2008 Tactical Wheeled Vehicles Conference (TWV)

Monterey, California

3–5 February 2008

Agenda

Monday, 4 February 2008

Session 1
TWV: During and Post OIF by Mr. Anthony Melita
Tactical Wheeled Vehicles Conference by GEN Benjamin S. Griffin
Briefing
Video
Army Wheeled Vehicle Fleet From the G-4 Foxhole by MG Vincent Boles
The 21st Century Army Reserve by LTG Jack Stultz

Session 2
The Army –Transforming while at War by LTG Stephen Speakes
Depot Panel
Part I
Part II
by Ms. Janet Bean, Col. Douglas Evans, Col. Scott Kidd, and Dr. John R. Gray
Mitigating Future Uncertainties by Leveraging Strategic Partnerships by Col. Scott Dalke
Marine Corps Ground Combat Tactical Vehicle Strategy by Brigadier General Larry Nicholson
PEO Land Systems Marine Corps by Col. Bill Taylor
Joint Program Office Mine Resistant Ambush Protected Vehicles by Mr. Paul Mann

Tuesday, 5 February 2008

Session 3

Meeting the Challenges of Today and Tomorrow by BG James Chambers, BG John R. Bartley, and Col. John “Steve” Myers
Briefing
Video

The Army Truck Team
PM Heavy Tactical Vehicles by LTC Allen Johnson
PM Light Tactical Vehicles by LTC Sam Homsy

“Thanks You for Making Such a Great Workhorse” M1078A1 LMTV by LTC Alfred Grein
CONFERENCE PROGRAM

HIGHLIGHTS:

Meet and hear from key DoD, Army & Marine Corps leaders.

- **Keynote Address:**
  Mr. Anthony Melita,
  Office of the Under Secretary of Defense for Acquisition, Technology and Logistics (OUSD(AT&L)/A&T/PSA/LW&M)

- **United States Army Materiel Command (AMC):**
  GEN Benjamin S. Griffin, USA Commanding General Army Materiel Command

- **BGen Michael M. Brogan,**
  USMC Commander MARCORSYSCOM

- **Plus a presentation and overview of the MRAP Program by the Joint Program Manager**

This year’s conference will highlight the actions to implement the Army’s recently announced Tactical Wheeled Vehicles Transformation Strategy.

FEBRUARY 3 - 5, 2008
WWW.NDIA.ORG/MEETINGS/8530

MONTEREY CONFERENCE CENTER, MONTEREY, CA EVENT #8530
This year’s Tactical Wheeled Vehicle (TWV) Conference will highlight the actions being taken to implement the Army’s recently announced new TWV Transformation Strategy. The strategy was developed and resourced by an Army TWV Board of Directors made up of key Army leaders and decision makers in the Pentagon, the PEO CS/CSS and the Chief of Transportation. The intent of this strategy is to ensure the Army and the other services will have a balanced and viable TWV fleet through FY ‘18 and beyond. This Conference will address the procurement of new vehicles while conducting the cyclic refurbishment of existing vehicles. Other topics will include the status of the ongoing ACTD’s intended to modernize the current fleet, and how the Army intends to provide for the spiral insertion of new technologies to support these efforts.

This is the only annual conference held that is specific to the military’s Tactical Wheeled Vehicle community. It has historically brought Department of Defense representatives, prime contractors, subcontractors, and their suppliers together to discuss present and future wheeled vehicle requirements for all services. It has afforded an atmosphere for open discussions between the customers and the suppliers based on the needs of the military users. This is the only conference held specifically for the military’s Tactical Wheeled Vehicle community.

The information presented is valuable to program managers, engineers, planners and marketers. In addition, open discussions will be invaluable to DoD planners and program managers. This year’s theme is: “TWV: DURING AND POST-OIF.”
TACTICAL WHEELED VEHICLES DIVISION:
Mission/Objective/Purpose

Division Objectives

The primary objective of the Tactical Wheeled Vehicle Division of NDIA is to enhance the security of the United States by promoting communications and interaction between defense industry, government and military in the area of automotive activities.

The specific charter of the Tactical Wheeled Vehicle Division is to conduct conferences in technology areas directly related to automotive research, design, development, test and production. Such conferences are intended to present advanced technology and provide for an exchange of information and an interchange of views between defense industry, government and military representatives. The effective cooperation between these three groups is vital to our defense effort in the tactical wheeled vehicle area. Each group brings unique inputs to such conferences. No one group can function at maximum effectiveness without the other two.

Specific Objectives:

► To serve as an effective communications vehicle for the exchange of views and information between government and industry on matters of common concern.
► To foster mutual understanding and effective working relationships between government and industry in order to achieve a sound body of government policy and procedures which will serve both the security objectives of the United States as well as the commercial interests of its industry.
► To provide government with industry advice on government policies, practices and procedures and industry’s needs and problems within the Division's purview.

Mission Responsibility:

To promote national exchanges between the Defense Department, government agencies and industry, of information relating to the design, development, acquisition and support of vehicles and vehicle systems employed in land and amphibious military operations.

2008 Tactical Wheeled Vehicles Conference Committee:

Conference Chair:
Mr. Gary Tull,
Vice President, Government Operations,
AM General Corporation,
and Chairman, Tactical Wheeled Vehicle Division, NDIA

Session II Chairman:
Mr. Jack Reidy,
President & CEO,
Defense Products Marketing, Inc.

Session III Chairman:
Mr. Tom Bagwell (SES),
Deputy Program Executive Officer, Combat Support & Combat Service Support (DPEO CS&CSS), U.S. Army

Session I Chairman:
Mr. Bruce Harrison,
Vice President, Product Support, BAE Systems,
and Vice Chairman, Tactical Wheeled Vehicle Division, NDIA
SUNDAY, FEBRUARY 3, 2008

7:30 A.M. - 1:00 P.M.  
9th Annual NDIA TWV Golf Scramble  
Check-in & Continental Breakfast  
Bayonet Golf Course, Seaside, California  
Golf Chair: Chuck Prikopa

8:30 A.M.  
Shotgun start

2:00 P.M. - 7:00 P.M.  
Registration Check-in  
The DeAnza Ballroom Foyer  
The Portola Plaza Hotel at Monterey Bay

2:30 P.M. - 7:00 P.M.  
Welcome Reception and Super Bowl Party  
The DeAnza Ballroom I and II

ANNUAL SUPER BOWL PARTY
SUPER BOWL XLII
SUNDAY FEB. 3, 2008

Super Bowl XLII - University of Phoenix Stadium  
Sunday Feb. 3, 2008  
Glendale Stadium, AZ  
2:30 P.M. - 6:30 P.M. (final whistle)*  
The De Anza Ballroom  
The Portola Plaza Hotel Monterey

Kickoff time 3:18 P.M. (PST) / (6:18 p.m. EST)

A spouse and/or guest of a registered attendee, may attend the Super Bowl Party at an additional cost of $90.00.

Due to fire code regulations, space is limited. Based on the overwhelming response and attendance in previous years, there is a strong possibility that late on-site spouse/guest registrations will not be accepted.

The “Spouse/guest ticket” fee(s) do not include attendance at any of the other conference food functions: continental breakfasts, coffee breaks, and/or lunch, or conference attendance.
MONDAY, FEBRUARY 4, 2008

7:00 A.M. - 8:00 A.M.  Continental Breakfast  
Serra Ballroom  
The Monterey Conference Center

7:00 A.M. - 5:00 P.M.  Registration Check-in Continues  
Serra Ballroom  
The Monterey Conference Center

8:00 A.M. - 8:10 A.M.  Conference Overview & Welcome  
Serra Ballroom  
The Monterey Conference Center

Mr. Gary Tull  
Vice President, Government Operations,  
AM General Corporation and  
Chairman, Tactical Wheeled Vehicle Division,  
NDIA

8:10 A.M. - 8:15 A.M.  NDIA Welcome  
Serra Ballroom  
The Monterey Conference Center

Lieutenant General Lawrence P. Farrell, USAF (Ret.)  
President & CEO  
NDIA

8:15 A.M. - 8:45 A.M.  Keynote Address  
Mr. Anthony Melita  
Office of the Under Secretary of Defense for  
Acquisition, Technology and Logistics  
(OUSD(AT&L)/A&T/PSA/LW&M)
MONDAY, FEBRUARY 4, 2008 (CONTINUED)

Session I:
Chairman: Mr. Bruce Harrison, Vice President, Product Support, BAE Systems and Vice Chairman, Tactical Wheeled Vehicle Division, NDIA
Serra Ballroom
The Monterey Conference Center

8:45 A.M. - 9:15 A.M. United States Army Materiel Command (AMC)
General Benjamin S. Griffin, USA
Commanding General, Army Materiel Command

9:15 A.M. - 9:45 A.M. Office of the Deputy Chief of Staff, Army G-4
Major General Vincent Boles, USA
Assistant Deputy Chief of Staff, G4 (Operations)
Headquarters, U.S. Army

9:45 A.M. - 10:15 A.M. U.S. Army Reserve
Lieutenant General Jack C. Stultz, USA
Chief, Army Reserve/
Commanding Officer,
United States Army Reserve Command

10:15 A.M. - 11:00 A.M. Coffee Break
Serra Ballroom Foyer

Session II
Chairman: Mr. Jack Reidy,
President & CEO, Defense Products Marketing, Inc.
Serra Ballroom
The Monterey Conference Center

11:00 A.M. - 11:45 A.M. Office of the Deputy Chief of Staff, G-8,
Headquarters, Department of the Army
Lieutenant General Stephen M. Speakes, USA
Deputy Chief of Staff, G-8

11:45 A.M. - 12:45 P.M. Lunch
The DeAnza Ballroom I & II
The Portola Plaza Hotel at Monterey Bay
MONDAY, FEBRUARY 4, 2008  (CONTINUED)

Session II (continued)
Chairman: Mr. Jack Reidy

12:45 p.m. - 2:00 p.m.  Depot Panel
Panel Chair: Major General William M. Lenears, USA
Commanding General,
U.S. Army TACOM Life Cycle Management Command

Panel Members:
• Ms. Janet Bean,
  Executive Director, Integrated Logistics Support Center (ILSC), U.S. Army TACOM Life Cycle Management Command
• COL Douglas Evans, USA
  Commander, Red River Army Depot (RRAD), U.S. Army TACOM Life Cycle Management Command
• COL Scott Kidd, USA
  Project Manager, Tactical Vehicles, Program Executive Office, Combat Support & Combat Service Support (PEO CS&CSS)
• Dr. John R. Gray
  Deputy to the Commander, Letterkenny Army Depot (LEAD), U.S. Army AMCOM Life Cycle Management Command

2:00 p.m. – 2:30 p.m.  USMC Maintenance Center Barstow
COL Scott Dalke, USMC
Commander

2:30 p.m. – 3:00 p.m.  Coffee Break
Serra Ballroom Foyer

3:00 p.m. – 3:30 p.m.  USMC/MCCDC
Brigadier General Larry Nicholson, USMC
Deputy Commanding General,
Marine Corps Combat Development Command

3:30 p.m. – 4:00 p.m.  USMC/MARCORSYSCOM
Brigadier General Michael M. Brogan, USMC
Commander, MARCORSYSCOM

4:00 p.m. – 4:30 p.m.  USMC PEO
COL Bill Taylor, USMC
Program Executive Officer, Land Systems
MONDAY, FEBRUARY 4, 2008 (CONTINUED)

Session II (continued)
Chairman: Mr. Jack Reidy

4:30 p.m. – 5:15 p.m. Joint MRAP Presentation
- Mr. Paul Mann, USMC
  Joint MRAP Program Manager
- COL Kevin Peterson, USA
  Deputy Joint MRAP Program Manager

5:15 p.m. - 6:30 p.m. Annual Conference Reception
The DeAnza Ballroom I and II
The Portola Plaza Hotel at Monterey Bay
Evening on Own - Enjoy Monterey!

