“Need to be faster, more agile, less bureaucratic… Need to fight this every day”
Mission, Vision, Objectives

Mission:
To execute integrated life cycle management through a team of dedicated professionals who provide effective, available, and affordable munitions and lethality for the joint warfighter.

Vision:
Battle space dominance for the joint warfighter through superior munitions.

Objectives:
• Joint warfighter and coalition support
• Munitions Readiness
• Reliable, high performance munitions
What is an LCMC?

- A way of **thinking and acting** that considers the needs of the Army and war fighter above the needs of individuals or organizations in the process.

- A confederation of organizations that strategically align their operational processes to create greater effectiveness and efficiency which results in better products, shorter cycle times, and faster response times to satisfy the war fighter’s needs.

- A collection of processes that support the Defense Acquisition Life Cycle Management Framework.

- The Army’s implementation of the OSD Directed Total Life Cycle Systems Management (TLCSM).
Life Cycle Management Commands

- Reduce Burden on the Soldier
- Cradle-to-Grave Materiel Solutions to Warfighter
- Improved Responsiveness and Support to the Field
- Better Product, Delivered Quicker at Reduced Cost to the Warfighter
JM&L LCMC Process

Meeting Warfighter requirements
Successfully working challenges
The JM&L LCMC executes integrated Life Cycle Management through a team of dedicated professionals who provide effective, available and affordable munitions for joint warfighters.
Joint Munitions & Lethality
Life Cycle Management Command

What We Do
- Integrate Acquisition, Logistics, & Technology (AL&T)
- Single Manager for Conventional Ammunition (SMCA)
- Small, Med, Large Cal. Munitions
- Counterme Systems & EOD
- Demolitions
- Non-Lethal Systems
- Grenades
- Pyrotechnics
- Shoulder Launched Systems
- Fuzes & Fuze Setters
- Mortar & Mortar Fire Control Systems
- Smart Munitions
- Networked Munitions
- Unique Conventional Munitions
- Demilitarization

PEO Ammunition
Single Manager for Conventional Ammunition

Products
3500 DODICs
338 Items in Development
206 Ammo Items in Prod’n
523 Ammo Items Managed

Budget
$3700 M

Footprint
20 Locations
427,334 Acres
40.2 MSF Storage
12,261 Bldgs
13,165 Igloos
2.7 MSF R&D

JM&L LCMC Team
6641 Government Employees
8090 Contractor Employees

Joint Munitions Command
Munitions & Log Readiness Center
Defense Ammo Center

Lake City AAP
Iowa AAP
Crane AAA
Letterkenny AD
Scranton AAP

Tooele AD
Hawthorne AD
Riverbank AAP
(to Rock Island Arsenal)

Kansas AAP
(to McAlester, Milan, Iowa, Crane)

McAlester AAP
Lone Star AAP
(to Milan, Iowa, Crane)

Red River AD
Mississippi AAP
(to Rock Island Arsenal)
SMCA Mission: Manage DoD conventional ammunition, and personnel and training functions (DoDD 5160.65)

Objectives: Achieve the highest possible degree of efficiency and effectiveness in the DoD operations required to acquire top quality conventional ammunition for U.S. Forces
Ammunition Enterprise Portal

- Bridge Across Ammunition Enterprise Sites
- Face to Joint Customers
- Cross-functional user base of 2308 with 105 different organizations represented
Technology

Novel Energetic Materials for the Future Force

Multimode HPM and Laser Induced Plasma Channel Technology

Multiple EFP Cache Recoveries

Kinetic Energy Active Protection System (KEAPS)

Force Protection
Acquisition

Networked Remote Control Station

Dispensing Module

Gateway Node

Anti-Personnel Effects

Anti-Vehicle Effects

Excalibur

MRM

1500-3000 m

By the way...

