star General Officers met on June 27, 2005 and formalized the Commandant's decision to replace HMMWVs with M1114 up-armored HMMWVs</p> </div>
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\* In March 2005, the DWG submitted an information paper to the Deputy Commandant for Combat Development and Integration. In an interview with the audit team, the former Deputy Commandant acknowledged his receipt of the information paper and said he directed that work continue on a solution to the UUNS. However, he did not know why the DWG did not develop a course of action.

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# Appendix I. Process for Joint Urgent Operational Needs

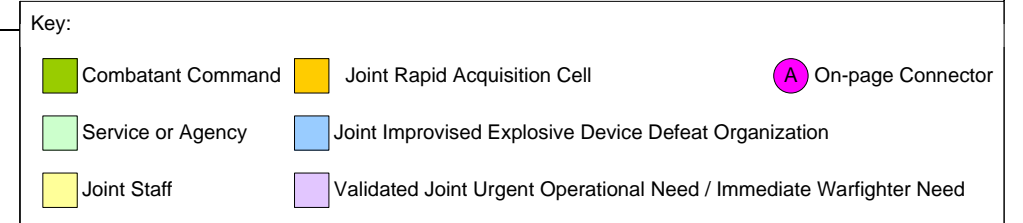
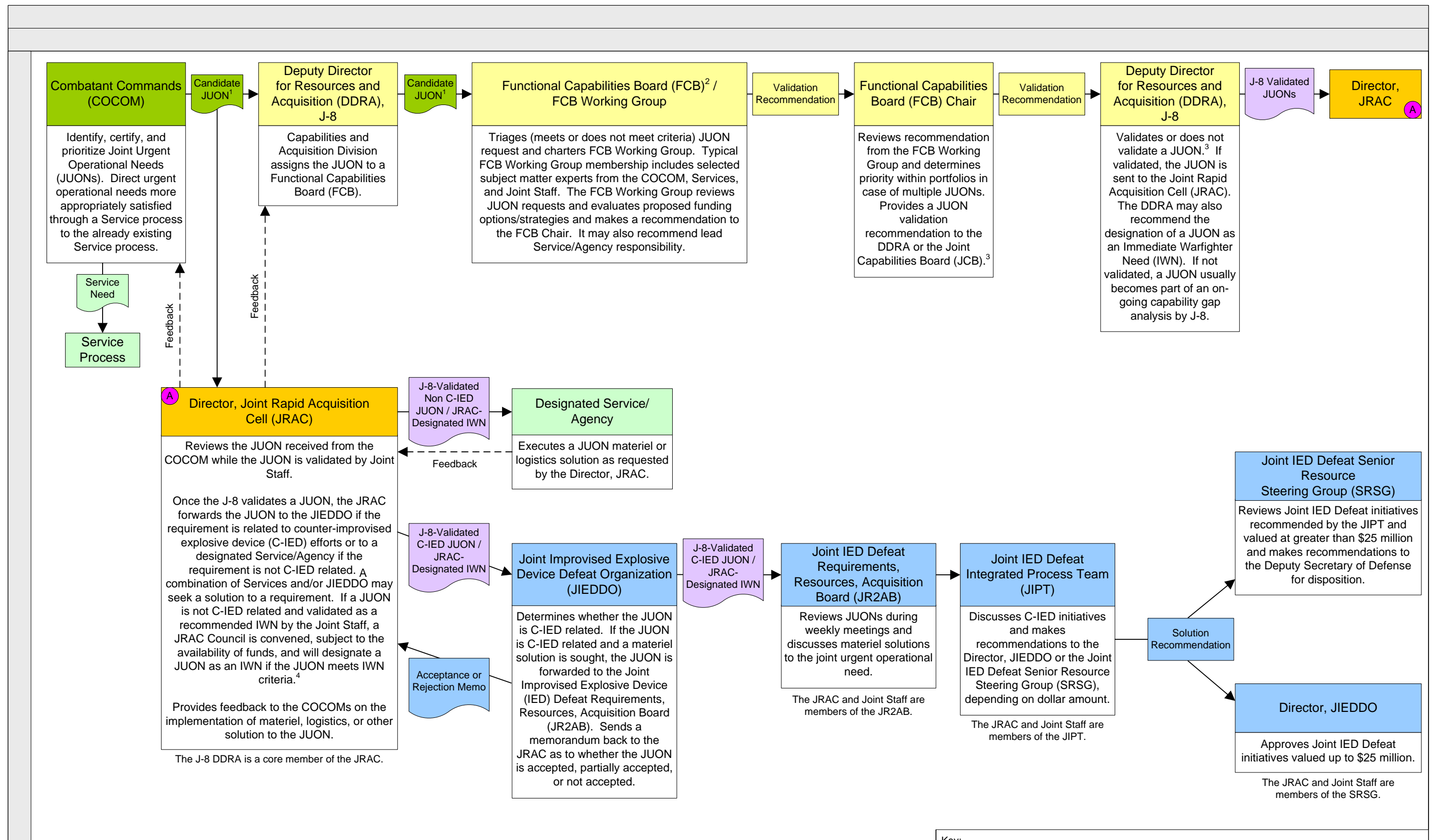
The following chart illustrates the Joint Urgent Operational Need (JUON) process.

