2011 INDUSTRY DAY
Society of American Military Engineers - Omaha Post

Omaha District Corps of Engineers
Military Munitions Design Center (MMDC)

Jerry L. Hodgson, P.E.
MMDC Manager

May 3, 2011
WARNING
UNEXPLODED ORDINANCE AREA
KEEP OUT
Military Munitions Support Services (M2S2) Overview

Omaha District Military Munitions Design Center
- Organization
- In-house capabilities
- Major programs/workload
- Program/project “snapshots”
- MMRP Contracts
- Doing business with Omaha MMDC
  - Challenges
  - Suggestions
  - Ongoing contractor challenges
OPORD 2006-43 (Military Munitions Support Services (M2S2)), September 2006

Intent is to focus Corps’ efforts, resources and institutional knowledge to military munitions response actions worldwide to the Department of Defense and other U.S. Government agencies as required.
M2S2 Key Objectives

- Unite and communicate M2S2 projects executed by USACE as a single mission
- Efficiently execute projects through USACE MM Design Centers and Remedial Action Districts
- Maintain demonstrated quality and safety records
- Leverage Corps M2S2 talent and expertise
MILITARY MUNITIONS SUPPORT SERVICES (M2S2)

Program Management →

Coordination/Oversight →

Project Execution →

Technical Support
MM Design Centers, Remedial Action Districts, EM CX, Geographic Districts, Corps Labs

National Program Manager

Major Subordinate Command (RBCs)

Project Management Districts

Project Delivery Teams
M2S2 National Program Managers

- Army & NGB ORAP: Andrea Graham, NAB
- BRAC-ER MMRP: Jeff Smith, HQ
- DERP Active Army MMRP: Kelly Koontz, HQ
- DERP Air Force MMRP: Jerry Hodgson, NWO
- DERP FUDS MMRP: Julian Chu/Alex Long, HQ
- DERP NGB MMRP SIs: Young Chong, SPD RSC
- Int’l Contingency Ops: Bill Sargent/Keith Angles, HNC
- RTLP UXO Support: Plyler McManus, HNC
- Range Maintenance OMA: Monique Ostermann, SPD RSC
- RCWM Response: Chuck Twing, HNC
MILITARY MUNITIONS SUPPORT SERVICES (M2S2)

- Regional Business Centers
  - Great Lakes & Ohio River (LRD) - Parry Bertsch
  - Mississippi Valley (MVD) - Rochelle Hance
  - North Atlantic (NAD) - Celia Orgel
  - Northwestern (NWD) - Dan Tosoni
  - Pacific Ocean (POD) - Hudson Kekaula
  - South Atlantic (SAD) - Glenda Ashford
  - South Pacific (SPD) - Monique Ostermann
  - Southwestern (SWD) - Scott Weber
  - Transatlantic (TAD) - Greg Taylor

- Advisors
  - Environmental & Munitions CX - Sandi Zebrowski
  - EMCX, MM Division - Kevin Coats, Acting
  - Innovative Technology - Andy Schwartz
  - Legal Services CoP - Phil Steffan
  - Public Affairs CoP - Candi Walters
  - R&D CoP - John Ballard
  - Safety CoP - Blanca Roberts
MILITARY MUNITIONS SUPPORT SERVICES (M2S2)

- Headquarters
  - Acting ECoP Chief: Christine Godfrey
  - Special Assistant for M2S2: Christopher Evans

- Military Munitions Design Centers/Remedial Action Districts
  - Baltimore (NAB): Dave Morrow
  - Huntsville (HNC): Plyler McManus
  - Omaha (NWO): Jerry Hodgson
  - Range Support Center (SPD): Monique Ostermann
  - RCWM (HNC): Chuck Twing

- Remedial Action Districts
  - Fort Worth (SWF): Ken Kebell, Acting
  - Honolulu (POH): Dan Nakamura
  - Louisville (LRL): Chris Karem
  - Mobile (SAM): Karl Blankenship
  - Savannah (SAS): Sherry McCumber
MILITARY MUNITIONS SUPPORT SERVICES (M2S2)