- Small Caliber
- Medium Caliber
- Large Caliber
- Mortar Systems
- Pyrotechnics
- Flares
- Smart Munitions
- 30mm
Centralized Ammunition Management
Concept of Operations

- **TAMIS-R** Training Authorizations
- **ABLCS** Basic Load Requirements
- **SAAS-MOD** ASP Stock On Hand

**JMC**
- Garrison Ammo Manager
- Determine Delta / Optimize Inventory
- Consolidated Resupply
- Pick up Ammo

**MACOM** Training & Deployment Requirements

**Join Modular Intermodal Container (JMIC)**
- **Interlocking**
- **Intermodal**
- **Re-configurable**
- **Joint Compatibility**

**Join Modular Intermodal Platform (JMIP)**

**Embedded Automated Information Tracking**
<table>
<thead>
<tr>
<th>JM&amp;L Operational Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type Classifications (MS C App'd for Service Use) 02-Pres</strong></td>
</tr>
<tr>
<td>Materiel Releases 02-Pres</td>
</tr>
<tr>
<td>Urgent Materiel Releases</td>
</tr>
<tr>
<td>Tons of Ammo for OEF/OIF</td>
</tr>
<tr>
<td>Programs in Development (A)</td>
</tr>
<tr>
<td>Programs is S&amp;T (T)</td>
</tr>
<tr>
<td>Ammunition DODICS Supported</td>
</tr>
<tr>
<td>Small Caliber Rounds Delivered</td>
</tr>
<tr>
<td>Artillery Rounds Delivered</td>
</tr>
<tr>
<td>155mm Excalibur Fielded &amp; Fired</td>
</tr>
<tr>
<td>Ammo Plant Modernization (last 5/next 5 years)</td>
</tr>
<tr>
<td>Lean 6-Sigma</td>
</tr>
</tbody>
</table>

Ammo In-Theater All Types – “Green”
Production Backlog Reduction Over the Years

Pre-PEO Ammunition
Low Quantity and Large Backlog of Production Orders

PEO Ammunition
Large Quantity (FY03–FY05 Supplemental) and Reduced the Average Number of Backlog Orders by 50%!!!
Challenges

• Industrial Base
• Ammo OPTEMPO Requirements
• Ammunition Demil

LCMC Strategic Implementation
At the End of the Day . . .

We’re Meeting Warfighter’s Needs!
PM Is the Total Life Cycle Manager
“One Voice to the Field and Industry”

- Program Management
- System Development
- System Acquisition
- Testing
- New Equipment Training
- Materiel Fielding
- Technical Engineering
- Configuration Management

- System Engineering
- Air Worthiness
- Industrial Base
- Quality
- Prototype Manufacturing
- Integration
- Subject Matter Expertise
- Science & Technology

- Acquisition Planning
- Contracting
- Contracting Management

LEGEND
Blue – Collocated
Black – Non-Collocated

- Supply Support (CL V, VII, IX)
- Maintenance Mgmt
- Technical Publications
- Log Data Mgmt
- Provisioning
- Depot Maintenance
- Packaging
- Transportation
- War Reserves
- Mobilization Planning
- Logistics Acquisition
- Readiness

- Pre LOR
- Case Development
- Case Execution
- Repair and Return
- Case Closure
- Business Sustainment

Goal
- Reduce Burden on the Soldier
- Improve Readiness While Reducing Operating Costs
Mission / Product Lines / Magnitude

What we do (Core Competencies):
- Research, Development, Engineering
- Acquisition / Program Management
- Logistics, Industrial Operations, and Contracting
- SMCA Executor & Field Operating Activity
- Demilitarization and Disposal
- Industrial Base Management & Transformation
- Munitions Readiness Reporting
- Manage World-Wide Assets
- Centralized Ammunition Management
- Integrated Lethality Solutions

The Magnitude:
- Meet all ammunition requirements for all services
- Integrated Joint Ammunition Management

The JM&L LCMC Product Lines:
- Networked Munitions
- Countermeasures Systems & Explosive Ordnance
- Demolitions
- Non-lethal systems and Munitions
- Countermine Systems & Explosive Ordnance
- Grenades
- Pyrotechnics
- Shoulder-Launched Munitions
- Small Caliber Direct Fire
- Medium Caliber Direct Fire
- Large Caliber Direct Fire
- Smart Munitions
- Precision Guided Munitions
- Artillery Munitions
- Mortar Munitions
- Mortar Weapons Systems
- Mortar Fire Control Systems
- Fuzes and Fuze Setters

Develop, acquire, field, and sustain Value-added Ammunition for the Joint Warfighter through the integration of effective and timely Acquisition, Logistics, and cutting-edge Technology
Logistics

From Production in the Industrial Base...