The top line of the chart shows the combatant commander and Joint Staff processes as prescribed by Chairman of the Joint Chiefs of Staff Instruction 3470.01. The bottom line of the charts shows the Joint Rapid Acquisition Cell and Joint Improvised Explosive Device Defeat Organization processes. The chart's key can be found in the lower right-hand corner of the page, and the acronyms used on the chart are defined below.

## Acronyms

C-IED	Counter-Improvised Explosive Device
COCOM	Combatant Command
DDRA	Deputy Director for Resources and Acquisition
FCB	Functional Capabilities Board
IWN	Immediate Warfighter Need
JIEDDO	Joint Improvised Explosive Device Defeat Organization
JIPT	Joint IED Defeat Integrated Process Team
JR2AB	Joint IED Defeat Requirements, Resources, Acquisition Board
JRAC	Joint Rapid Acquisition Cell
JUON	Joint Urgent Operational Need
SRSRG	Senior Resource Steering Group





<sup>1</sup> The form on which a Joint Urgent Operational Need is submitted is called a Joint Staff Rapid Validation and Resourcing Request.  
<sup>2</sup> There are multiple FCBs with different subject matter experts.  
<sup>3</sup> Most JUONs go the the DDRA for approval. However, in some cases, the JUON decision goes to the JCB for validation. For example, a JUON that meets Acquisition Category I criteria would most likely go to the JCB.  
<sup>4</sup> A JUON may be designated as an IWN if 1) there is a materiel, logistic, or service solution, 2) left unfulfilled, the need will seriously endanger personnel or pose a major threat to ongoing operations, and 3) it requires a resolution within a span of 120 days or less.

## **Appendix J. Client Comments on the Finding, and Our Response**

Our detailed response to the comments from the Director, Joint Staff and the Commanding General, Marine Corps Combat Development Command (MCCDC) on the draft report finding follow. The complete text of those comments can be found in the Client Comments section of this report.

### **Comments on the Review of Internal Controls**

The Director, Joint Staff requested that a sentence in the Review of Internal Controls in Appendix A be changed to reflect his proposed changes to Recommendations 1. and 2. The Director stated that providing a means for Services to forward urgent requirements with potential joint-Service applicability to the combatant commanders and then to the Joint Staff for consideration will ensure that the combatant commander has the opportunity to review and endorse Service urgent requirements that may have joint-Service applicability within the assigned area of responsibility. He also stated that this change will ensure consistency with the Deputy Secretary of Defense memorandum of November 2004 regarding immediate warfighter needs.

### **Audit Response**

We agree that it is important for the combatant commander to have the opportunity to review and endorse Service urgent requirements. We also agree that DoD policy regarding the processing of urgent requirements should be consistent. The November 15, 2004, Deputy Secretary of Defense memorandum that the Director, Joint Staff cited on immediate warfighter needs outlines the procedures, roles, and responsibilities for the functioning of the Joint Rapid Acquisition Cell process. The memorandum also states that combatant commanders will certify whether urgent requirements are operationally critical. Therefore, we revised Appendix A to incorporate the Director's comments.