- Design Centers are authorized to execute all phases of military munitions response actions.
- Design Centers also provide support for project management and technical support for non-design centers and remedial action districts (RAD).
- RAD’s are authorized to execute removal actions, perform construction support, and long term management.
Customer selects the USACE Project Management District
  - Build on existing relationships
  - Continuation of previous phase (s) of work
  - Dissatisfied with current service center
  - Other

Project Management District has support of the full depth and breadth of resources throughout USACE
  - Build the Project Delivery Team (PDT) based on project specific needs
  - Access to existing Corps-wide munitions response contracts
  - Support from Corps-wide in-house technical resources
MILITARY MUNITIONS SUPPORT SERVICES (M2S2)

USACE FY10 M2S2 execution - $479M
# MILITARY MUNITIONS SUPPORT SERVICES (M2S2)

**USACE M2S2 Funding Trends ($M)**

<table>
<thead>
<tr>
<th>Program</th>
<th>FY10 Actual</th>
<th>FY11 Est.</th>
<th>FY12 Proj.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Army &amp; NGB ORAP</td>
<td>$ 9.1</td>
<td>$ 13.0</td>
<td>$ 12.5</td>
</tr>
<tr>
<td>BRAC-ER MMRP</td>
<td>$ 26.3</td>
<td>$ 13.4</td>
<td>$ 65.5</td>
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<tr>
<td>Active Army MMRP</td>
<td>$ 55.5</td>
<td>$ 49.8</td>
<td>$ 132.1</td>
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<tr>
<td>Air Force MMRP</td>
<td>$ 89.7</td>
<td>$ 37.0</td>
<td>$ 30.0</td>
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<tr>
<td>FUDS MMRP</td>
<td>$ 151.6</td>
<td>$ 81.0</td>
<td>$ 62.0</td>
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<tr>
<td>NGB MMRP SIs</td>
<td>$ 19.7</td>
<td>$ 2.0</td>
<td>$ 1.2</td>
</tr>
<tr>
<td>Intl Contingency Ops</td>
<td>$ 54.4</td>
<td>$ 90.0</td>
<td>$ 161.8</td>
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<tr>
<td>RTLP UXO Support</td>
<td>$ 42.9</td>
<td>$ 20.6</td>
<td>$ 8.0</td>
</tr>
<tr>
<td>Range Maint. OMA</td>
<td>$ 10.0</td>
<td>$ 12.0</td>
<td>$ 13.0</td>
</tr>
<tr>
<td>Other M2S2</td>
<td>$ 20.1</td>
<td>$ 11.8</td>
<td>$ 10.9</td>
</tr>
<tr>
<td><strong>Totals:</strong></td>
<td><strong>$ 479.4</strong></td>
<td><strong>$ 330.6</strong></td>
<td><strong>$ 497.0</strong></td>
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</tbody>
</table>
“Failure has its repercussions.”

-J. Hodgson
MMDC ORGANIZATION CHART

GES Branch

Design Center Manager

ER Branch

Chief, MMDC Technical Support

Chief, Section A

MMDC Program/Project Managers

RESOURCES

Chief, MMDC

OE Safety Specialist
Geophysicists
Chemists
IH Specialists

MILITARY MUNITIONS DESIGN CENTER

MEC Projects

BUILDING STRONG®
MMDC REACH BACK SUPPORT

MMDC utilizes other/additional District resources as needed

Safety Office → MMDC

GIS → Chemist → PM → IH → Geophysicist

Program Analyst → Real Estate → Legal → Contracting → PAO → ED
Program/project managers
- 9 dedicated to MMRP
- 5 with MMRP projects/experience

OE Safety Specialists (OESS)
- 9 former military EOD personnel
- Major responsibilities
  - ESS/ESP preparation, MEC work plan review
  - Field safety oversight, MEC clearance QA, and MPPEH certification

