Defense Ammunition Center
(DAC Knows Ammo)

MISSION
Center for ammunition logistical support and knowledge; responsible for explosives safety, logistics engineering, transportability, training, doctrine, demil technology, supportability, reliability, technical assistance and career management. Support all ammunition operations and activities from development through disposal.

CORE FUNCTIONS
• Supportability
• Transportability
• Reliability
• Safety
• Technology (demil lead)
• Training/Knowledge Management

CUSTOMERS
• Department of Defense
  • DDESB
• Department of Army
  • G-4
• Corp of Engineers
• Combat Readiness Center
• PEO Ammunition (LCMC)
• AMC/FORSCOM/TRADOC
• AMCOM

• Joint Munitions Command
  • ARDEC
• National Guard Bureau/Army Reserve
• Coast Guard
• Navy/Marine Corps/Air Force
• International/Foreign Military
• Private Industry/Academia
• Other Federal Agencies

FACTS
• Located at McAlester Army Ammunition Plant
• 9001:2000 ISO certified organization since 2002
• Operating budget $64.9M
  • OMA (Direct) Funded – $26.3M
  • Reimbursable – $33.4M
• 219 full-time permanent civilian employees
  • 59 QASAS/Ammunition Managers Interns
Organization Structure

- U.S. Army Material Command (AMC)
- U.S. Army Joint Munitions & Lethality Life Cycle Management Command (JM&L LCMC)
- U.S. Army Joint Munitions Command (JMC)
- U.S. Army Defense Ammunition Center (DAC)
Defense Ammunition Center
(DAC Knows Ammo)

Training Directorate
• Ammunition Professionals Training
  – 35,000 DoD military/civilian personnel
  • HAZMAT Training
• QASAS/Ammo Manager training
• Knowledge management services
• Distance Learning & Web based Tng
• Arms Ammo & Explosives web

Technology Directorate
• Joint demil technology solutions
• PM Demil Enterprise Lead for DoD
  Conventional Ammo/Large Rocket
  Motor Demil R&D Technology
  • Munitions parts make-up:
    Munitions Items Disposition Action
    System (MIDAS)

Engineering Directorate
• (Develop, Design, Fabricate)
• Engineering assistance for:
  • Ammunition Logistics
  • Ammo
  • Transportability
• Packing/Tiedown Drawings & Testing
• Ammo Peculiar Equip (APE)

Operations Directorate
• HQDA G4 Ammunition Review/Technical
  Assistance to Army ammo activities
• DA career programs QASAS and Ammo Mgrs
  • Ammunition Logistics publications
    • (Yellow Book)
    • AmmoHelp Hotline
• Answer Soldier's/Unit's questions and issues on
  ammo related subjects

DAC provides logistical support to the Warfighter through five integrated mission areas

US Army Technical Center for Explosives Safety
• U.S. Army Explosives and Chemical Agent
  Safety programs
• Army/Joint Hazard Classifying
  Authority/System
• Investigate/Assess Army Accidents – Assist
  Units with investigating Explosive/Ammunition accidents
• Approve Army Explosive site plans – Help
  resolve issues
Training Directorate

✓ Mission: To provide ammunition-related training and knowledge management services for Department of Defense (DOD) military and civilian personnel.

✓ Core Capabilities:
  - Ammunition training tailored to meet the needs of the Joint Services
  - Distance learning training products & job aides
  - Worldwide Knowledge Management (KM) services
  - LMP/SAP expert user support

✓ Current Initiatives:
  - 29,454 military & 6,229 civilian students trained in FY 07
  - Arms Ammo & Explo (AA&E) portal/OSD Strategic Plan action items
  - Knowledge harvesting & Ammo Communities of Practice (CoP) on AKO/DKO
  - Ammo Supply Point (ASP) concept of operations/task matrix
Mission: Develop Safe, Efficient, Economical, and Environmentally-Acceptable Demil Solutions

Core Capabilities:
- DoD Munitions Demilitarization Technology Development and Transition Synchronization
- MIDAS Demil Operations Support
- Munitions Demil Environmental and Scientific Services

Current Initiatives:
- Munitions Demil R&D IPT – Analytical Project Prioritization Process
- Transitioning Robotic Download of ADAM Mines at McAlester AAP – FY 08
- Near Infrared (NIR) Spectroscopy Propellant and Explosives Scanners
- MIDAS Website – Constituent Data, Demil Process Maps, Environmental Reporting
- Global Demil Symposium and Exhibition – Salt Lake City/Tooele Army Depot, UT – May 2008
Mission: Provide engineering assistance to DOD, HQDA, AMC, and SMCA for ammunition wholesale and retail operations; i.e., receipt, storage, issue, transportation, maintenance, surveillance, demilitarization, and modernization.