### **Comments on the Availability of Urgent Needs Processes**

The Commanding General, MCCDC stated that the Results in Brief and the finding stated that the MCCDC did not take advantage of Joint Staff processes available to address an immediate and apparent joint warfighter need. He stated that the processes described were directly available only to combatant commanders, not to Military Departments or agencies. He explained that the only option available to the MCCDC would have been to recommend that the UUNS originator submit a request through the operational chain of command for further consideration by the combatant commander. Furthermore, the Commanding General commented that the JUON directive was not published until 5 months after the submission of the MRAP UUNS.

## **Audit Response**

We agree that the Chairman of the Joint Chiefs of Staff Instruction 3470.01, or the JUON directive, was not issued until July 15, 2005, about 5 months after the submission of the MRAP UUNS. Accordingly, we revised the sentence in the Results in Brief to read: “Further, the MCCDC did not, as it could and should have in July 2005, request that the Deputy Commanding General, I Marine Expeditionary Force (Forward) take advantage of new Joint Staff processes available to address an immediate and apparent joint warfighter need for an MRAP-type vehicle capability.” In addition, we revised the second bullet of the finding paragraph to read “request that the Commander, I Marine Expeditionary Force (Forward) submit the urgent requirement through the JUON process, which was established while the MCCDC was reviewing the MRAP UUNS, to determine whether to initiate a joint acquisition program to meet the urgent warfighter need.”

## **Comments on the Availability of Mine Resistant Ambush Protected-Type Vehicles**

The Commanding General, MCCDC stated that the potential vendors of MRAP-type vehicles identified by MCSC did not have the immediate industrial capacity to satisfy the February 17, 2005, MRAP UUNS. He also stated that the term “MRAP” was used in the UUNS as general nomenclature, and no manufacturer was either producing or marketing specific vehicles by that name. Further, he stated that the distinction is critical to understanding the decision by the Commandant of the Marine Corps to procure and field M1114 up-armored HMMWVs as the most immediately available technology for defending Marines from the landmine and IED threat. Finally, the Commanding General stated that the distinction between MRAP-type vehicles as we know them today and the MRAP nomenclature used in the MRAP UUNS counters any potential perception that a commercial off-the-shelf product was available that could have quickly protected Marines in the field, but was disregarded.

## **Audit Response**

The report does not state that MRAP-type vehicles could be produced immediately or were readily available on a large scale in 2005. Even in late 2006, when the MRAP program began, the industrial base needed to be ramped up. We believe that industry would have ramped up production capacity in 2005 had the UUNS request been approved and funded.

Regarding the use of the “MRAP” nomenclature, the February 2005 MRAP UUNS mentions the Cougar and Buffalo vehicles, which are MRAP-type vehicles, by name. In addition, the Marine Corps began procuring Cougars for explosive ordnance disposal units in 2004. Although the term “MRAP” may not have been widely used in 2005, the characteristics of an MRAP-type vehicle were clearly defined in the UUNS itself.

Further, as stated in the report, the former Commandant of the Marine Corps stated that his direction to procure and field M1114 up-armored HMMWVs was not intended to preclude the Marine Corps from procuring MRAP-type vehicles or to stop MCCDC from

completing the requirements of the UUNS process for considering the acquisition of MRAP-type vehicles in response to the February 17, 2005, UUNS.

## **Comments on the Mine Resistant Ambush Protected Vehicle Timeline of Events**

The Commanding General provided the timeline below of events occurring since February 2005 to illustrate that no MRAP manufacturer had a ready production capability in February 2005.