SPouse/GUEST ACTIVITIES

Annual Conference Reception, Monday, February 4

A spouse and/or guest of a registered attendee, may attend the Annual Conference Reception.

5:15 p.m. - 6:30 p.m.
(additional cost of $45.00)

A spouse and/or guest of a registered attendee may attend the Annual Conference Reception at an additional cost of $45.00.

The “Spouse/guest ticket” fee(s) do not include attendance at any of the other conference food functions: continental breakfasts, coffee breaks, and/or lunch, or conference attendance.
TUESDAY, FEBRUARY 5, 2008

7:00 A.M. - 8:30 A.M.  Continental Breakfast  
Serra Ballroom Foyer  
The Monterey Conference Center

7:00 A.M. - 12:00 NOON  Registration Check-in continues  
Serra Ballroom Foyer  
The Monterey Conference Center

Session III  
Chairman: Mr. Tom Bagwell (SES), Deputy Program Executive Officer Combate Support & Combat Service Support (DCEO CS&CSS), U.S. Army  
Serra Ballroom  
The Monterey Conference Center

8:30 A.M. – 9:10 A.M.  Meeting the Challenges of Today and Tomorrow  
• Brigadier General(P) James Chambers, USA  
Commanding General/Commandant  
U.S. Army Transportation Center and School  
• Brigadier General John R. Bartley, USA  
Program Executive Officer for Combat Support & Combat Services Support (PEO CS&CSS)

9:10 A.M. – 10:00 A.M.  Overview – PM TV & JCSS

(9:10 – 9:30)  COL Scott Kidd, USA  
Project Manager for Tactical Vehicles

(9:30 – 10:00)  COL John “Steve” Myers, USA  
Project Manager for Joint Combat Support Systems  
LtCol Ruben Garza, USMC  
Product Manager (USMC)  
Joint Light Tactical Vehicles
**TUESDAY, FEBRUARY 5, 2008 (CONTINUED)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
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| 10:00 a.m. – 10:15 a.m. | Mr. Gary Tull  
Conference close-out |
| 10:15 a.m. – 10:45 a.m. | Coffee Break  
Serra Ballroom Foyer  
(Serra Ballroom will be reconfigured into two rooms) |
| 10:45 a.m. – 12:25 p.m. | PM Breakout Sessions  
- will follow on from Overview –  
PM TV presentations  
Attendees can remain in same ballroom as briefer will rotate |

<table>
<thead>
<tr>
<th>Group 1 – Serra (A)</th>
<th>Group 2 – Serra (B)</th>
<th>Group 3 – Steinbeck Ballroom</th>
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<tbody>
<tr>
<td><strong>10:45 – 11:15</strong></td>
<td><strong>10:45 – 11:15</strong></td>
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<tr>
<td>LTV</td>
<td>MTV</td>
<td>HTV</td>
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<tr>
<td>LTC Sam Homsy, USA</td>
<td>Mr. Jim Satchfield,</td>
<td>LTC Lewis Johnson, USA</td>
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<tr>
<td>Product Manager,</td>
<td>Deputy Product</td>
<td>Product Manager,</td>
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<tr>
<td>Light Tactical</td>
<td>Medium Tactical</td>
<td>Heavy Tactical Vehicles,</td>
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<tr>
<td>Vehicles, PM LTV</td>
<td>Vehicles, PM MTV</td>
<td>PM HTV</td>
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| Speaker room        | Speaker room        | Speaker room                 |
| transition break    | transition break    | transition break             |

| **11:20 – 11:50**   | **11:20 – 11:50**   | **11:20 – 11:50**           |
| MTV                 | HTV                 | LTV                          |
| Mr. Jim Satchfield, | LTC Lewis Johnson,  | LTC Sam Homsy, USA           |
| Deputy Product      | USA Product Manager,| Product Manager,             |
| Manager, Medium     | Medium Tactical     | Heavy Tactical Vehicles,     |
| Tactical Vehicles,  | Vehicles, PM HTV   | PM HTV                       |
| PM MTV              |                     |                              |

| HTV                 | LTV                 | MTV                          |
| LTC Lewis Johnson,  | LTC Sam Homsy, USA  | Mr. Jim Satchfield,          |
| USA Product Manager,| Product Manager,    | Deputy Product Manager,      |
| Heavy Tactical      | Light Tactical      | Medium Tactical Vehicles,    |
| Vehicles, PM HTV    | Vehicles, PM LTV   | PM MTV                       |
|                     |                     |                              |

— Adjourn until February 2, 2009 —
(Feb. 1 – 3, 2009)
The National Defense Industrial Association wishes to acknowledge the following Super Bowl Party Sponsors:

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AM General

Arvin Meritor, Inc.

BAE Systems

Caterpillar, Inc.

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Cummins Inc.

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DRS Technologies, Inc.

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Sponsors

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Freightliner LLC

Lockheed Martin JLTV Team

Mack Trucks

Nevada Automotive Test Center
(Hodges Transportation, Inc.)

Oshkosh Truck Corporation

Thank-you for your generous support!

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The National Defense Industrial Association wishes to acknowledge the following Golf Tournament Hole, Prize, and Super Bowl Party Giveaway Sponsors:

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Omega Training Group

PPG Industries, Inc.

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SCS/Frigette

Telephonics Corporation

VT Miltope

Whitney, Bradley & Brown, Inc.
(Hampton, Virginia Office)

Thank-you for your generous support!
The Tactical Wheeled Vehicles Division of NDIA thanks you for attending & we look forward to seeing you again next year.

The National Defense Industrial Association (NDIA) thanks you for your participation in this year’s conference, and wishes you a safe trip home.
Army Wheeled Vehicle Fleet:
From the G-4 Foxhole

4 February 2008

Major General Vincent Boles
Deputy G4 (Operations)
Headquarters, Department of the Army
Situational Awareness
Agenda

- Strategic Context
- Readiness in the Fight Today
- 360° Readiness
- Future Challenges
- Training
What I Want to Leave You With...

- Supporting our deployed forces is our number 1 priority... been at it for 6 years

- High OPTEMPO is a fact of life in our strategic environment - We are in a Period of Sustained Conflict

- The Army is working to restore strategic balance & the G-4’s part is:
  - Enterprise Visibility,
  - 360° Materiel Readiness and
  - Resetting the Force

- We are not going back to the Army you grew up in
Strategic Context
Strategic Environment: 1950-1989

- Korea (1951): 64 Divisions (18 AC; 21 ARNG; 25 USAR)
- Vietnam (1967): 40 Divisions (17 AC; 23 ARNG)
- Cold War End (1989): 28 Divisions (18 AC; 10 ARNG)

10 Deployments in 40 years

... but this was before the Wall came down!!

- Cold War End (1989): 28 Divisions (18 AC; 10 ARNG)
- Today (2007): 18 Divisions (10 AC; 8 ARNG)
Commercial Wheeled Vehicles: What does the Future Hold?

- MODEL T
- PACKARD
- '57 THUNDERBIRD
- '67 CORVETTE
- HYBRID TRUCKS
- K CAR
- EDSEL
Tactical Wheeled Vehicles: What does the Future Hold?

- **Stryker**
  - Caterpillar 3126 turbo diesel 350hp
  - 18-20 STons
  - $4.13M/Vehicle

- **MWRAP**
  - $600K-800K/Vehicle

- **UA HMMWV**
  - $150K/Vehicle

- **M998 HMMWV**
  - $60K/Vehicle

- **WWII - Willys/Ford Jeep**
  - 60 hp 134 cu in 4 cylinder
  - 2,290 lbs
  - Approximate Cost $2600/vehicle

- **1899 Woods Electric Staff Car**

- **GAMMA GOAT**

- **CUCV**
CSA’s Direction

GEN Casey, AUSA Eisenhower Luncheon Remarks

“We will act quickly to restore balance to preserve our All-Volunteer Force, restore necessary depth and breadth to Army capabilities, and build essential capacity for the future. Four imperatives will frame what we need to do. Implementing these imperatives will require several years, considerable resources and sustained commitment by Congress and the American people.”
The Army's Strategic Imperatives

**PREPARE**
Continue to prepare our Soldiers for success in the current conflict

**SUSTAIN**
Sustain our Soldiers, Families and Army Civilians

**RESET**
Reset expeditiously for future contingencies

**TRANSFORM**
Transform to meet the demands of the 21st Century

The Soldier...
The centerpiece of our great Army
The Army’s Strategic Imperatives
The G-4’s Main Efforts

PREPARE

✓ War time readiness > 90% for six years
✓ Building Strategic Depth
✓ REF/RFI and ACU retention initiatives
✓ Every Soldier is a Rifleman

SUSTAIN

✓ Families First Program: $63M
✓ 15 DeCA projects; $220M
✓ 19 AAFES projects; $170M
✓ Privatization of Army Lodging
✓ Grow the Army & Rebalancing

RESET

✓ Industrial base production twice pre-war levels - greatest since Viet Nam
✓ $17.1B for FY07; $18.4B for FY08
✓ Reset 25 BCTs
✓ Retrograde/Redeployment Initiatives

TRANSFORM

✓ Employed Theater Level Joint & Modular Logistics HQ
✓ Resourcing RC as an operational reserve (CSS)
✓ Bring Logistics Automation into the 21st Century

Sustaining America’s Army: The Strength of the Nation
Readiness in the Fight Today
AOR Readiness Levels

- Continue to achieve Army goal of 90% readiness for the majority of the TWV fleets
  - We have some challenges

- However,
  - Vehicles are rapidly surpassing their projected useful life due to OPTEMPO
  - Reset OPTEMPO must be maintained - Sustained Predictable Funding
  - Must continue to improve equipment visibility & tracking capabilities
360° Readiness CL VII Objectives

- Is the equipment where it needs to be and serviceable to meet the mission?
- Is the sustaining base resourced and prioritized correctly?
- Is the sustaining base performing as planned to support the National Military Strategy, ARFORGEN, and Grow the Army requirements?

**GOAL:** The capability to see, assess, and synchronize the Army’s Corporate Enterprise Assets in support of Warfighting Operating Forces.
360° Readiness

UNIT READINESS

BATTLE LOSS REPLACEMENT

OPERATIONAL ASSET VISIBILITY

OPERATIONAL REQUIREMENTS VS. SUSTAINMENT RESOURCES

360° LOGISTICS READINESS

RETROGRADE

SUSTAINMENT BASE PRODUCTION

Operating Force
Generating Force

Synchronizing Materiel Readiness to Generate and Sustain Combat Power
Future Challenges
Sustainment Challenges:
FY2008-FY2020

- Define balance between Contractor & Soldier support

- Develop an Enterprise Sustainment Strategy that incorporates influx of new Combat Systems (MRAP, JLTV, FCS..)

- Fleet Lifecycle Sustainment costs for Future Force must be affordable (FCS: RAM is a KPP)
Improved Emphasis on Life Cycle Sustainment Planning

- Integration of Sustainment into Life Cycle Strategy Development
- Maintaining core skills and capabilities
- Modernization of the Sustainment Base
- Meeting 50/50 Statutory Requirements
- Reestablish Base Funding Levels that sustain the Army
Training
Training Implications

- Train The Soldier of the 21st Century
  - Web enabled Simulators
- Requires constant supply of organic maintenance skills
- Meeting training requirements while supporting extended conflicts
- Gaining efficiencies in training programs
  - A “Complete” Program
- Continuing education & certification requirements throughout career
- Increased Soldier capabilities & troubleshooting skills to help balance the sustainment requirement
- BRAC: A Training Opportunity
What I Hope I Left You With…

- Supporting our deployed forces is our number 1 priority... been at it for 6 years

- High OPTEMPO is a fact of life in our strategic environment - We are in a Period of Sustained Conflict

- The Army is working to restore strategic balance & the G-4's part is:
  - Enterprise Visibility,
  - 360° Materiel Readiness and
  - Resetting the Force

- We are not going back to the Army you grew up in
One Thing Remains Constant

The Soldier – the Centerpiece of the Army
Living the Warrior Ethos – on duty protecting the Nation and the society they serve.