...to the Warfighter in the field

- Army (Conv): 674K Tons (34%)
- Demil: 453K Tons (23%)
- USMC: 109K Tons (5%)
- USAF: 262K Tons (13%)
- Other Non-Army: 182K Tons (9%)
- Navy: 173K Tons (9%)
Challenge: Modernize the Industrial Base

• Environmentally Compliant Facilities
• Increase Production Capacity
• Improve Production Flexibility
• Upgrade Critical Infrastructure
• Increase Production RAM
• Enhance Facility Utilization
• Support Next Generation Munitions

$127M Essential Mods FY 08 Shortfall
Improved Ability to Sustain Warfighter
Challenge: BRAC Closures and Mission Moves

4 Plants – Transfer of Mission
FY 07-11 BRAC $ Required
Challenge: Dramatically Increased OPTEMPO Ammo Requirements

Small Caliber Ammunition Deliveries
(All Services, All Sources)

40mm Army Deliveries
Challenge: Ammo Demil

Percent of Stockpile in Conventional Ammo Demil Account

CONUS Stockpile - Today

- USMC 125K Tons 6.3%
- Navy 233K Tons 11.8%
- USAF 389K Tons 19.7%
- Army (Conv) 662K Tons 33.5%
- Other Non-Army 120K Tons 6.1%

CONUS Stockpile – FY2013

- Demilitarization 446K Tons 22.6%
- WR/Trng 1,543K Tons 74%

Demilitarization 540K Tons 26%

Total CONUS Stockpile: 2.083M Tons

A GROWING PROBLEM

Tactical Missile Demil Requirements

Challenge: Ammo Demil

A GROWING PROBLEM

Tactical Missile Demil Requirements

- TOW
- STINGER
- PATRIOT
- MLRS (rockets)
- JAVELIN
- HELLFIRE
- ATACMS
- DRAGON
- HAWK
Aviation Sustainment Challenge

BLACKHAWK
- 1577 UH-60
  - 32% OIF/OEF
  - 6% Ft Rucker

APACHE
- 714 AH-64
  - 34% OIF/OEF
  - 9% Ft Rucker

KIOWA WARRIOR
- 355 OH-58D
  - 28% OIF/OEF
  - 10% Ft Rucker

COBRA
- 106 AH-1
  - Parked at Ft Drum

KIOWA
- 439 OH-58A/C
  - 23% Ft Rucker

HUEY
- 486 UH-1
  - 186 (Flying)
  - 48 (FMS Storage)
  - 240 Storage for Army

UAS
- 1333 UAS
  - 65% OIF/OEF
  - 11% Ft Huachuca

OIF/OEF
- Pre-Deployment
- Deployed
- RESET

CHINOOK
- 459 CH/MH-47D/E/F/G
  - 16% OIF/OEF
  - 7% Ft Rucker

261 Fixed Wing (PM Managed)
36 Fixed Wing (Non PM Managed)
ACLC Lean/Six Sigma Accomplishments

**UH-60**
- Reduced Phase Cycle Time
  - From 50+ to 14 Days

**C-20J Engine**
- Reduced Repair Turn Around Time
  - From 78 to 33 Days

- Maintenance Process Improvements
  - Reduced Scheduled Maintenance Time
  - Improved Quality
  - Reduced Phase Maintenance Time

- Returned 3 UH-60s
- Saved $40.2M
**Condition Based Maintenance (CBM)**

- Maintenance to Improve Operational Availability and Reduce Maintenance Burden on Soldier by:
  - Enhancing Diagnostics
  - Evolving to Predicting Remaining Component Life
  - Then Evolving to Proactive Supply Transactions

- Derived From Near Real-time Assessment & Analysis of Data From:
  - Embedded Sensors
  - Platform Maintenance Environments
  - Aircraft and Supply Historical Data