Core Capabilities:
- Design of methods and procedures for safe handling, unitization, storage and transportation of ammunition.
- Design and development of equipment to support life-cycle management of ammunition.
- Conduct testing to ensure standardized, safe methods and procedures for movement of ammunition.

Current Initiatives:
- Munitions Power Projection Platform (MP3)
- Joint Modular Intermodal Distribution System (JMIDS)
- Ammunition Peculiar Equipment
  - APE 1996 – Automated Tactical Ammunition System (ATACS)
  - Desert Optimized Equipment (DOE)
  - APE 1411 – Spent Small Arms Ammunition Granulator
- Korean Demilitarization Facility
- Ship Motion Simulator (SMS)
Operations Directorate

✓ Mission:
  ➢ Worldwide Ammunition Review and Technical Assistance Program (AR 700-13) for DA G-4
  ➢ Manage two DA career programs providing trained QASAS and Ammunition Managers (1000 worldwide careerists)

✓ Core Capabilities:
  ➢ Ammunition Logistics Reviews (20+ on-site per year)
  ➢ Ammunition logistics publications and guides (Yellow Book; TB 43-0250; Unit Ammo Guide)
  ➢ On-Site technical assistance (19th SCE/6th Ord Bn Korea; Armed Forces of the Philippines; Singapore Armed Forces)
  ➢ QASAS mandatory mobility program

✓ Current Initiatives:
  ➢ AmmoHelp Hotline (4,000+ questions since FY 02)
  ➢ Deployment of QASAS and AMs in support of OIF/OEF
  ➢ Annual Digest-Logistics Review trend analysis
  ➢ Pocket-size Ammo Do’s and Don’ts cards for deployed forces
US Army Technical Center for Explosives Safety

✓ Mission:
  ➢ Preserve warfighting capabilities and enhance the Force by providing a safe and healthy environment for Soldiers, civilians, families, and contractors through execution and management of the U.S. Army Explosives and Chemical Agent Safety Programs.

✓ Core Capabilities:
  ➢ Hazard Classifying Authority
  ➢ Explosives Site Plan Approval Authority
  ➢ Investigate/Assess Army Accidents
  ➢ Technical Assistance

✓ Current Initiatives:
  ➢ Establish Theater Presence
  ➢ Explosives Safety Assistance Visits
  ➢ Field Commander’s Seminar
  ➢ Automated Site Planning

UNCLASSIFIED
To preserve warfighting capabilities and enhance the Force by providing a safe and healthy environment for Soldiers, civilians, families, and contractors through execution, and management of the U.S. Army Explosives and Chemical Agent Safety Programs.
Why We Need Explosives Safety

✓ 17 July 1944, Port Chicago, CA
✓ 4,606 tons of ammunition
✓ 4.2M lbs NEW
✓ 320 persons killed, 202 injured
✓ Damage to 46 miles
✓ Two cargo ships, locomotive and 16 boxcars destroyed
✓ E.A. Bryan, pier and surrounding structures completely destroyed
Doha, Kuwait – July 1991

- Uploaded vehicles closely grouped
- Caused by FAASV heater fire
- Assets lost
  - 4 Abrams tanks
  - 7 M109 Howitzers
  - 7 FAASV’s
  - 4 AVLB
  - 40 smaller vehicles (HMMWVs, CUCVs, etc)
- 50 injuries initially; 3 fatalities during clean-up

Debris Field, Doha, Kuwait British HQ in background
Track Park, Doha Kuwait
Destroyed M109 Howitzers at Doha, Kuwait
Near Mosul - May 2003

- 12 Warehouse complex
  - 11 Stored CEA
  - 1 used as troop billets
- QASAS advised Command to have troops vacate
- Troops did vacate, not happy
- CEA exploded one week later
Kirkuk Munitions Storage Area (MSA) - Jun 2004

✓ Mortar hit near the MSA
✓ Caught the high grass on fire
✓ Went through the area exploding outdoor storage - 200K+NEW
FOB Falcon – Oct 2006