Thank You For All You Do To Support Our Soldiers
Mitigating Future Uncertainties by Leveraging Strategic Partnerships

Col Scott Dalke
Commander, Maintenance Center Barstow
My Concerns as Depot Commander

• While many topics hold my attention—none are as important as resetting our forces for the unknown future.
• What equipment, being introduced today for tomorrow’s missions, will flow through my depot?
• Is the depot resourced properly to reset these assets?
• “Actions taken to restore units to a desired level of combat capability commensurate with the units’ future mission.”

The Honorable Jack Bell
• “The conflicts in Iraq and Afghanistan will one day end. We must be ready for who - and what - comes after.”

• “What “comes after” is hard to predict. Conflict in the future will most likely - - but not exclusively - - demand increased precision, speed and agility.”

Admiral M.G. Mullen
The Uncertainty

• Million dollar question, “What is the unit’s future mission?”
Past Reset, Did we Get it Right?

Did actions taken Post Desert Storm / Desert Shield reset our forces for OIF?


• The reset force from Desert Storm / Desert Shield was initially successful in Operation Iraqi Freedom.

• Battlefield changed (Uncertainty) when enemy changed tactics and employed Improvised Explosive Devices (IEDs).
• Marine Corps responded through self applied armor followed by Marine Armor Kit (MAK).

• Partnership with industry to field Mine Resistant Anti-Personnel Protective (MRAP).
Mitigating the Unknown

• Assumptions
  – We will train, to some extent, to fight the last war.
  – There will always be unknowns when planning for future conflict.
  – The ability to rapidly respond is crucial to future success.
  – A certain percentage of equipment used in last conflict will be reset for the next.
Mitigating the Unknown

- Strategic Partnerships between DoD and industry gives commanders the flexibility to rapidly respond to the next unknown and position the depots for the next reset.

- Enables depots to be properly resourced for resets to meet Future Uncertainties.
Colonel Scott Dalke
Maintenance Center Barstow
CWC 600, Box 110880
Barstow, Ca 92311-5015
E-Mail scott.dalke@usmc.mil
Phone (760) 577-7225
"Thank You" for making such a great workhorse

M1078A1 LMTV

PM Medium Tactical Vehicles

LTC Alfred Grein
(586) 574-8665

To date, my LMTV (a.k.a. "The Pug") has provided me safe transport for 50 convoys & +5,000 miles with many more to ahead of me.
FMTV Fleet Overview

- 17 Truck Variants in 2 1/2 & 5 Ton Payload Class
- Expanded Application of FMTV Platform to Support Army Emerging Requirements
  - HIMARS, LHS, 10-Ton Dump, MEADS, CAMEL & Patriot Recap
- Three Truck Variants Air Drop Certified
- Reduced Parts & Service Support Requirements
- Companion Trailers Double Hauling Capacity

- Unit Resupply
- Unit Mobility
- Ammunition Resupply
- Weapons Platform
- Troop Transport
MTV GWOT Support

AOA
- RACK Cabs 1,855
- LSAC Cabs 2,035
  - Appliqué Kits: 2,035

Surge Requirements (445)
- 248 LSAC Trucks w/appliqué
- 192 LSAC Cabs w/appliqué

1,002 additional LSAC cabs

FMTV Gunners Restraint (2,022 LSAC; 1,855 RACK)

Counterweight bumper for M1078 Cargo
with LSAC Cab and GPK
FMTV Significant Events for FY08

**FMTV A0**
- CTIS
- 7-speed automatic
- C-130 transportable
- 85% commonality
- 14 variants
- 22 year corrosion

**FMTV A1**
- ABS
- Class V IETM
- 100% improved Reliability/MR
- Open systems architecture
- HIMARS/LHS/10 Ton dump
- Trailers

**FMTV A1 R**
- EPA 2004
- Improved Reliability/MR
- Compatibility w/JTA Army
- Expansible Van
- Air conditioning
- LVAD
- Maintenance Reduction Batteries

**FMTV A1P2**
- LTAS Armoring Solution
- Increased Load Carrying, 19K Axle
- EPA 2007 Compliant
- A/C
- Maintenance Reduction Batteries
- LMTV: Top Feed Axle 260 AMP Alternator

**FMTV A1P2 Block 4**
- Suspension Mods
- Powertrain Mods
- Diagnostics
- Increased Load Capacity
- Increased Fuel Economy
- Optimized Maintenance Ratio

**FMTV A2**
- Fuel Efficient
- Survivable
- Reliable
- Maintainable
- Mobile
- Cost Effective

**OIF 93% OR Rate**

**Continuous Capability Improvements**

**Block 3 Mods**
- Multiplex Wiring
- Electronic Steering Control
- Maintenance Reduction (Two Level)
Long Term Armor Strategy (LTAS)

System Description

Mission:
- To provide a vehicle configuration which is able to adapt armor based on the threat, mission or technology and provide a greater level of protection than current AoA configurations.

Characteristics:
- Factory installed, armor capable cabs, which include A/C and provide the structure for soldier-installed armor kits. Vehicle performance characteristics are not degraded w/o armor kits installed.
- The B-kit armor concept allows for future armor upgrades to advanced light weight material (e.g.: ceramics, composites, etc.)
- Requirement: 1996 TWV Crew Protection Kit (CPK) ORD; 2003 FMTV ORD

Schedule

- LTAS FOT complete: Nov 07 ✔
- LTAS PVT complete: Dec 07 ✔
- Ballistic testing complete: Dec 07 ✔
- LTAS ECP A-cab contract award: Feb 08 ✔
- First LTAS – equipped vehicle Delivered to Gov’t: Jul 08
- LTAS Variants testing: Mar 08
- SER anticipated: Mar 08

Fielding

- # Vehicles Fielded: None
- AR2B: 6,023 field to Compo 1 by 2d Qtr FY10 (replace RACK, 5-Ton & LSAC in Theater)
- Will begin deliveries in Jul 08

Performance/Risk

Risk:
- Improvements implemented via Tiger Team (steel wheels, combat lock, etc.)
- Contractor Logistics Support (CLS) for Initial Fieldings
- LTAS Logistics dates based on availability of materials (e.g. Currently non-DX rating)

<table>
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<tr>
<th>Risk Level</th>
<th>Performance</th>
<th>Schedule</th>
<th>Cost</th>
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<td>High</td>
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</table>
Questions?
PM Light Tactical Vehicles

LTC Samuel Homsy
(586) 574-6450

Distribution A: Approved for Public Release; distribution unlimited
Light Tactical Vehicles

- M966 - Tow Carrier
- M996 - 2-Litter Ambulance
- M997 - 4-Litter Ambulance
- M998 - Cargo/Troop Carrier
- M1025 - Armament Carrier
- M1026 - Armament Carrier w/ winch
- M1035 - 2-Litter Ambulance
- M1036 - Tow Carrier, Armored
- M1037 - Shelter Carrier
- M1038 - Cargo/Troop Carrier w/ winch
- M1042 - Shelter Carrier w/ winch
- M1097 - Heavy HMMWV

- HMMWV A1, A2 Series
  - M1113 - Expanded Capacity Vehicle (ECV)
  - M1114 - Up-Armored HMMWV
  - M1151 - Enhanced Armament Carrier
  - M1152 - Enhanced Troop/Cargo/Shelter Carrier
  - M1165 - Enhanced Command & Control Carrier
  - M1151A1 - Enhanced Armament Carrier (Armor)
  - M1152A1 - Enhanced Troop/Cargo/Shelter Carrier (Armor)
  - M1165A1 - Enhanced Command & Control Carrier (Armor)
  - XM1167 – Enhanced TOW Carrier (Armor)

- M1101/M1102 - Light Tactical Trailer (LTT)
- M116A3 - 3/4 Ton Chassis Trailer

- HMMWV Add-on-Armor Kits (APK)
- HMMWV Recapitalization Program (M1097R1, M1025R1)
- USMC HMMWV Procurement (inc. M1043, M1044, M1045, M1046, M1123)
- USAF HMMWV Procurement (inc. M1116, M1145)
Critical GWOT Impact:

- LTV

- Additional maintenance and training imposed by hostile environment.
  - Severely overloaded vehicles via armor, ECM, C4ISR, sensors, Soldier gear
  - Frag Kit #6
  - Completed Objective Frag Kit 5 installation
  - Effect OGPK installation
  - Load Range E tire/wheel
  - A/C maintenance (procedures)
  - CASEVAC requirement
  - On-board vehicle power demands → OBVP Kits available on demand

MRAP Attacking Resources

Planned M1114 OFK 5 + IFK 6 + OGPK+ 3200 lbs Payload
PM LTV Critical Events for 2008

- Execute Frag Kit 6 (FK6)
- Field FK5, Objective Gunner’s Protective Kit (OGPK)-equipped M1151A1s to training base
- Expanded Capacity Vehicle 2 (ECV2) HMMWV test and acquisition
- Execute FCS Spin-Out 1 (FCS SO1) Efforts
- Continue platform support for the Soldier

Priority: GWOT, Modularity, & Fleet Sustainment
Questions?
PM Heavy Tactical Vehicles

LTC Allen Johnson
(586) 574-8679

Distribution A: Approved for Public Release; distribution unlimited
Heavy Tactical Vehicles

- M977 – Heavy Expanded Mobility Tactical Truck (HEMTT) Cargo
- M985 – HEMTT Cargo w/MHC
- M978 – HEMTT Tanker, 2500 gal
- M983 – HEMTT Tractor
- M984 – HEMTT Wrecker
- M1120 – HEMTT LHS
- HEMTT A3 – Electric Hybrid Tech Demonstrator
- HEMTT A4 – LTAS + Improved Performance
- HEMTT RECAP

- M1074 – Palletized Load System (PLS) w/MHC
- M1075 – PLS Truck
- M1076 – PLS Trailer
- PLSA1 – LTAS + Improved Performance

- M1070 – Heavy Equipment Transporter System (HETS)
- M1000 – HETS Semi-trailer

- M1142 – Tactical Firefighting Truck (TFFT)
- XM1158 – HEMTT-based Water Tender (HEWATT)

- M3/M3A1 – Container Roll On/Off Platform (CROP)
- M1977 – Common Bridge Transporter (CBT)
- M14 – Improved Boat Cradle (IBC) / M15 – Bridge Adapter Pallet (CBT)

- M915 Family of Vehicles
- M915A5 – LTAS + Improved Performance
- M916 – Light Equipment Transporter (LET)
- M917 – 20 Ton Dump

- Container Handling Unit (CHU)
- M1, M1077/M1077A1 – Flat rack

- Fifth Wheel Towing Device (FWTD)
- M870A3 – 40 ton Low Boy Trailer
- M871A3 – 22.5 ton Flatbed Trailer
- M872A4 – 34 ton Flatbed Trailer
- M989A1 – HEMAT
- M967A2 – 5000 Gal Bulkhaul Tanker
- M969A3 – 5000 Gal Refueler Tanker

AOR
- Interim Stryker Recovery System
- External Fire Suppression
- Armor
Direct AOR Support

M915 Cab Field Kit
- Durable solution transfers AoA weight away from cab to frame rails
- Prevent cab structural and related component damage and failures
- 10 Kits installed for prove out

Fielding Summer 08

External Fire Suppression
- PM HTV responding to an ONS for external fuel tank fire suppression
- Effort is ongoing to procure kits for HEMTT, HET and M915 FOV

Fielding Summer 08

Interim Stryker Recovery
- Interim Stryker Recovery System is a M983A2 LET pulling a modified Fifth Wheel Towing Recovery Device (FWTRD) and a High Mobility Recovery Trailer (HMRT). The HMRT has a 30T payload carrying capacity, the FWTRD has a 16T lift and tow capacity

18 systems scheduled for fielding

LED Headlights
- LED Headlight for the HEMTT fleet, NSN 6220-01-947-9043, and LED Headlight Assy, NSN 6220-01-549-9049
- TACOM awarded Truck Lite Spares 10 Aug for 3000 headlights 6000 headlight assys
- Current 24V system form fit for HEMTT and HMWWVs, unit workaround for other vehicles