Lead geophysicist

Lead chemist

Lead IH
MMRP PROGRAM SUPPORT

- Formerly Used Defense Sites (FUDS)
- Army MMRP
- Air Force MMRP

- FY09 = $114M
- FY10 = $120M
- FY11 estimate = $67M*
- FY12 estimate = $56M*
- FY13 estimate = $46M*

* Projecting significant reduction in AFMMRP workload and stable projections for other programs
PROGRAM/PROJECT “SNAPSHOTS”

- Former Lowry Bombing and Gunnery Range
- Port of Seattle
- Air Force Military Munitions Response Program
- IED Technology Transition
FORMER LOWRY BOMBING AND GUNNERY RANGE, COLORADO

- Formerly Used Defense Site (FUDS)
  - 15 Munitions Response Sites (MRS)

- HQ Air Education and Training Command (AETC)
  - Former Lowry Training Annex (FLTA)

- AF Space Command (AFSPC)
  - Ground Wave Emergency Network (GWEN)

![Map of Former Lowry Bombing and Gunnery Range, Colorado]
FORMER LOWRY BOMBING AND GUNNERY RANGE, COLORADO

- 80 percent complete
- 4200+ days without a lost time accident (never had one)
- 4,350 acres cleared
- 24,435 live items disposed of to date
- 1,445,020 inert items have been recovered (not including munitions scrap)
- Over 642,000 pounds of munitions scrap (MD) recovered
PORT OF SEATTLE – TERMINAL 91

- Utilized for cruise ship and commercial fishing vessels
- Cruise ship industry creates $425M in annual revenues and 4,447 jobs
- WWII munitions found during routine security dives
- USCG imposed restrictions (Captain of the Port Order) that would jeopardize cruise season if action to address munitions was not taken
- Time Critical Removal Action performed
- MMDC support Kansas City and Seattle Districts
Survey Area 1 – 25 Acres
Survey Area 2 – 61 Acres
PORT OF SEATTLE – TERMINAL 91
TCRA TECHNICAL APPROACH

- Dive Reconnaissance
- MultiBeam Sonar
- Side Scan Sonar
- Stationary Scanning Sonar
- ROV visual assessment/target investigation
- Digital Geophysical Mapping of Survey Area 1
- Surface clearance of Survey Area 1
- ROV Quality Control
PORT OF SEATTLE – TERMINAL 91

SUMMARY

■ In less than 5-months
  ➢ Awarded SI SATOC Task Order
  ➢ Awarded TCRA MATOC Task Order
  ➢ Worked over 15,000 man-hours
  ➢ Performed 548 dives
  ➢ ROV in water for 390 hours
  ➢ Geophysical data set collected
  ➢ Collected side scan, multi-beam and scanning sonar data sets

“The Captain of the Port ordered issued by the U.S. Coast Guard has been modified to ensure all tenants will be able to operate safely in the vicinity of Terminal 91. The cruise ship season will continue without interruption…”
MultiBeam Sonar
AIR FORCE MILITARY MUNITIONS RESPONSE PROGRAM

- FY2009 funding = $80.2M
- FY2010 funding = $97.7M
- FY2011 funding TBD
- 265 munitions response actions completed to date
- Ongoing munitions response actions at 154 installations
TRANSITION OF MMRP TECHNOLOGIES FOR IMPROVISED EXPLOSIVE DEVISE (IED) DEFEAT
TECHNOLOGY TRANSFER

MMRP

SAR
Ortho / LiDAR
HeliMag
Aviation Services
Ground Geophysics
Target Classification
Robotics
Marine Surveying
GIS

IED Defeat
SYNTHETIC APERTURE RADAR

MMRP: Detects surface/shallow military munitions
IED: Effective detection for various threats
Highly effective munitions detection

Buried, surface and elevated wires of different gages readily detected
CHANGE DETECTION

