

UNIVERSAL NEED STATEMENT (UNS)

Part 1a of 5 - Originator's Request

Name (Last, First, Initial) MCGRIFF, ROY/ DEWET, GERT		Rank/Grade MAJ/04	Phone DSN 477-8334/ 8342		FAX DSN 477--8709
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 checked="" type="checkbox"/>	IMPROVE or FIX an existing capability	<input 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 though 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 (d
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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
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	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

DAN J. HEJLIK 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 477-8600	FAX
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	Date Received 12 Dec 2003	Date Fwd'd to Assessment Br, MCCDC

Approval Authority Comments (optional)

General Officer's Signature Block
Signed

I MEF MRAP REQUIREMENT

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
MHG Roll up	107	36	16	2	0	161
DIV	461	132	0	30	29	652
MAW	76	6	27	4		113
FSSG	90	45	0	22	36	193
MEG	25	10	15	0	0	50
MEF TOTAL	759	229	58	58	65	1169

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/c argo	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
MHG Roll up	107	36	16	2	0	161
O/H	44		121	2		
percent request	243%		13%	100%		
DIV	461	132	0	30	29	652
O/H	324		427	27		
percent request	142%		0%	111%		
MAW	76	6	27	4		113
O/H	18		157	8		
percent request	422%		17%	50%		
FSSG	90	45	0	22	36	193
O/H	50		234	40		
percent request	180%		0%	55%		
MEG	25	10	15	0	0	50
O/H	NA	NA	NA	NA	NA	NA
percent request	NA	NA	NA	NA	NA	NA
total	759	229	58	58	65	1169
O/H	392	0	818	75	0	
percent request	194%		7%	77%		
		287				
		818				
		35%				

multi-mission
troop transport
flatbed/cargo
ambulance
EOD/Eng

HMMWV-like capability
16 or more PAX
7 ton-like capability
modified multi-mission platform
Buffalo-like arm for investigating

3664