Greater light, better durability, no vibration failures
HTV Fleet Modernization

Improvements: Powertrain, Suspensions, Data Bus, LTAS, Fuel Efficiency, ABS & Traction Control, Climate Control, IETMs, Commonality

Must Treat Each Like a New System!
HEMTT A4 Program

**PROGRAM “Is”:**

- A Product Improvement Program (PIP)
- Implemented in New Production and RECAP (Fleet Modernization)
- First LTAS Platform for HTV, common cab w/ PLS Block 1
- COMPO 1 Allocation fielded to AOR

*First Units Fielding in Oct 08!*
## Line Haul Replacement Strategy

### M915A5
- **ECP Contract Mod**
- **PVT Vehicle Delivery**
- **Test**
- **FRP**
- **Deliveries**

### Line Haul Replacement Program
- **CDD/CPD Approval**
- **Industry Day**
- **RFP**
- **Contract Award**
- **Test**
- **Deliver Test Assets**
- **FRP Contract**
- **Deliveries**

### Timeline

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**Fiscal Year Dates:**
- FY08: 1st Qtr = Jan-Mar, 2nd Qtr = Apr-Jun, 3rd Qtr = Jul-Sep, 4th Qtr = Oct-Dec
- FY09: 1st Qtr = Jan-Mar, 2nd Qtr = Apr-Jun, 3rd Qtr = Jul-Sep, 4th Qtr = Oct-Dec
- FY10: 1st Qtr = Jan-Mar, 2nd Qtr = Apr-Jun, 3rd Qtr = Jul-Sep, 4th Qtr = Oct-Dec
- FY11: 1st Qtr = Jan-Mar, 2nd Qtr = Apr-Jun, 3rd Qtr = Jul-Sep, 4th Qtr = Oct-Dec
- FY12: 1st Qtr = Jan-Mar, 2nd Qtr = Apr-Jun, 3rd Qtr = Jul-Sep, 4th Qtr = Oct-Dec
- FY13: 1st Qtr = Jan-Mar, 2nd Qtr = Apr-Jun, 3rd Qtr = Jul-Sep, 4th Qtr = Oct-Dec
- FY14: 1st Qtr = Jan-Mar, 2nd Qtr = Apr-Jun, 3rd Qtr = Jul-Sep, 4th Qtr = Oct-Dec
HTV Significant Events for FY08

GWOT Support
- Field External Fire Suppression Kits for HEMTT, HET and M915FOV
- M915 Cab Field Kit fielding
- Interim Stryker Recovery System Testing and Fielding

Continued record production levels for all HTV product lines

Current Fleet improvement
- LED Headlights, A/C and cab reinforcements cut into HEMT TA2 production
- A/C cut into PLS production

Fleet Modernization
- HEMTT A4 and armor B-kits begin production
- PLSA1 enters testing
- M915A5 enters testing
- Enhanced Container Handling Unit enters production
- HETA1 program start

Family of Heavy Tactical Vehicles contract negotiation
Questions
Survivable Vehicles for the Warfighters

Joint Program Office
Mine Resistant Ambush
Protected Vehicles
03 Feb 2008

Presented by
Paul Mann
JPO MRAP Program Manager
Tactical Response

- Change in enemy tactics generated an urgent Warfighter need for:
  - Mine Resistant Ambush Protected Vehicle
  - Large quantities
  - Required ASAP

- MRAP Program is the response to this urgent need
  - Unprecedented effort
  - Unprecedented speed
  - Unprecedented Gov / Industry Teamwork

Delivering Survivable, Fully Capable Vehicles …

…With Speed and Urgency!
WW II also saw an unprecedented display of the US industrial base capabilities. More than 650,000 Jeeps were produced.

MRAP vehicles are significantly more complex!
The MRAP Team Production

- 5 OEM Vendors
  - 10 Vehicle Variants
  - Global manufacturing facilities
The MRAP Team - Production

- 62 Major Tier 2 vendors for 15 critical sub-assemblies, for example:
  - Armor (8)
  - Diesel Engines (3)
  - Suspension components (9)

- Defense Contract Management Agency (DCMA)

- Testing and Evaluation Commands
First Fielding RG33 in Iraq

RG33 MRAP SOCOM Variant

Red River Army Depot Team in Iraq

MRAP SOCOM Vehicles - New Equipment Training

RG33 Trainers and Maintainers in Iraq

BAE RG - 33

Unclassified
BAE TVS - Caiman

What Bold Action Have You Taken?

On Patrol

101 ABN – “Survivors”

Quality, Volume Production

Committed Support

Adaptable Protection

Unclassified
OMC personnel in South Africa celebrate delivery of 121 MRAP vehicles in 2007 after producing a record 91 RG-31s in December.

RG-31 MRAP production at Demmer in Lansing Michigan.

International Effort. Delivering to Support the Warfighter.
FPI - Cougar

FORCE DYNAMICS

FORCE DYNAMICS, LLC -
A Joint venture of
General Dynamics Land Systems
and Force Protection Industries, Inc.
SPAWAR System Center Charleston

- Now integrating an average of 50 vehicles per day.

60 Vehicles Integrated with GFE in 1 day on Dec 12, 2007
MRAP Team - Transportation

TRANSCOM

Shipping Totals as of January 24, 2008

Airlift 1683
Sealift 1048
The MRAP Team - Fielding

- Services and Components
  - USMC
  - USA
  - USAF
  - USN
  - SOCOM

- Service Logistic Commands

- Warfighters

Original Plan

7,774 Vehicles on Order

- Centralized Fielding
- Centralized Support Requirements
- 90 Day Parts Block

Current Reality

15,374 Vehicles on Order

- Decentralized Simultaneous Fieldings
- Decentralized Support Requirements
- Hybrid/Organic Support Concept

Warfighter Feedback and Lessons Learned
Team Growth

Joint Program Office

Personnel Billets

<table>
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<th>Nov-06</th>
<th>Feb-08</th>
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<td>Government Billets</td>
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<tr>
<td>Contractor Billets</td>
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Total Program Funding

- Nov 2006: $1.3 Billion
- Feb 2008: $24.5 Billion

Unclassified
JPO - MRAP Challenges

- **Cost**
  - *Defining Long-term Sustainment Requirements and Controlling Costs*

- **Schedule**
  - *Meeting Accelerated Acquisition, Production and Fielding Requirements*

- **Performance**
  - *RAM implications of Engineering Change Proposals and Spiral Development*

- **Technical**
  - *Stressing the industrial Base (Axle, Steel and Tire Availability)*

---

*Aggressive Risk Management Pays Off for the Warfighter*
Our Goals

- Program Goals are set high and continue to evolve
- The program has met many of those goals – many more to meet.
- The vehicles are saving Warfighters lives

And the Program is Just Getting Started!

MRAP ... Breaking Time Barriers!
MRAP Mission

Protecting Those Who Protect Us!

"We’re out there all the time and these vehicles mean the world to us because we wouldn’t be able to do what we’re doing..."

"Knowing Marines are safe after a bomb blast all because I am fixing a truck makes it all worth it!"
Contact Information

Paul Mann
JPO Program Manager

E-MAIL: paul.mann@usmc.mil

We are Hiring the Best . . . Now!

Dial 1 (800) JPO - MRAP
TWV: During and Post OIF

February 4, 2008

Anthony J. Melita
OUSD (Acquisition, Technology & Logistics)
Deputy Director, Portfolio Systems Acquisition,
Land Warfare and Munitions
Agenda

– The SECDEF Acquisition Organization
– AT&L Goals and Initiatives
– Budget Trends
The AT&L Team must INNOVATE AND COLLABORATE to deliver EFFECTIVE, AFFORDABLE tools for the joint warfighter.

- Understand the warfighter’s operational concepts and needs
- Engage all stakeholders in collaborative discussions of the war fighting capability, cost, and timeline for all options before spending tax dollars
- Coordinate and evaluate requirements, remaining constantly conscious of technology, cost, schedule, jointness and interoperability imperatives
- Prioritize joint solutions which guarantee interoperability, increase quantities, lower unit cost, and decrease support costs
- Consider all solutions – high tech to simple, COTS to military, US to international
- Invest in programs that can transition and meet critical warfighter needs
- Use all sources of information – combat experience, intelligence, commercial marketplace, and our technology – to inform our choices and to minimize the probability of technology surprise from adversaries
Tactical Wheeled Vehicles Acquisition Challenges

• The battlefield varies and threats continue to evolve.
• Our ability to meet growing requirements (payload, protection, mobility, supportability) given varied missions, constraints, and priorities
• Quantities of wheeled vehicles needed to deliver capability
Acquire and deliver the mobility capabilities needed to support the full range of strategic operations as part of the Department’s evolving global defense posture.
AT&L Goals and Initiatives

- Prototyping and Competition
- Configuration Steering Boards
- Earned Value Management Systems (EVMS)
- Fully Burdened Cost of Fuel

AT&L wants to drive decisions that yield resilient capabilities at the lowest cost.
Prototyping and Competition

- Too many programs initiated with inadequate technology maturity and knowledge of technical risk.
- All pending and future programs will provide for two or more competing teams producing prototypes of key system elements.
  - Reduce Technical Risk
  - Validate designs and cost estimates
  - Evaluate manufacturing processes
  - Refine requirements

All Acq Strategies requiring AT&L approval must include technical, mature prototyping through MS B.
Configuration Steering Boards

• Tool to control development and procurement cost growth due to requirements and technical configuration changes.

• Chaired by SAE’s, the CSBs will review changes that have the potential to result in cost and schedule impacts to the program.

• Annually, PMs will identify descoping options that reduce cost or moderate requirements.
  – CSB will recommend which of these options should be implemented to reduce cost to the DoD and taxpayers.

The Acquisition policy will be to adjust technical content and requirements to deliver as much as possible of the planned capability within the budgeted cost.
EVMS

• An EVMS based, System Engineering led plan is one of the key indicators of success.
  – Sound cost and resource estimating
  – Integrated Master Plan and Schedule
  – Technical Performance Measures
  – Risk Management

Lessons learned from Nunn-McCurdy “class of 2007” is that failure in the above were common symptoms of a troubled program.
Today’s Top 10 Battlefield Fuel Users

SWA scenario using current Equipment Usage Profile data

Of the top 10 Army battlefield fuel users, only #5 and #10 are combat platforms

1. Truck Tractor: Line Haul C/S 50000 GVWR 6X4 M915
2. Helicopter Utility: UH-60L
3. Truck Tractor: MTV W/E
4. Truck Tractor: Heavy Equipment Transporter (HET)
5. **Tank Combat Full Tracked: 120MM Gun M1A2**
6. Helicopter Cargo Transport: CH-47D
7. Decontaminating Apparatus: PWR DRVN LT WT
8. Truck Utility: Cargo/Troop Carrier 1 1/4 Ton 4X4 W/E (HMMWV)
9. Water Heater: Mounted Ration
10. **Helicopter: Attack AH-64D**

Source: CASCOM study for 2001 DSB using FASTALS for SWA.
Fully Burdened Cost of Fuel

FBCF is the commodity price plus the total life-cycle cost of all people and assets required to move and protect fuel from the point of sale to the end user.

FBCF is a decision tool for giving delivered fuel due consideration in the operational and risk tradespace.
How do we tackle FBCF?

- Develop a DoD-wide Strategic Plan – based on recent DSB report
- Revisit fuel / fuel logistics assumptions in our analysis and budgeting efforts
- Use more realistic planning factors in DoD business processes
Budget Trends- Where are we headed?

Past and Projected Spending for Defense

(Billions of 2007 Dollars of Total Obligational Authority)

Source: Congressional Budget Office
The Future Outlook

• As post OIF/OEF Budgets decline, vehicle programs will be competing with other DoD priorities.