**Current**
- Reactive
- Time Based Overhauls / Inspections

**Transition**
- Inspection & Maintenance Action Interval Extension
- Platform Diagnostic / Prognostic Equipment Installation

**AMCOM Goal 2011**
- Proactive
- Condition Based Overhauls / Inspections

**End State 2015**

**Key CBM Enablers**
- Embedded Sensors
- Plane Side Diagnostics
- Data Fusion
## CBM-related Fieldings

<table>
<thead>
<tr>
<th>Aircraft Type</th>
<th>Total # Aircraft</th>
<th>DSC Equipped</th>
<th>Percent Complete</th>
</tr>
</thead>
<tbody>
<tr>
<td>AH-64</td>
<td>686</td>
<td>194</td>
<td>28%</td>
</tr>
<tr>
<td>CH-47</td>
<td>452</td>
<td>41</td>
<td>9%</td>
</tr>
<tr>
<td>UH-60</td>
<td>1630</td>
<td>194</td>
<td>12%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>2768</strong></td>
<td><strong>429</strong></td>
<td><strong>15%</strong></td>
</tr>
</tbody>
</table>

### Unit Level Logistics System – Aviation (Enhanced) [ULLS-A (E)] Fielding*

<table>
<thead>
<tr>
<th>Battalions Fielded</th>
<th>Total # Battalions</th>
<th>Percent Completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>68</td>
<td>136</td>
<td>50%</td>
</tr>
</tbody>
</table>

* Includes Active, Reserve, and National Guard Units
**Direct Comparison**

* DSC Equipped vs. Non-equipped UH-60 Battalions (Bns)*

### 03-04 OIF Rotation

<table>
<thead>
<tr>
<th>30 Aircraft Per Bn</th>
<th>Non-equipped (Bn 1)</th>
<th>Non-equipped (Bn 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fully Mission Capable (FMC)</td>
<td>65%</td>
<td>77%</td>
</tr>
<tr>
<td>Total Flt Hours</td>
<td>10,331</td>
<td>11,844</td>
</tr>
<tr>
<td>OPTEMPO (Hrs/Year/Acft)</td>
<td>334</td>
<td>395</td>
</tr>
</tbody>
</table>

### 05-06 OIF Rotation

<table>
<thead>
<tr>
<th>30 Aircraft Per Bn</th>
<th>DSC Equipped (Bn 1)</th>
<th>Non-equipped (Bn 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FMC</td>
<td>87%</td>
<td>82%</td>
</tr>
<tr>
<td>Total Flt Hours</td>
<td>21,819</td>
<td>20,388</td>
</tr>
<tr>
<td>OPTEMPO (Hrs/Year/Acft)</td>
<td>727</td>
<td>680</td>
</tr>
</tbody>
</table>

**Advantage of DSC Equipped Aircraft (05-06 Rotation)**
- 5% Increase in FMC Gives You 1.5 More Aircraft
- 1,431 Increase in Hours Flown = 2 More Aircraft at Optempo
- Units OPTEMPO Demonstrates 2 Aircraft Increase vs. 1.5 Expected