- February 17, 2005 – UUNS submitted for MRAP-type vehicles
- April 25, 2005 – MCSC executes a sole-source justification and approval to procure the first MRAP-type vehicle, the JERRV, from Force Protection, Incorporated
- May 13, 2005 – MCSC awards a sole-source contract to Force Protection, Incorporated for 122 JERRVs (delivery of those vehicles eventually took 13 months)
- June 2005 – Marine Corps decides to procure M1114 up-armored HMMWVs as the most viable solution available to address the IED problem
- June 2006 – Vehicle deliveries under the 2005 JERRV order are completed
- November 14, 2006 – MCSC awards Force Protection, Incorporated another sole-source contract in response to an October 6, 2006, statement of need for MRAP-type vehicles
- January 26, 2007 – MCSC awards contracts to nine different manufacturers in an attempt to increase production in response to the October 6, 2006, statement of need
- January through July 2007 – Four of the nine manufacturers from the January contract award fail to make timely delivery or do not meet contract requirements
- January 2007 to Present – Production vehicles, delivered by five contractors, undergo significant testing and refinement to meet contract requirements

## **Audit Response**

As stated earlier, we agree that the industrial base for MRAP-type vehicles needed to be developed. In late 2006, when the MRAP program began, the industrial base needed to be ramped up. We believe that had DoD showed greater interest in MRAP-type vehicles in 2005, as commanders in the field requested, industry would have responded sooner and would have worked quickly to build more vehicles. According to a representative from MCSC, the MCSC did not work to build the industrial base between 2005 and 2006, except with Force Protection, Incorporated, to increase MRAP-type vehicle production capacity.

As discussed in the finding, the decision by the Commandant of the Marine Corps to acquire M1114 up-armored HMMWVs at the same time that the MRAP UUNS was being processed apparently kept MCCDC from completing the UUNS process as required, even though the then-Commandant stated that he did not intend for this to happen.

After the Secretary of Defense made the production and fielding of MRAP-type vehicles the Department's number one acquisition priority in May 2007, industry quickly identified the ability to produce MRAP-type vehicles to fulfill user requirements in the UUNS. Although no MRAP manufacturer had a ready production capability in February 2005, industry clearly could have acted much sooner to satisfy the UUNS requirement had MCCDC validated and approved the requirements of the UUNS and had MCSC responded by working to build the industrial base when the UUNS was received in February 2005.

## **Comments on the Urgent Need Web-Based Tracking System**

The Commanding General stated that the MCCDC's Virtual Urgent Universal Need Statement system, initiated and introduced since initial MRAP vehicle requests in 2005, substantially resolved many of the deficiencies identified in the management of the urgent needs process.

## **Audit Response**

In the finding, we acknowledged Marine Corps actions taken to improve the UUNS process that were taken in response to the Naval Audit Service's Report No. N2007-0060, "Marine Corps Urgent Universal Need Statement Process," September 28, 2007. We stated that the new practices would give the UUNS process greater visibility and transparency.

## **Comments on the Issuance of the Joint Urgent Operational Need Guidance**

The Commanding General noted that Chairman of the Joint Chiefs of Staff Instruction 3470.01, "Rapid Validation and Resourcing of Joint Urgent Operational Needs (JUONs) in the Year of Execution," July 15, 2005, was not published until 5 months after the submission of the MRAP UUNS.

## **Audit Response**

The last brief to the MROC on the MRAP UUNS submitted in February 2005 occurred on August 8, 2005, approximately 3 weeks after the initiation of the JUON process. Accordingly, the JUON process was available before the MCCDC stopped processing the February 2005 UUNS. As this JUON process was available, the MCCDC could and should have requested that the Deputy Commanding General, I Marine Expeditionary Force (Forward) submit the requirement to the new Joint Staff process to address an immediate and apparent joint warfighter need for an MRAP vehicle capability.

## **Comments on Marine Corps Order 3900.15B**

The Commanding General, MCCDC stated that the draft report accurately describes Marine Corps Order 3900.15B as establishing policy for capabilities-based planning, but

added that the Order also clarifies Service purpose and policy for the submission and processing of an UUNS.

## **Audit Response**

We agree that Marine Corps Order 3900.15B, “Urgent Universal Need Statement Processing,” Enclosure 7, includes information on the Service purpose and policy for the submission and processing of an UUNS. In addition, Marine Corps Bulletin 3901, issued as a supplement to the Order, provides specific information on roles, responsibilities, and desired outcomes associated with the processing of an UUNS.

## **Comments on High Mobility Multi-Purpose Wheeled Vehicles and Anti-Tank Mines**

The Commanding General, MCCDC stated that the draft report references to the survivability of a HMMWV against an antitank mine are not relevant because antitank mines are designed to defeat heavy armored fighting vehicles.