• Tradeoffs and Assessments between

  FCS  JLTV  Stryker  MRAP  Unmanned Systems  
  H1  V-22  HMMWV  UAH ........

• Paying for the O&S “tail” will require difficult choices

  Programs will be assessed according to their ability to work in a joint, integrated architecture/environment.
  Command and Control, logistics support, as well as performance are critical focus areas.
Marine Corps Ground Combat
Tactical Vehicle Strategy

Brigadier General Larry Nicholson
Headquarters, U.S. Marine Corps (CD&I)
Quantico, Virginia
How we think about Tactical Mobility

Forcible Entry Capability
... support a MEF (two MEB assault echelon) forcible entry operation.

MCO Surge
Conduct and win conventional campaigns -- (1) Deter inter-state coercion or aggression through forward deployed rotational forces; (2) If directed, conduct and win up to two nearly-simultaneous large-scale conventional campaigns (or one conventional campaign if already engaged in a large-scale, long duration irregular warfare campaign).

Irregular Warfare & Rotational Demand
Prevail in the War on Terror/Conduct Irregular Warfare -- if directed, conduct a large-scale, long duration irregular warfare campaign, to include counter insurgency, security, stability, transition and reconstruction.

Total Tactical Mobility Demand
No Single Solution
• Task from Strategic Planning Guidance:
  – P. 10: “(U) The Marine Corps will consider capability alternatives for review by the DAWG to support a single two MEB forcible entry operation. Additionally, the Marine Corps will propose an appropriate mix of ground combat vehicles to support irregular warfare operations.

Overarching Defense Strategy:
“Shift from conventional to irregular capability.”
Vehicle Development Considerations

The Iron Triangle

PERFORMANCE
• Mobility
• Transportability
• Commonality Among Variants

PROTECTION
• Occupant Protection … then Vehicle Survivability
• Address Current and Emerging Threats:
  • Blast
  • Ballistic
  • Fragmentation
  • Fire

PAYLOAD
• Optimized for Concept of Employment and Mission Equipment Packages
Where we were: A general purpose force organized, trained and equipped principally for traditional threats.
- Approached irregular challenges as a subset of MCO.
- Recent experience has highlighted the need for resources focused on irregular warfare.
- QDR and SPG have directed a shift to irregular.

Where we are going: A multi-purpose force organized, trained and equipped for irregular and traditional threats.
- Risk: Accept risk in strategic agility, while enhancing tactical capability.
- Divestment: Divested resources from EFV program.
- Reinvestment: Reinvested in mobility for an expeditionary multi-purpose force.
Ground Combat Tactical Mobility
Strategy Objectives

To develop a portfolio of mobility capabilities that provides a distribution of assets and performance, protection, payload and transportability characteristics that:

1) Support rapid transition between concentration and dispersion of MAGTF combat power (tactical flexibility to balance traditional and irregular threats).
2) Support strategic deployment in the context of the Naval Operating Concept (strategic agility to preserve global freedom of action).
3) Provide capacity to meet and sustain worldwide Marine Corps commitments (sustainability for forward presence, security cooperation, preemption and global response).

Endstate: Provide Marine Corps forces with balanced ground combat tactical lift capabilities.

Portfolio: System of systems, family of systems, complementary capabilities

Portfolio: System of systems, family of systems, complementary capabilities

EFV
MPC
JLTV
HMMWV / ECV
MRAP
ITV
Ground Vehicle Capability

✓ MEF (2xMEB assault echelon) forcible entry capability
  - EFV 1013 → 573

✓ Appropriate mix of ground combat vehicles
  ✓ Marine Personnel Carrier (MPC) ~600
  ✓ Internally Transportable Vehicle (ITV) 699 (enhanced mobility of vertical assault force)

✓ Light/Medium vehicle mix
  • Mine Resistant Ambush Protected (MRAP)
  • Joint Light Tactical Vehicle (JLTV)
  • HMMWV / Expanded Capacity Vehicle series (ECV)
  • Levels of protection inherent in each
Internally Transportable Vehicle (ITV)

- The ITV will provide a deployed MAGTF with a ground vehicle that is internally transportable in the MV-22 tilt-rotor aircraft, CH-53, and MH-47 aircraft.

- The vehicle will serve primarily as a high mobility weapons-capable platform to support a variety of operations and provide enhanced mobility for the otherwise foot-mobile vertical assault element.

- **Acquisition Objective** = 699

- **IOC**: 2009
- **FOC**: 2015
Expanded Capacity Vehicle

- Interim replacement for the HMMWV A2 as multi-purpose utility vehicle.

- **Acquisition Objective** = Dependent on JLTV schedule
Joint Light Tactical Vehicle (JLTV)

- HMMWV replacement vehicle (over time).
- JLTV Family of Vehicles with multiple Mission Role Variants (MRV) and trailers (Combat, Combat Support, Combat Service Support).
- Supports USMC Ground Mobility Initiative to retain expeditionary nature and multi-purpose capability.
- Increased survivability, mobility, and sustainablity in a networked environment.

- Acquisition Objective = 5,500 (Increment 1)
- IOC: 2012
- FOC: 2018 (Estimated)
Marine Personnel Carrier (MPC)

• Provides infantry battalions with general support (ground) mobility across range of military operations.

• Complements EFV by closing operational gaps in our ability to conduct protected maneuver.

• Expeditionary platform that balances the protection, payload, and performance attributes to enable maneuver and to enhance personnel survivability.

• Supports USMC Ground Mobility Initiative to retain expeditionary nature and multi-purpose capability.

• Analysis of Alternatives considered a broad range of light and medium armored vehicle solutions and several concepts of employment.

• Acquisition Objective = ~600

• IOC: 2015
• FOC: 2019 (Estimated)
Mine Resistant Ambush Protected Vehicle (MRAP)

- CENTCOM theater requirement.
- Significant increase in force protection over the current tactical wheeled vehicle fleet.
- Expeditious answer to a force protection problem but carries with it a host of non-expeditionary characteristics and limitations.
- Limited long-term USMC requirement (<500 vehicles) for Engineer/EOD Route Reconnaissance and Clearance.
- Capabilities and limitations of MRAP vehicle underscore the need for a JLTV capability in the TWV fleet.
- The Marine Corps currently has 819 MRAPS fielded in IRAQ.

USMC Acquisition Objective = 2,225

IOC/FOC: 2008

4 Feb 2008
Ground Combat Tactical Mobility Portfolio

![Ground Combat Tactical Mobility Portfolio Chart](chart.png)
Questions
DEPOT PANEL

• MG MIKE LENAERS
  TACOM LCMC - Commanding General

• Ms. JANET BEAN
  Integrated Logistics Support Center - Executive Director

• COL SCOTT KIDD
  PEO CS&CSS Tactical Vehicles - Project Manager

• COL DOUG EVANS
  Red River Army Depot - Depot Commander

• Dr. JOHN GRAY
  Letterkenny Army Depot - Deputy to the Commander
LIFE CYCLE MANAGEMENT REQUIRED A CHANGE IN HOW WE VIEWED THINGS

HE WHO HAS THE GOLD RULES!
LIFE CYCLE MANAGEMENT IS NOT LINEAR

Joint Warfighter Requirements

Concept Refinement

Technology Development

Sustainment & Upgrade

Production & Deployment

System Development & Demonstration

Removal from Inventory

APPLY UPGRADES TO SYSTEMS BASED ON OPERATIONAL LESSONS AND TECHNOLOGY IMPROVEMENTS THROUGHOUT THE LIFE CYCLE
Unclassified
IT’S THE LAW:
50/50 (USC 2466):
50 percent of the funds for depot-level maintenance and repair workload

DEPOT CORE (USC 2464):
Core logistics capability that is Government-owned and Government-operated

DEPOT vs INDUSTRY

PM

But that’s the way we always did it!

SHOULD NOT BE A DIVIDE THE BABY APPROACH
PARTNERING IS A BETTER IDEA . . . USUALLY
PARTNERSHIP VS COMPETITION

EXPLOIT STRENGTHS

ENGINEERING AND SYSTEM INTEGRATION
CUTTING EDGE TECHNOLOGY
SUPPLY CHAIN MANAGEMENT
WORLD WIDE DEALER NETWORKS
COMMERCIAL SCALE
TRAINED, DEPLOYABLE WORK FORCE
SECURITY & FORCE PROTECTION
INFRASTRUCTURE

LEAN ENTERPRISE

INDUSTRIAL BEST PRACTICES

FOCUS ON TOTAL ENTERPRISE PERFORMANCE
EXPLOIT STRENGTHS
DEPOT PANEL

• **MG MIKE LENAERS**
  TACOM LCMC - Commanding General

• **Ms. JANET BEAN**
  Integrated Logistics Support Center - Executive Director

• **COL SCOTT KIDD**
  PEO CS&CSS Tactical Vehicles - Project Manager

• **COL DOUG EVANS**
  Red River Army Depot - Depot Commander

• **Dr. JOHN GRAY**
  Letterkenny Army Depot - Deputy to the Commander
Tactical Wheeled Vehicle Conference

MS. JANET BEAN
Integrated Logistics Support Center - Executive Director

Integrating Supply Chain Solutions Across the Industrial Base
Tactical Wheeled Vehicle Conference

Agenda

- The Organic Industrial Base
  - What It Can Do
  - What It Needs From Us

- A Better Road Map
  - Breaking Down the Walls
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Organic Industrial Base Capabilities

• Engineering and Prototyping
  – Product design and development
  – Material testing
  – Manufacturing support

• Manufacturing
  – Precision Machining
  – Fabrication/Assembly
  – Casting/Forging
  – Heat Treatment/Plating/Finishes
  – Tool, Die, and Gage

• Maintenance and Overhaul
  – Systems/Subsystems Support
  – Optics/Electronics
  – Unique Processes
  – Testing

• Field Services
  – Forward Repair Facilities/Teams
  – Spare/Repair Parts
  – Receipt, Storage, and Issue of Equipment
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DoD Logistics Chain

Too Many Walls

Plus

Two Competing Supply Chains

Unclassified Potential – Need a Supply Chain that Works for Them
“What Constitutes a Good Supply Chain?”*

- Complete, recognizable supply chain
- Supply Chain Metrics
- No Walls; Transparency
- Efficient, collaborative Information Systems
- “Factor In” the impact of uncertainties

Preliminary Findings From our LS6 Project

- No agility in year of execution
- Too many work arounds – system is compromised
- Data not easily acted upon
- Lack of information sharing undermines performance

The Bullwhip Effect

Causes of the Bullwhip Effect:
• Lack of Coordination & Collaboration Across the Enterprise
• Imbalance of JIT vs. JIC inventory stocking

Industrial Base Results: “G” Coded Vehicles, Missed Fieldings, Impact to Warfighter
Collaborative Planning and Forecasting For Replenishment

**GOVERNMENT**
- Demand History
- Monthly Demand Rate
- Stock on Hand

**VENDOR**
- Production
- Capacity
- Raw Material Orders
- External Business Factors

**COLLABORATION EXAMPLES**

**Initiatives That Are Moving Us Forward**

**Customer Pay**

ILSC + DLA + PM LTV + Depots + Industry = A Successful Collaborative Team
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Commercial Supply Chain

Wholesaler/Distribution Center

Suppliers/Manufacturers

Customer

Distributor

Retailer

We Want to End Up Here!