**DSC Equipped Unit Had An Increase In Combat Power Equivalent To 2 Additional Aircraft**
## Cost and TAT Comparison

<table>
<thead>
<tr>
<th>Rotation</th>
<th>MDS</th>
<th># Acft</th>
<th>Avg MHRS</th>
<th>Avg Cost</th>
<th>Avg TAT</th>
</tr>
</thead>
<tbody>
<tr>
<td>OIF I</td>
<td>AH64A</td>
<td>39</td>
<td>4494</td>
<td>$1,029,290</td>
<td>103</td>
</tr>
<tr>
<td>OIF II</td>
<td>AH64A</td>
<td>19</td>
<td>5251</td>
<td>$1,491,290</td>
<td>93</td>
</tr>
<tr>
<td>OIF 0406</td>
<td>AH64A</td>
<td>16</td>
<td>4848</td>
<td>$1,527,468</td>
<td>95</td>
</tr>
<tr>
<td>OIF 0507</td>
<td>AH64A</td>
<td>0</td>
<td>0</td>
<td>$0</td>
<td>0</td>
</tr>
<tr>
<td>OIF I</td>
<td>AH64D</td>
<td>104</td>
<td>4432</td>
<td>$935,092</td>
<td>104</td>
</tr>
<tr>
<td>OIF II</td>
<td>AH64D</td>
<td>23</td>
<td>3738</td>
<td>$868,018</td>
<td>84</td>
</tr>
<tr>
<td>OIF 0406</td>
<td>AH64D</td>
<td>91</td>
<td>4069</td>
<td>$1,047,299</td>
<td>87</td>
</tr>
<tr>
<td>OIF 0507</td>
<td>AH64D</td>
<td>29</td>
<td>4531</td>
<td>$771,295</td>
<td>84</td>
</tr>
<tr>
<td>OIF I</td>
<td>CH47D</td>
<td>141</td>
<td>9020</td>
<td>$1,566,112</td>
<td>153</td>
</tr>
<tr>
<td>OIF II</td>
<td>CH47D</td>
<td>47</td>
<td>10866</td>
<td>$1,998,333</td>
<td>131</td>
</tr>
<tr>
<td>OIF 0406</td>
<td>CH47D</td>
<td>57</td>
<td>9768</td>
<td>$1,963,877</td>
<td>122</td>
</tr>
<tr>
<td>OIF 0507</td>
<td>CH47D</td>
<td>4</td>
<td>8295</td>
<td>$1,683,236</td>
<td>99</td>
</tr>
<tr>
<td>OIF I</td>
<td>OH58D</td>
<td>138</td>
<td>2608</td>
<td>$373,164</td>
<td>130</td>
</tr>
<tr>
<td>OIF II</td>
<td>OH58D</td>
<td>83</td>
<td>2508</td>
<td>$454,930</td>
<td>92</td>
</tr>
<tr>
<td>OIF 0406</td>
<td>OH58D</td>
<td>45</td>
<td>2559</td>
<td>$457,370</td>
<td>87</td>
</tr>
<tr>
<td>OIF 0507</td>
<td>OH58D</td>
<td>11</td>
<td>2135</td>
<td>$415,308</td>
<td>90</td>
</tr>
<tr>
<td>OIF I</td>
<td>UH60A</td>
<td>147</td>
<td>4820</td>
<td>$890,598</td>
<td>115</td>
</tr>
<tr>
<td>OIF II</td>
<td>UH60A</td>
<td>103</td>
<td>5074</td>
<td>$1,207,207</td>
<td>109</td>
</tr>
<tr>
<td>OIF 0406</td>
<td>UH60A</td>
<td>157</td>
<td>5534</td>
<td>$1,278,378</td>
<td>100</td>
</tr>
<tr>
<td>OIF 0507</td>
<td>UH60A</td>
<td>23</td>
<td>5587</td>
<td>$1,197,330</td>
<td>83</td>
</tr>
<tr>
<td>OIF I</td>
<td>UH60L</td>
<td>232</td>
<td>4269</td>
<td>$790,738</td>
<td>107</td>
</tr>
<tr>
<td>OIF II</td>
<td>UH60L</td>
<td>81</td>
<td>4766</td>
<td>$824,015</td>
<td>85</td>
</tr>
<tr>
<td>OIF 0406</td>
<td>UH60L</td>
<td>125</td>
<td>4850</td>
<td>$1,103,184</td>
<td>93</td>
</tr>
<tr>
<td>OIF 0507</td>
<td>UH60L</td>
<td>51</td>
<td>4855</td>
<td>$977,942</td>
<td>72</td>
</tr>
</tbody>
</table>

- **TAT based on total completed**
- **Avg Cost based on total completed with audited -18 data**
- **OIF 0507 Total Completed is completed aircraft with audited -18 data**

*Cost Improved 26.3%*  
*TAT Improved 3.4%*

*Cost Improved 14.3%*  
*TAT Improved 18.8%*

*Cost Improved 9.2%*  
*TAT Increased 3.4%*

*Cost Improved 6.3%*  
*TAT Improved 17%*

*Cost Improved 11.3%*  
*TAT Improved 22.6%*