## **Audit Response**

While we agree that antitank mines are designed to defeat heavy armored fighting vehicles, they are also used against other tactical vehicles, including HMMWVs. As a result, such vehicles should be designed to protect the crew from the expected threat.

Appendix D of this report, Table D-2, provides information on the approximate size distribution of antivehicular landmines (approximately 63 percent of antitank mines contain between 13.2 and 22 pounds of explosives). Because of this, the February 17, 2005, MRAP UUNS stated that the vehicle should protect the crew from the IED/mine threat and that minimum protection should be 30 pounds of explosives under any wheel and 15 pounds of explosives anywhere under the vehicle.



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# Joint Staff Comments



THE JOINT STAFF  
WASHINGTON, DC

Reply ZIP Code:  
20318-0300

DJSM-1018-08  
5 November 2008

MEMORANDUM FOR THE INSPECTOR GENERAL OF THE DEPARTMENT OF  
DEFENSE

Subject: Marine Corps Implementation of the Urgent Universal Needs Process  
for Mine Resistant Ambush Protected Vehicles (Project No. D2008-  
D000AE-0174.000)

1. Thank you for the opportunity to respond to the subject memorandum.<sup>1</sup>  
The Joint Staff concurs with the draft report subject to incorporation of the  
enclosed comments.
2. The Joint Staff point of contact is Commander [REDACTED] USN;  
J-8/CAD; [REDACTED]

A handwritten signature in cursive script, reading "Stanley A. McChrystal".

STANLEY A. MCCRYSTAL  
Lieutenant General, USA  
Director, Joint Staff

Enclosure

Reference:

- 1 DOD(IG) memorandum, 26 September 2008, "Marine Corps  
Implementation of the Urgent Universal Needs Process for Mine  
Resistant Ambush Protected Vehicles (Project No. D2008-D000AE-  
0174.000)"

b(6)

JOINT STAFF COMMENT MATRIX

ITEM	SOURCE	TYPE	PAGE	LINE	COMMENT	RATIONALE	DECISION (A/R/M)
1.	D2008-D000AE-0174.000	Substantive	i.	17-25 Col 2	Change to "We recommend that the Director, Joint Staff revise Chairman of the Joint Chiefs of Staff Instruction 3470.01, "Rapid Validation and Resourcing of Joint Urgent Operational Needs (JUONs) in the Year of Execution," July 15, 2005, to include procedures that Service requirements developers can follow to forward urgent requirements that may have joint Service applicability directly to the appropriate Combatant Commander and endorsement and subsequent submission to the Joint Staff for validation as a JUON."	To ensure that the combatant commander has the opportunity to review and endorse Service urgent requirements that may have joint/Service applicability within assigned AOR. Ensure consistency with the Nov 2004 DepSecDef IWN memorandum.	
2.	D2008-D000AE-0174.000	Substantive	i.	27-35 Col 2	Change to "We recommend that the Commanding General, MCCDC establish procedures in Marine Corps Bulletin 3901, "The Marine Corps Urgent Needs Process (UNP) and the Urgent Universal Need Statement (Urgent UNS)," July 1, 2008, to immediately submit UUNSSs that may have joint-Service applicability directly to the appropriate combatant commander and endorsement and subsequent submission to the Joint Staff for validation as a JUON.	To ensure that the Combatant Commander has the opportunity to review and endorse Service urgent requirements that may have joint Service applicability within assigned Area of Responsibility (AOR). Ensure consistency with the Nov 2004 DepSecDef IWN memo.	

Enclosure (A)

Page 1 of 2

JOINT STAFF COMMENT MATRIX

ITEM	SOURCE	TYPE	PAGE	LINE	COMMENT	RATIONALE	DECISION (A/R/M)
3.	D2008-D000AE-0174.000	Substantive	18	44	Change to "Implementing recommendation 1 will provide a means for Services to forward urgent requirements with potential joint-Service applicability to the combatant commanders and Joint Chiefs of Staff for consideration."	To ensure that the combatant commander has the opportunity to review and endorse Service urgent requirements that may have joint Service applicability within assigned AOR. Ensure consistency with the Nov 2004 DepSecDef IWN memo.	