Unclassified
Tactical Wheeled Vehicle Conference

COLONEL SCOTT KIDD

Project Manager - Tactical Vehicles
HMMWV Recap (OPA)
- Recapitalizes HMMWV A0/A1 variants to R1s (M1097R1/M1025R1)

Improves Platform by
- Increasing payload on cargo variants
- Provides 6.5L detuned engine, rebuilt transmission, new or rebuilt driveline components, upgraded brake and suspension components, 200AMP alternator
- Inspect Repair Only As Needed (IROAN) select components

Locations
- Red River Army Depot (RRAD)
- Letterkenny Army Depot (LEAD)
- Maine Military Authority (MMA)

Production
- ~ 790/Month

HMMWV Reset (OMA)
- RESET, Non RECAP Variants
  - M1114, M1113 and A2 Variants

Implements Platform by:
- Standard 10/20+ 3D (Delayed Desert Damage) including MWOs

Location
- Red River Army Depot (RRAD)

Production
- Average per month: 195

BL: $561.3 M worth of business in 07
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Supported Programs

• ASV RESET (Pilot Program) (OMA)
  – 5 Vehicle Pilot Program (10/20 + 3D + MWO)
• Improves Platform by:
  – Major Component IRON
  – Upgrades transmission to Gen 4
  – Installs Frag Kit 1
  – Incorporates ECPs upgrades
    • Turret bolts, firing switch and parking brake inhibitor
• Location
  – Red River Army Depot (RRAD)

• HEMTT RESET (OMA)
  – No configuration changes
• Improves Platform by:
  – Complete rebuild with overhaul of all major assemblies
  – Enhanced OR
  – Returns Platform to Zero Miles
• Locations
  – Red River Army Depot (RRAD)

BL: $33.7 M worth of business in 07

Unclassified
• **M939 RESET (OMA)**
  - **Improves Platform by:**
    - 10/20+ 3D including MWOs
  - **Location**
    - Red River Army Depot (RRAD)
    - 1086 programmed

• **FMTV RESET (OMA)**
  - RESET, Condition Code = A
  - **Improves Platform by:**
    - Complete rebuild with overhaul of all major components
  - **Location**
    - M870/M872 - Sierra Army Depot (SIAD) and Red River Army Depot (RRAD)

• **M870/M872 Trailer RESET (OMA)**
  - RESET, No configuration changes
  - **Improves made:**
    - 10/20+ 3D including MWOs
  - **Location**
    - Red River Army Depot (RRAD)
    - 300 Vehicles programmed
Manpower/Facilities Support:
- Five of the Army's Depots provided manpower, facilitization efforts to rapidly produce over 16,000 retrofit kits to support Theater Operations.
  - Effort complete

Manufacturing Support:
- Depot System is manufacturing Objective Gunner Protection Kits to support Up-Armored HMMWV's GPK Upgrade Program.

Partnerships:
- Ensured partnerships with commercial manufacturers provide capabilities in support of Surge Operations.

*BL: When the tide comes in, all ships rise! (How do you position for low tide?)*
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COLONEL DOUGLAS EVANS
Red River Army Depot - Depot Commander

ISO 9001:2000 Certified

Partnering & Lean
Tactical Wheeled Vehicle Conference

Public-Private Partnerships Work

- Diversified, Trained, & Deployable Workforce
- Existing Infrastructure
- Competitive Labor Rates
- -Secure- Force Protection In Place
- Lower cost of products and services
- Sustains critical skills & capabilities
- Improves operational efficiencies
- Engineering, Logistics & Supply Chain Management Expertise
- Cutting Edge Technology
- Original Equipment Manufacturer
- World Wide Dealer/FSR Base

Unclassified
Direct Army Program to RRAD for Reset & Recap

- RRAD is Prime
  - Program Management
  - Technical & Engineering Support
  - Quality
  - Manages Sub-Contracts for Engines, Transmissions, & other Outsourced Work
  - Direct Labor for Reset & Recap

- Customer Pay Contract to AM General
  - Supply Chain Management
    - Procures & Stores Parts
    - Configures Parts to Work Station Sets
    - Delivers Parts and Work Station Sets to the Production Shop Floor

- Benefits to the Army
  - Parts Are Stored Off Site – No Warehouse Space Required on RRAD
  - No Production Line Stoppage for Parts Shortages in Over 400 Days
  - Production Line Efficiency Maintained
P3 with BAE Systems Mobility and Protection Systems

- **BAE Systems is Prime**
  - Program Management
  - Technical & Engineering Support
  - Provides Qualified Cabs (GFM from SIAD)
  - Manages CFM Sub-Contracts for Axels, Engines, Transmissions, Cranes, & other Major Components
  - Provides Supply Chain Management Support to RRAD

- **RRAD is Sub-Contractor**
  - Provides Facilities, Tools, & Equipment
  - Expedites Parts and Stocks Bins
  - Performs Direct Labor for Reset

- **DCMA on Site at RRAD**

- **Benefits to the Army**
  - Establishes Depot Capability at RRAD
  - Sustains Critical Skills & Capabilities
  - Provides Cadre of Skilled Personnel for Deployment
P3 with Oshkosh Truck Corporation (OTC)
  - Performance Based Logistics (PBL) Contract
    - HEMTT
    - HET
    - PLS
  - OTC Is Prime
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  - OEM Warranty via OTC worldwide service centers & dealerships
  - Configuration Management
Six Sigma Charter Team Established Feb 07
- Caterpillar Corporate
- Caterpillar Holt
- RRAD
- TACOM

Objectives
- Establish Mid-Range Caterpillar Engine Repair Capability at RRAD
- Compliance with Established Caterpillar Certified Processes & Procedures
- Direct Labor Performed by RRAD
- Develop P3 with Caterpillar
  - Supply Chain Management to Obtain Certified Caterpillar Parts
  - Warranty Claims & Service by Caterpillar Dealerships and Service Centers (worldwide)

Pilot Overhaul On Going
- Data Will Drive Business Case Analysis for Future Work

Benefits to the Army
- Utilize Caterpillar Proven Experience from Commercial Engine Sector
- Data Collection for Determination of Maintenance Requirements
- Warranty Claims & Service by Caterpillar Dealerships and Service Centers (worldwide)
P3 with Textron Marine & Land Systems

- **Textron is Prime**
  - Provides Access to TDP
  - Provides Technical, Quality, & Engineering Support to RRAD
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  - Establish Baseline SOW
  - Develop Standard Processes by Work Station
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29

Tactical Wheeled Vehicle Conference

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LEADERSHIP…..Cultivate management

TEAMING..........Empowering employees

COMMUNICATION..........Information is power

EMPLOYEE SUPPORT…..Employees are our #1 resource

STRATEGIC THINKING…..Thinking outside the box

ORGANIZATION CLIMATE………..Culture change

20/20 VISION

BUILDING IT AS IF OUR LIVES DEPEND ON IT: THEIRS DO.

STEPS TO SUCCESS

SAFETY: FOCUS ON OUR PEOPLE
GOAL: VPP STAR STATUS & 0.75 ACCIDENTS / 100 MAN YEARS

LEAN/SIX SIGMA: FOCUS ON THE FUTURE
GOAL: WORLD CLASS

ENVIROMENTAL: FOCUS ON THE ENVIRONMENT
GOAL: ISO 14001 CERTIFICATION

QUALITY: FOCUS ON THE SOLDIER
GOAL: ZERO DEFECTS

PARTNERSHIPS / MARKETING: FOCUS ON OUR SUCCESS
GOAL: BE THE PREFERRED SOURCE FOR THE WAR FIGHTER

PRODUCTION: FOCUS ON OUR CUSTOMER
GOAL: 100% COMPLETE AND ON TIME DELIVERY

CRITICAL FACTORS

IMPROVING

THE DEPOT’S FUTURE

PRODUCTS & SERVICES

PEOPLE

70 Active Contracts with industry

FY07 P3 Revenue >$170M

FY08 P3 Revenue goal $225M

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Tactical Wheeled Vehicle Conference

DR. JOHN GRAY
Letterkenny Army Depot - Deputy to the Commander

Partnering & Lean
Partnership - a relationship resembling a legal partnership and usually involving close cooperation between parties having specific legal rights and responsibilities

SHIP PARTS

Supplier Partnership Provider Partnership
Customer Pay - Integrated Supply Chain Partnership

- Achievable With New Business Practices
  - Not unlike “Prime Vendor”
  - Modeled after industry practice
  - Strength of industry in Supply Chain management

- Reduction of Inventory and Storage Costs

- Better Forecasting and Demand Collaboration

- Cost Per Vehicle is Down

- Strong and common supply chain between OEM and Life cycle Maintenance Activity
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Partnerships of the Future

- Shared Information
- Integrated enterprise
- Focus on total enterprise performance
- No clear boundary
Tactical Wheeled Vehicle Conference

Where We Want To Go in the Future

Partnerships are the Future

75% of everything depots do is on contract

Merging the strengths of military industrial base with what you do best grows business; both ours and yours
What are your Questions?
Transforming the Public-Private Relationship

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Red River Army Depot - Depot Commander

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Partnering & Lean

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Tactical Wheeled Vehicle Conference

Public-Private Partnerships Work

- Improves operational efficiencies
- Sustains critical skills & capabilities
- Lowers cost of products and services

Diversified, Trained, & Deployable Workforce
Existing Infrastructure
Competitive Labor Rates
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Family of Medium Tactical Vehicles (FMTV)

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Armored Security Vehicle

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**Core Competency**

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Tactical Wheeled Vehicle Conference

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*Unclassified*
COLONEL SCOTT KIDD
Project Manager - Tactical Vehicles
The Army – Transforming while at War
LTG Stephen Speakes
4 February 2008
• Strategic Construct
• Resourcing an Army at War
• Army Modernization Strategy
• Tactical Wheeled Vehicle Strategy
• The Way Ahead
Persistent Conflict

*Protracted confrontation among state, non-state, and individual actors who use violence to achieve political and ideological ends*

**Trends fueling conflict**

- Globalization
- Population growth
- Resource demand
- Climate change and natural disasters
- Proliferation of WMD
- Failed or failing states

**Required Capabilities**

- Enhanced Soldier Protection
- Modular, Scalable, and Tailorable Battle Command and Control – Network down to the lowest level
- Strategic Force Projection – Intra-theater Operational Maneuver and Sustainment
- Modular, Tailorable Forces – Adaptable to Present and Future Threats
- Capability for Lethal and Non-Lethal Overmatch

Requires Joint Full Spectrum Capable Land Force
Restoring Balance

2007/08

Current Demands

- Restore Readiness + Strategic Flexibility
- Sustain Volunteer Force

Imperatives

- Sustain
- Prepare
- Reset
- Transform

Future

- Restore Readiness + Strategic Flexibility
- Sustain Volunteer Force

Initiatives

- Accelerate Growth
- Soldiers and Families
- Modernization
- Transition RC
- Leader Development
- Institutions
- Stratcomms
“America’s ground forces have borne the brunt of underfunding in the past and the bulk of the costs – both human and materiel – of the wars of the present. By one count, investment in Army equipment and other essentials was underfunded by more than $50 billion before we invaded Iraq. By another estimate, the Army’s share of total Defense investments between 1990 and 2005 was about 15 percent. So resources are needed not only to recoup from the losses of war, but to make up for the shortfalls of the past and to invest in the capabilities of the future.”

Secretary of Defense Dr. Robert M. Gates (10 Oct 07)
Moving Towards Fiscal Balance

- Unable to predict future (beyond 2008) supplemental projections
- Continue to leverage supplemental to achieve balance
1. Accelerate growth and readiness ... And sustain a campaign quality, expeditionary Army
2. Enhance quality of support to Soldiers and families to preserve strength of the All-volunteer Force
3. Maintain continuity and momentum in modernization to improve capability of current and future force
4. Complete transition of the Reserve Component to an operational reserve
5. Accelerate change in leader development programs to grow leaders for 21st century
6. Adapt institutional policies, programs and procedures to support our expeditionary Army at war
7. Build strategic communication capabilities to effectively communicate with internal and external audiences
• Rapidly field the best new equipment to the current force.

• Upgrade and modernize existing systems to ensure all Soldiers have the equipment they need, including:
  o Soldier as a System
  o Armored Systems
  o Tactical Wheeled Vehicles
  o Aviation
  o Patriot
  o The Network

• Incorporate new technologies derived from Future Combat Systems research and development.