Before, after and difference images showing a buried target detection

Buried Roadway
Target
HELICOPTER IED DETECTION

Direct transition of technology for IED applications

Developed for MMRP

> 45K acres surveyed

Transition for roadway detection
**DETECTION CAPABILITIES**

**Magnetics: Ideal for IED detection:**
- High detection rates
- Passive sensor (no source complexities)
- Centimeter-level positioning supports change detection
- Fast data modeling for target characterization (X,Y,Z, and size)

![Graph showing detection limits for munitions diameters](image)
ROBOTIC ROADWAY IED DETECTION SYSTEM

- Black-I LandShark tele-operational platform
- 3-sensor metal detector array
- Visible and IR pan & tilt camera assembly
PERSON BORNE IED DETECTION

- Remote monitoring system camouflaged in two traffic cones
- Detects metallic items on individuals and reports to remote operator
- Creates virtual ‘trip wire’
- Passive technology – does not radiate and cannot be detected
PERSON BORNE IED DETECTION

- Forward operating bases
- In-theater entry control points
- Traffic control points
- Tactical control points
- Homeland and base defense
- Event monitoring (e.g., elections, entertainment events)
- Long-term facilities monitoring (e.g., corridors, high value real estate)
The Terrorists have won the toss and have elected to receive!
**MMDC CONTRACTS**

- **Existing contract capacity**
  - MMRP MATOC’s
    - Unrestricted: remaining capacity = $100M
    - Small Business: remaining capacity = $35M
    - SDVOSB: remaining capacity = $23M
  - MMRP SATOC’s – minimal capacity remaining

- **Future MMRP contracts**
  - MEGA
  - SATOC’s (up to 4 this FY)
DOING BUSINESS WITH OMAHA MMDC

Challenges

- Programmic
  - Risk based approach – address risk munitions pose, not munitions themselves
  - No MEC - no MC
  - Inexperienced regulators (with unrealistic requirements)
  - Technology limitations
  - Funding
Project management and technical competency
- Experienced PM’s and technical staff
- PM’s and technical staff that truly understand methodologies and technologies and how to apply them correctly considering the project phase and dynamics

Investigations
- PA
- SI
- EECA
- RI

Removal/Remedial Actions
- TCRA
- NTCRA
- Remedial action

Project dynamics
- Customer requirements
- Regulatory requirements
- Cultural and natural resources
- Funding
- Schedule
- Location
- Site specific conditions
- Future land use

Technical Approach (s)
- Visual surveys
- Geophysical mapping
- Wide Area Assessment
- XRF
- MC sampling
- Anomaly avoidance
- Construction support
- ESS/ESP
- Surface clearance
- Intrusive removals
DOING BUSINESS WITH OMAHA MMDC
Suggestions

- Experienced PM’s – get them in the field more often
- Get to know, understand and embrace the MMDC philosophies/approaches and apply them to our projects
- Get to know and understand the MMDC PM you are working for – what are their needs and management style - accommodate them
- Get to know the technical support people, their expertise, strengths and work with them
DOING BUSINESS WITH OMAHA MMDC
Ongoing Contractor Challenges

- Limited experienced project managers
- Limited experienced technical staff
- Poor QA of documents, reports, etc.
  - Cut and paste errors
    - Reference to wrong installation/site
    - Maps to wrong hospitals (different states)
  - No overall document QA review resulting in disjointed/confusing reports
- Non-authorized communications with customers, regulators, etc.
- Taking direction from other than USACE POC
- Not thinking for yourself
- Reactive, instead of proactive – think ahead
Utilizing cookie cutter technical approaches – every site is different
Technical approaches that focus on minimizing fieldwork in lieu of leveraging sunk costs and maximizing fieldwork efforts
Fully understanding explosive safety requirements
Utilizing correct terminology in documents (i.e. dailies, weeklies, work plans, after action reports, etc.) – i.e. “MEC/DMM”, “potential MEC”, etc.
Understanding emergency response procedures – procedures are typically similar, but POC’s can vary significantly
Documenting all field efforts
“Tell the story”
QUESTIONS?

Jerry L. Hodgson, P.E.
Omaha District MMDC Manager
402.995.2727
jerry.l.hodgson@usace.army.mil