Enclosure (A)

Page 2 of 2

# Navy Comments



THE ASSISTANT SECRETARY OF THE NAVY  
(RESEARCH, DEVELOPMENT AND ACQUISITION)  
1000 NAVY PENTAGON  
WASHINGTON DC 20350-1000

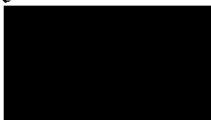
NOV 05 2008

MEMORANDUM FOR DEPARTMENT OF DEFENSE ASSISTANT INSPECTOR  
GENERAL FOR AUDITING

SUBJECT: Department of Defense Inspector General (DoDIG) Draft Report D2008-D000AE-0174.000, "Marine Corps Implementation of the Urgent Universal Needs Process for the Mine Resistant Ambush Protected Vehicles"

The Department of the Navy (DoN) has reviewed the DoDIG Draft Report D2008-D000AE-0174.000 and agrees with both of the DoDIG's recommendations. The DoN has no comments for Recommendation 1 due to identifying a change to a Chairman of the Joint Chiefs of Staff Instruction. The response to Recommendation 2, along with general comments, is provided in the attachment.

It is important to note that the general comments, provided by the USMC, add accuracy and context to the report's findings and should be incorporated into the final DoDIG report. It is also important to recognize that the MRAP efforts coordinated by the USMC have progressed with evolutionary capabilities to meet the still rapidly evolving threat to our forces in Iraq and Afghanistan.



Attachments:  
As stated

b(6)

# Marine Corps Comments



DEPARTMENT OF THE NAVY  
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IN REPLY REFER TO  
8AE-0174  
RFR-80  
29 Oct 08

MEMORANDUM FOR ASSISTANT SECRETARY OF THE NAVY,  
RESEARCH, DEVELOPMENT AND ACQUISITION

Subj: Department of Defense Inspector General Draft Report  
D2008-D000AE-0174.000, "Marine Corps Implementation of  
the Urgent Universal Needs Process for Mine Resistant  
Ambush Protected Vehicles," dated September 26, 2008

Ref: (a) DODIG memorandum of September 26, 2008

Encl: (1) Marine Corps comments

1. In accordance with reference (a), the Marine Corps has reviewed the subject draft report and provides comments at the enclosure.

2. Point of contact for this matter is [REDACTED]  
email [REDACTED] or phone [REDACTED] DSN [REDACTED]  
[REDACTED]

By direction of the  
Commandant of the Marine Corps



Department of Defense Inspector General Draft Report  
D2008-D000AE-0174.000, "MARINE CORPS IMPLEMENTATION OF THE  
URGENT UNIVERSAL NEEDS PROCESS FOR MINE RESISTANT AMBUSH  
PROTECTED VEHICLES," dated September 26, 2008

1. The Marine Corps has reviewed the draft report and the following comments are provided:

Recommendation 2 (p 15). DODIG recommends that the Commanding General, Marine Corps Combat Development Command revise Marine Corps Bulletin 3901, "The Marine Corps Urgent Needs Process (UNP) and the Urgent Universal Need Statement (Urgent UNS)," July 1, 2008, to instruct the Capabilities Development and Integration Board to immediately submit urgent universal need statements that have joint-Service applicability or have the potential to affect, or replace, any joint program to the Joint Staff and the Joint Rapid Acquisition Cell for consideration and implementation.

Marine Corps Response: The Marine Corps concurs with the recommendation. Within 45 days of the adoption of Recommendation 1 by the Chairman of the Joint Chiefs of Staff (CJCS) to enable Service requirements developers to forward urgent requirements that may have joint-Service applicability directly to the Joint Chiefs of Staff, the Marine Corps will issue appropriate implementing instructions. The resulting ability of the Services to serve as an additional entry point into the Joint Urgent Operational Need (JUON) process would simplify actions required of operational commanders and avoid duplication of effort by Service capability development staffs. (Note: Marine Corps Bulletin 3901 has been superseded by Marine Corps Order 3900.17, "The Marine Corps Urgent Needs Process (UNP) and the Urgent Universal Need Statement (Urgent UNS)," October 17, 2008).