• Field the Future Combat Systems (FCS) Brigade Combat Teams.
Modernization Timeline

**2011**
- Army in Balance

**2015**
- FCS Initial Operational Capability
  - 1st FBCT IOC

**2020**
- Fielding of FCS & Spin Outs
  - 1st FBCT FOC in 2017
  - 2 Abrams and Bradley variants 2013
  - BCTs to MTOE by 2015

**2025**
- Fielding of Network and Spin Outs
  - 5 FBCTs fielded by 2020
  - 52 Modular BCTs with Spin Outs by 2020
  - Kiowa Warrior retired in 2019
  - CS/CSS to MTOE by 2019

**2030**
- Full Fielding of FCS
  - 15 FBCTs Fielded by 2030
  - Complete fielding Spin Outs to 61 Modular BCTs by 2025

- 2016: Require Decision to field Spin Outs to Support BDEs (POM 18-23)
- 2022: Require Decision to continue to field FCS BCTs beyond initial 15 (POM 24-29)

- Fully Implement ARFORGEN
- Rapid equipping institutionalized across force
- Upgrades to existing systems fielded
- Begin FCS Spin Out 1 to BCTs in 2010
- Pure fleet Patriot
- Joint Cargo Aircraft first unit equipped in 2010
- Armed Recon Helo first unit equipped in 2011
Army Transformation

- Transformation is a holistic effort to adapt how we fight, train, modernize, develop leaders, station and support our Soldiers, Families and Civilians, to sustain full spectrum dominance in an era of persistent conflict.

- Modernization provides the materiel solutions.

- Future Combat Systems (FCS) is the core of Army Modernization.

- The Soldier is the Centerpiece.
Vision for Future Networked Land Forces in Joint Operations

Redundant, Scalable, and Tailorable On-the-Move networks enable Situational Understanding to Focus Effects with Precision

More than C4ISR -- It is also a network of lethal machines that CAN shape the battlefield.
“provide our Soldiers with a decisive advantage through improved situational awareness”
## Current vs Future Combat Teams

<table>
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<th>Capability Improvements</th>
<th>Heavy Modular BCT</th>
<th>FCS BCT</th>
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<tbody>
<tr>
<td><strong>Self Sustaining (Hi OPTEMPO)</strong></td>
<td>24 hours</td>
<td>72 Hours</td>
</tr>
<tr>
<td><strong>Wartime Vehicle Availability</strong></td>
<td>&lt; 90%</td>
<td>&gt; 95%</td>
</tr>
<tr>
<td><strong>Infantrymen in Squads</strong></td>
<td>324 (8% of HBCT)</td>
<td>702 (22% of FCS BCT)</td>
</tr>
<tr>
<td><strong>Support Soldiers</strong></td>
<td>1,186 (31% of HBCT)</td>
<td>411 (13% of FCS BCT)</td>
</tr>
<tr>
<td><strong>Average maintenance man hours per operating hour</strong></td>
<td>1 to 2</td>
<td>1 to 20</td>
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<tr>
<td><strong>Revolutionary Improvements</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Maintenance tasks performed by crew chief</strong></td>
<td>10%</td>
<td>80%</td>
</tr>
<tr>
<td><strong>Platform Health Status</strong></td>
<td>Only vehicle crew understands</td>
<td>Visible to entire Brigade through networked logistics</td>
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<tr>
<td><strong>Power</strong></td>
<td>Motors and generators (Power Consumer)</td>
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<tr>
<td><strong>Training</strong></td>
<td>Stand alone Simulators (in select locations)</td>
<td>Embedded Training (Anywhere)</td>
</tr>
</tbody>
</table>
TWV Fleet Capabilities

Pre-2003
Operational Mission Sets
• Major Combat Operations

Today
Operational Mission Sets
• Counter Insurgency
• Loose WMD
• Joint Forced Entry Operations

Future
Operational Mission Sets
• HMMWV
• UAH
• Stryker
• MRAP
• ASV
• Route Clearance
• JLTV
• MTV / HTV

• Capable of Full Spectrum Operations
  • Mixed fleet approach that spans the “Iron Triangle”
  • Scalable protection
TWV Strategy

- The Army has a flexible base strategy
- In light of the increasing complexity of the current environment and the multitude of missions the Army must perform, the strategy will:
  - Take maximum advantage of existing platforms
  - Integrate MRAP into the fleet mix
  - Emphasize a mixed fleet approach that spans the “Iron Triangle” of Protection, Performance, and Payload
  - Move the Army to a fleet of TWVs that have scalable protection (integrated A-kit cabs and add-on armor B-kits)
1. Comprehensive Soldier Protection
   • All TWV will have scalable protection so commanders can balance risk against mission requirements
   • The Army will continue to develop “left of the bang” solutions that span all DOTML-PF domains

2. Fielding as a system
   - Deliver vehicles with enablers (example: radios, crew served weapons, jammers and situational awareness)

3. Balance fiscal and technological risk
   - Achieve right technology to provide right capability at the right capacity

4. Streamline number of variants
   - Reduce logistical footprint
The Army will continue to have a requirement for light tactical vehicles
  - Rotary wing transportable
  - Highly mobile
  - Capable of Full Spectrum Operations

One vehicle will not meet all requirements

We will continue to face asymmetric threats: MRAP will have a role in future conflicts

The HMMWV will have a useful role in the Army inventory for the foreseeable future
Way Ahead

• Work with Congress to increase programming flexibility

• Work with OSD and Congress to properly resource both the present and future capabilities

• Work with Sister Services to identify joint solutions

• Work with industry to find and deliver solutions faster
BACKUP SLIDES
OPTEMPO – Quality of Life – All Volunteer Force

Grow the Army 65K : End Strength 547K AC + 358.2K ARNG + 206K USAR

Current Army End Strength: 482.4K AC + 350K ARNG + 205K USAR

- TT’s
- JMD
- WIAS
- DMOSQ
- Non-Deployables
- OES/NCOES Backlog
- Time to train
- Personnel Fill
- Holes in Yard
- Modular Force
- Battle Loss
- Battle Damage
- RESET
- TPE
- Modernization
- RESET
- RC=Depth
- APS
- Implement Concept of Spt
- Infrastructure/ SRM Backlog
- Services at Amber

Man | Train | Equip | Sustain | Installation

FORSCOM | TRADOC | AMC | IMCOM | MEDCOM | INSCOM | NETCOM

Current Army End Strength: 482.4K AC + 350K ARNG + 205K USAR

Man | Train | Equip | Sustain | Installation

FORSCOM | TRADOC | AMC | IMCOM | MEDCOM | INSCOM | NETCOM

21
Supp-to-Base: The Army has grown reliant on supplemental funding to support enduring programs. Given the risk of future supplemental funding, the Army must develop a plan to migrate funding of enduring peacetime program and missions from supplemental funding to base funding.

- $18.1B/yr of supplemental funding covers enduring peacetime requirements
- Political climate indicates future supplemental funding is at risk
- Impacts Army’s ability to meet critical Title X responsibilities
  - Man, Train, Equip, etc.
Here’s Where We are Going

Current Force

- Grow the Army
- Current Force
- Future Force

Future Force

- Heavy BCT
- Infantry BCT
- Stryker BCT
- Battle Command Network

Modernization

+ FCS BCT

Lessons Learned

- Army Evaluation Task Force

Lessons Learned

Current and Future Force Enabled

Spin Outs to All BCTs
Spin Out 1 Capabilities

More Battle Command
- Joint Software Programmable Radio With Multiple Waveforms To Share More Information
- Connection To Unattended Sensors
- Connection To Joint Network
- FCS Network Kits (Abrams, Bradley And HMMWV) Brigade, Battalion, And Company Command Vehicles

Unattended Ground Sensors – Tactical / Urban
- Provides Small Units Remote, Rapid Alert About People Or Vehicles 24-7
- Detects People And Heavy Track/Wheel Vehicles
- Monitor Greater Area With Fewer People; Early Warning at Platoon Level
- Increase Force Protection
- Persistent Surveillance Using Air Platform / Sensors (Less “Dead Space”)

Unmanned Air Vehicle – Class I
- Protects / Enables Soldiers On High Risk Missions In Complex Terrain
- Remote Recon and Detection of Booby-traps, Landmines And Explosive Threats
- Persistent Surveillance Using Layered Sensors (Less “Dead Space”)
- Provide Soldier Stand-off For Surveillance, Reconnaissance, And Lethal Engagements
- Communications Relay Extends Ranges To Facilitate Combat Operations Over More Complex Terrain

Non-Line Of Site Launch System (NLOS-LS) With Precision Attack Munitions
- Precise Fires On Moving And Stationary Targets Out To 40kms
- Greatly Reduced Manning For Firing Elements
- Forced Entry And SOF Fires Without Cannons (Can Air Drop)
Active Protection System
- 360 Degree Hemispherical “Bubble” Protection
  - Unitary Or Tandem RPG Attacks
  - Missiles (Anti-tank Guided; Objective: Kinetic Energy, Chemical Energy)
  - Mortars Rounds
  - Large Caliber Cannon Rounds
  - Tank Rounds (High Explosive, High Explosive Anti-tank: Objective: Kinetic Energy)
  - Top Attack / Precision Munitions
  - Increases Mounted Soldier Protection

Mast Mounted Sensor
- Extendable Mast System Allows Vehicle To Remain “Behind” The Hill
- Range Far Beyond 3,000 meters (classified)
- Images From Thermal Camera And Day Camera
- Image Intensification Sight (Clearer Picture At Night)
- Laser Designator For Targeting
- Increases Mounted Soldier Protection
- Increase Lethality

More Battle Command
- APS Sensor Shooter Link
Spin Out 3 Capabilities
(Includes Spin Out 1)

Full Battle Command
- Battle Command On The Move Inside Joint Network
- Network Management, Data Fusion, And Decision Aides For Leaders And Soldiers
- Combat Identification To Prevent Fratricide
- Target Identification And Discrimination To Reduce Collateral Damage
- Detect, Track, Engage Fleeting Targets; Links More Sensors And Shooters
- Greater Survivability, Lethality, And Maneuver Ability
- Cooperative Engagements Among Platforms (Manned and Unmanned)

Unmanned Systems
- Protects / Enables Soldiers On High Risk Missions In Complex Terrain
  - Sensing, Breaching, Clearing Buildings And Tunnels
  - Remote Recon And Detection And Neutralization Of Booby-traps, Landmines And Explosive Threats
  - Remote Mine And CBRN Detection
- Persistent Surveillance Using Layered Sensors (Less “Dead Space”)
- Detect, Track, Designate, And Engage Fleeting Targets
- Provide Soldier Stand-off For Countermine, Surveillance, Reconnaissance, And Lethal Engagements
- Communications Relay Extends Ranges To Facilitate Combat Operations Over More Complex Terrain
- Transports Part Of Soldiers’ Loads
Balancing Tomorrow’s Fleet

- Mixed fleet approach that spans the “Iron Triangle”
- Scalable protection

Note: Dotted lines are not scaled to actual future capabilities
The National Defense Industrial Association wishes to acknowledge the following Super Bowl Party Sponsors:

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Lockheed Martin

Lord Corporation

Mack Trucks, Inc./Volvo

Miltope Corporation

Omega Training Group

PPG Industries, Inc.

Premier Professional Systems, Inc.

Productive Resources

SCS/Frigette

Telephonics Corporation

VT Miltope

Whitney, Bradley & Brown, Inc.
(Hampton, Virginia Office)

Thank-you for your generous support!

~~~~~~~~~~~~~~~
The 21st Century Army Reserve

LTG Jack Stultz
Chief, Army Reserve

NDIA Tactical Wheeled Vehicle Conference 2008
Since 9/11, more than 183,000 Army Reserve Soldiers have mobilized in support of global operations. More than 7,000 are serving our Nation here at home today.
Integral to the Army

Reserve Component

Army Reserve
Federal force
205,000 Soldiers

Army National Guard
State-based force
350,000 Soldiers

The Army Reserve is the Federal Operational Reserve

- More than **22,400** Army Reserve Soldiers Mobilized
- More than **183,000** mobilized since 9/11
- **153** have made the ultimate sacrifice
- **12,930** have been mobilized for 1-2 years
- **12,464** have been mobilized for 2-3 years
- **16,114** have been mobilized for > 3 years
Growing Structure

QDR/TAA Warfight

Potential HLD/HLS Missions

Current Operational Demand

- 5.2K Transportation
- 3.3K Quartermaster
- 2.9K Maintenance
- 2.5K Engineer
- 1.8K Logistics HQs
- 0.5K Chemical
- 0.3K Military Police
- 0.1K Signal
- 0.2K PSS

~$3.9B Equipment Costs
~$800M Construction
~$301M OPTEMPO

TWVs to support new structure
Quantity = 5,821
Cost = $335,465,337

NDIA Tactical Wheeled Vehicle Conference 2008
New Procurement Funding Projections
Other Procurement, Army (OPA) for FY 08-13

24% of OPA Funding is for TWVs

*Army Equipping & Re-Use Conference (AERC): Equipment Distributions are for Deploying and Next Deploy Forces over 2 year increments and ensure our Soldiers receive the most modern equipment available.
### Army Reserve Challenge: TWV Modernization Requirements

<table>
<thead>
<tr>
<th>Equipment Item</th>
<th>Total Req</th>
<th>On Hand</th>
<th>Short</th>
</tr>
</thead>
<tbody>
<tr>
<td>LMTV (2.5 TON TRUCK)</td>
<td>6367</td>
<td>1086</td>
<td>5281</td>
</tr>
<tr>
<td>MTV (5-TON TRUCK)</td>
<td>9460</td>
<td>319</td>
<td>9141</td>
</tr>
<tr>
<td>Truck Tractor Line Haul (M915A3)</td>
<td>2608</td>
<td>481</td>
<td>2127</td>
</tr>
<tr>
<td>Truck Tractor Light Equipment Transport (M916A3)</td>
<td>894</td>
<td>0</td>
<td>894</td>
</tr>
<tr>
<td>Armored Security Vehicle: Wheeled W/Mount (ASV)</td>
<td>256</td>
<td>0</td>
<td>256</td>
</tr>
<tr>
<td>Trailer Cargo: FMTV W/Dropsides M1095/M1082</td>
<td>3789</td>
<td>249</td>
<td>3540</td>
</tr>
<tr>
<td>Light Tactical Trailer: 3/4 TON</td>
<td>5454</td>
<td>2978</td>
<td>2476</td>
</tr>
<tr>
<td>PLS Trailers</td>
<td>1264</td>
<td>687</td>
<td>577</td>
</tr>
<tr>
<td>Truck Cargo PLS 10x10 M1075</td>
<td>905</td>
<td>622</td>
<td>283</td>
</tr>
<tr>
<td>Truck Dump 20 Ton (M917)</td>
<td>397</td>
<td>307</td>
<td>90</td>
</tr>
<tr>
<td>High Mobility Multi-Purpose Wheeled Vehicle (HMMWV)</td>
<td>15688</td>
<td>9123</td>
<td>6565</td>
</tr>
<tr>
<td>High Mobility Multi-Purpose Wheeled Vehicle (HMMWV) Up-Armed M1114</td>
<td>1561</td>
<td>7</td>
<td>1554</td>
</tr>
<tr>
<td>Semi-Trailer Tank 5000K Gal Fuel Dispensing Automotive Refueler (M969A2/A3)</td>
<td>611</td>
<td>9</td>
<td>602</td>
</tr>
<tr>
<td>Semi-Trailer Tank 5000K Gal Fuel Bulk Haul (M967A2)</td>
<td>1500</td>
<td>299</td>
<td>1201</td>
</tr>
<tr>
<td>Semi-Trailer Low Bed: 40 Ton 6 Wheel W/E</td>
<td>943</td>
<td>521</td>
<td>422</td>
</tr>
</tbody>
</table>

The Army Reserve Requires Approximately $5B in TWV Modernization
Employer Partnership

Employer Pilot Programs

• American Trucking Associations
• Con-Way Trucking
• Inova Health Care
• Tyson’s
• Unisys
Family Support
Questions?
PEO Land Systems Marine Corps

It’s all about the Warfighter!

NDIA Tactical-Wheeled Vehicle Conference
Monterey, CA
4 Feb 08
What is a PEO?

DOD INST 5000.2
“...Component Acquisition Executives (CAE) shall assign acquisition program responsibilities to a PEO for ACAT I programs...or any other program determined by the CAE to require dedicated executive management”
“The PEO shall be dedicated to executive management and shall not have other command or staff responsibilities”

SECNAV INST 5400.15B
“PEOs will report directly to the Naval Acquisition Executive for all matters pertaining to acquisition”
“PEOs devote full-time attention to managing their assigned programs and related technical support resources”

General Rule: PEOs exercise authority for management of all ACAT Is & IIs.
Why PEO LS?

21 Aug 06
MROC decision Memo 47-2006
“The MROC supports the establishment of a Marine Corps PEO using the matrixed organizational concept.”

5 Feb 07
PEO LS Charter Established by ASN(RDA)

1 Oct 07
PEO LS declared Fully Operational Capable (FOC) by ASN (RDA)

Established to enhance acquisition oversight and focus on an expanding Marine Corps portfolio of ACAT I & II ground and amphibious weapons systems.
Relationship to MARCORSYSCOM

- PEO LS is a separate command reporting to ASN (RDA) but…..

- Collocated with Marine Corps Systems Command
  Similar to alignment between other DON PEOs and SYSCOMs
  Leverages MCSC infrastructure & services
  Operating Agreement approved 4 Apr 2007

- Major SYSCOM Roles (SECNAV INST 5400.15B)
  Provide support services to PEOs without duplicating management responsibilities
  Provide for In-Service Support
  Manage / MDA for programs other than those assigned to PEO structure

- Major Support Services (SECNAV INST 5400.15B)
  Oversee standard policies, technical processes and core competencies:
  - Systems Engineering
  - Integrated Logistics Support
  - Contracting
  - Finance / Comptroller
PEO LS Program Portfolio

- Expeditionary Fighting Vehicle (EFV)
- Logistics Vehicle System Replacement (LVSR)
- Medium Tactical Vehicle Replacement (MTVR)
- Lightweight 155 (M777)
- Joint Light Tactical Vehicle (JLTV)
- Marine Personnel Carrier (MPC)
- Ground Air Task Oriented Radar (G/ATOR)
- Common Aviation Command & Control System (CAC2S)
PEO LS Tactical-Wheeled Vehicle Programs
Medium Tactical Vehicle Replacement (MTVR)

System Description
The MTVR (manufactured by Oshkosh Truck Corporation) replaces the aging M809/M939 series 5-ton trucks with state-of-the-art commercial automotive technology. The MTVR cargo truck has a 7.1-ton off road and 15-ton on road payload, and a 22-year service life. The MTVR Variant program developed the dump and wrecker models on the MTVR platform, maintaining maximum commonality with the basic MTVR cargo chassis while performing their unique mission. The Program Manager is Mr. Thomas Miller and the program office is located at Quantico, Va.

Program Status
The MTVR Program is transitioning from ACAT II to ACAT IC due to Full-Rate Production and MAS.
Logistics Vehicle System Replacement (LVSR)

System Description
LVSR is the Marine Corps’ heavy fleet vehicle system for transporting heavy bulk and break bulk cargo, bulk liquids (fuel and water), and ammunition. The Program Manager is Mr. Thomas Miller and the program office is located at Quantico, Va.

Program Status
Entering IOT&E. FRP FY 09.
Future Triad of Marine Corps Tactical Mobility

- **2010**
  - HEAVY
  - MEDIUM
  - LIGHT

- **2050**
  - EFV
  - MPC
  - JLTV
Joint Light Tactical Vehicle (JLTV)

**System Description**
JLTV is a Joint Army/Marine Corps program (ACAT 1D), which consists of a family of vehicles with companion trailers capable of performing multiple mission roles that will be designed to provide protected, sustained, networked mobility for personnel and payloads across the full range of military operations (ROMO). The U.S. Army is the lead service with a Joint Program Office at TACOM (Warren, Mich.) under the leadership of Brig Gen John Bartley (Program Executive Office for Combat Support / Combat Service Support) with a dual Marine Corps Program Manager (Lt Col Ben Garza) under the leadership of the Program Executive Officer Land Systems Marine Corps, Quantico, Va.

**Program Status**
Joint Light Tactical Vehicle (JLTV) Way Ahead

- Industry is ready for JLTV as evidenced by Teaming announcements.

- RFP is imminent. Will launch Technology Demonstration Phase (TDP) for next 24 months.

- JLTV Challenges: Survivability, Transportability (Weight), C4I Integration and growth, power/electrical and Thermal Management/Air Conditioning.
Marine Personnel Carrier (MPC)

System Description
The MPC represents the medium weight capability in the set of the triad of armored personnel carrier (APC) capabilities for the Marine Corps to improve ground tactical mobility. It is not a replacement vehicle and instead will complement the capabilities offered by the JLTV and the EFV across the Range of Military Operations (ROMO). The Program Manager is Colonel Mike Micucci and the program office is located in Detroit, MI.

Program Status
ACAT II Program. Entering Technology Demonstration Phase (Pre- Milestone A).

Not a replacement Capability
Marine Personnel Carrier (MPC) Way Ahead

- The MPC program is currently in preparation for a Milestone A (MS A) in April 2008.

- MPC conducting Systems Demonstration at NATC, NV through Feb 08.

- Initial Capabilities Document (ICD) approved. CDD is under construction and will enter staffing in 2nd Qtr, FY08.

- **MPC RFP expected by mid-FY08 – Expect Full and Open Competition**
### Vehicle Portfolio Construct

<table>
<thead>
<tr>
<th>Gross Vehicle Weight</th>
<th>Transportability</th>
<th>≤ 10,000 lbs</th>
<th>≤ 25,000 lbs</th>
<th>≤ 50,000 lbs</th>
<th>&gt; 50,000 lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>MV-22</td>
<td>Current</td>
<td>Ultra-Light</td>
<td>HMMWV</td>
<td>Medium</td>
<td>Heavy</td>
</tr>
<tr>
<td>IFAV</td>
<td>Light</td>
<td>CH-53</td>
<td>LAV</td>
<td>AAV</td>
<td>Current</td>
</tr>
<tr>
<td>ITV</td>
<td></td>
<td>JLTV/ECV</td>
<td>MPC</td>
<td>EFV</td>
<td>Future</td>
</tr>
<tr>
<td>Motorcycle</td>
<td></td>
<td>M1114</td>
<td>MRAP I / II</td>
<td>MRAP III</td>
<td>OIF/OEF</td>
</tr>
<tr>
<td>EFSS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAV, M1A1</td>
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<tr>
<td>LVS/R, MTVR, ABV</td>
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</tr>
<tr>
<td>LAV, M1A1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HMMWV, EFV, AAV, MPC, MRAP, JLTV, ITV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
PEO LS FY08 Goals
For Partnering With Industry

• Visit every off-site Program Prime
  • Sep 07 visit to Oshkosh Trucking Corporation
  • Nov 07 visit to Northrop Grumman Electronic Systems

• APBI 13-14 May 2008, Baltimore, MD
Focus on Technology

• Lightweight armor
• Reduced C2 footprints
• Heads up displays
• Hybrid Technology
• Integrated power generation
• Crew noise reduction
USMC LAND SYSTEMS SUSTAINMENT TECHNOLOGY WORKSHOP

FEBRUARY 26 – 27, 2008

The Clubs at Quantico
Marine Corps Base Quantico, VA

https://www.ncms.org/SSL/08CTMA-Quantico/08-registration.htm
Our Mission

“Program Executive Officer Land Systems (PEO LS) will meet the Warfighter’s needs by devoting full-time attention to Marine Corps Weapon Systems acquisition, while partnering with Marine Corps Systems Command, in order to develop, deliver, and provide life-cycle planning for assigned programs.”
Questions?
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703-432-4956