2. The following Marine Corps technical comments are provided for consideration:

a. Pages 1, 5. The finding that the Marine Corps Combat Development Command (MCCDC) "did not take advantage of Joint Staff processes available to address an immediate and apparent joint warfighter need" abbreviates the context provided later in the report. Then and now, the processes described were directly available only to COCOMs and not to the Military Departments or Agencies. The only option available to MCCDC would have been to recommend that the UUNS originator submit a request through the operational chain of command for further consideration by the COCOM.

b. Page 1, throughout. Mine-Resistant Ambush Protected

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(MRAP)-type vehicles, though now in use, were not an immediately available capability at the time of the Urgent UNS submission. While commonly referred to today, the term MRAP was used in the UUNS as general nomenclature; no manufacturer was either producing or marketing specific vehicles by that name.

This distinction is critical to the understanding of the decision by the Commandant of the Marine Corps (CMC) to procure and field the M1114 model High Mobility Multi-purpose Wheeled Vehicle (HMMWV) as the most immediately available technology for defending Marines from the landmine and Improvised Explosive Device (IED) threat. It further counters any potential perception that there was a commercial off-the-shelf product that could have quickly protected Marines in the field, but which was disregarded. The following timeline of events establishes this point:

- (1) 17 Feb 05 - Date of UUNS identifying the need for MRAP type vehicles;
- (2) 25 Apr 05 - Marine Corps Systems Command (MCSC) executes sole source Justification and Approval to procure the first MRAP type vehicle from Force Protection Inc. (FPI) (the JERRV: an Explosive Ordnance Disposal Vehicle);
- (3) 13 May 05 - MCSC awards sole source contract to FPI for 122 JERRVs, delivery eventually took 13 months;
- (4) June 2005 - Marine Corps decides to procure HMMWV as the most viable solution then available to address the IED problem;
- (5) June 2006 - Deliveries under the 2005 JERRV order completed;
- (6) 14 Nov 06 - MCSC awards FPI another sole source contract in response to a 6 Oct 06 Statement of Need;
- (7) 26 Jan 07 - MCSC awards contracts to nine different manufacturers in an attempt to increase production in response to the 6 Oct 06 Statement of Need.
- (8) January 07 to July 07 - Four of the awardees fail to make timely delivery or do not meet contract requirements;

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(9) January 07 to Present - Even the five contractors who have delivered production vehicles have undergone significant testing and refinement to enable them to meet contract requirements. This establishes that no MRAP manufacturer had a ready capability in February 2005.

c. Page 2. Of note, the secure web-based tracking system described in the Report, initiated and introduced since the events described, has substantially resolved many of the prior deficiencies identified in the management of the UNP. By enabling visibility of each request from original submission through resolution, the "Virtual Urgent Universal Need Statement (VUUNS)" system now provides complete transparency to the process to participants, from originators to senior leaders. It also provides automatic notification to participants of every change in status of a submission, and allows cross-functional collaboration to develop solutions to the capability gaps identified. As a result, VUUNS substantially improves the speed, reliability, and effectiveness of the UNP, and significantly addresses the lessons-learned through the development of MRAP capabilities.

d. Page 6. Of note, the JUON directive was not published until five months after the submission of the MRAP UUNS.

e. Page 6. While the draft report accurately describes Marine Corps Order (MCO) 3900.15B as establishing policy for capabilities-based planning, it is important to note that MCO 3900.15B also clarifies Service purpose and policy for the submission and processing of an Urgent UNS.

f. Page 12. For clarity, it should be noted that the potential vendors identified by Marine Corps Systems Command did not have the immediate industrial capacity to satisfy the MRAP Urgent UNS.

g. Page 35. Reference to the survivability of a HMMWV against an anti-tank mine is not relevant, since anti-tank mines are inherently designed to defeat even heavy armored fighting vehicles.

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3

Enclosure (1)

## **Team Members**

The Department of Defense Office of the Deputy Inspector General for Auditing, Acquisition and Contract Management prepared this report. Personnel of the Department of Defense Office of Inspector General who contributed to the report are listed below.

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Inspector General  
Department *of* Defense

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