- Fire got into ammo container
- Excess ammo present - Ammo stored for weapon systems not present (155 mm)
- Contractors had billets close to the ATHP - CHUs flattened by blast overpressure
- T-Wall falsely believed to give protection to inhabited areas and on base roads – IBD is required for blast protection
Major Program Components

ESTABLISHED 1988
GOSC
DIRECTOR OF ARMY STAFF APPROVAL

DAESC
DIRECTOR OF ARMY SAFETY - CHAIR MAJOR COMMAND COUNCIL

EDES
ARMY MATERIEL COMMAND DEPUTY CG - MAJOR ISSUES/SPECIAL STUDIES

USATCES
DIRECTOR OF DAC/USATCES - TECHNICAL SUPPORT

UNCLASSIFIED
USATCES Functions

- Policy and Regulatory Development
- Explosives and Chemical Agent Safety Site Plans
- Hazard Classification
- Technical Assistance/Guidance
- Accident Investigation Support
- Explosives Safety Assistance Visits
- Explosives Safety Risk Assessments
- Department of Army Explosives Safety Council Support
- DOD/DA Working Groups
USATCES Team (2 – Iraq / 1 – Afghanistan) 179 days
Three USATCES personnel deployed Jan/Feb 2008
Assigned to 401st and 402nd AFSB
Established Offices
Networking in Theater
Providing Explosives Safety Technical Assistance
   Site Plans
   Licenses
   Risk Management
“An unplanned explosion or functioning of explosive materiel or devices (except during combat). This includes inadvertent actuation, jettisoning, and releasing or launching of explosive devices. It also includes mishaps that result from off-range impacts of ordnance.” (DODI 6055.7)
FY 07 Army Explosives Mishap Trends

✓ FY07 Explosives Mishaps
  ➢ Class A – 25
  ➢ Class B – 17
  ➢ Class C – 34
  ➢ Class D – 0
  ➢ Other – 60
  ➢ Total – 136

✓ Small Arms Most Common Munitions Type
✓ Human Error Most Common Cause
✓ Training and Handling Most Common Operations
✓ Weapons-Handling Incidents in Theater Remain Area of Concern
Soldier Loses Arm In Grenade Accident

- Status of lower leg still in question
- Two additional soldiers seriously hurt
- Soldiers were removing tape from grenades
- FM 3-23.30 – NO TAPING GRENADES

Why do Soldiers Tape Grenades?
- Mitigate Noise
- Don’t Trust Safety Features
- Urban Myths
- Common Practice
Soldier Permanently Blinded In Fiery Blast...4 Others Injured

- Combat Engineers dispose of excess C-4, Det Cord, etc. in an open fire
- Soldiers with multiple injuries
  - 1 lost both eyes; 2 with 1 eye damaged
  - Punctured chest wounds
  - Facial, body, and extremity lacerations
  - All with ruptured ear drums
- 1-2LT, 2-SFC’s, 1-SGT, 1-PFC

What Went Wrong?
- Complacency?
- Avoiding Turn-In Paperwork?
- Didn’t Follow Procedures!
- Not Wearing PPE!!
- Accepted Practice?
M2 Explodes….Again

✓ During a pre-convoy function check, a soldier was injured when the .50 cal round in their M2 machine gun exploded
✓ Likely cause is another Head Space and Timing error
✓ The soldier had been trained on Head Space and Timing

Why was Head Space & Timing Wrong?
• Training was long ago
• Worn or damaged weapon
• Leaders didn’t check soldiers proficiency
HMMWV Destroyed by Fire

- Soldiers escape without serious injury
- Caused by burning propellant bags too close to vehicle
- Only available fire extinguishers found inside burned vehicle

What went wrong?
- Didn’t follow established procedures
- Leadership not engaged
- Lack of preparation
Mishandling of 25mm Cartridge Results in Soldier’s Death

✓ Transferring of linked 25mm from a Bradley to a Gator
✓ Primer strikes pointed or rough object...round functions
✓ Cartridge case fragments rip through unprotected torso

What went wrong?
• Leadership not engaged
• Linked too many belts together (100+ rounds)
• Didn’t follow established procedures
Soldier Killed in Bleachers

✓ Negligent discharge of M2 Machine Gun
✓ Live .50 cal round inadvertently introduced into dummy munitions
✓ Accident occurs during dry fire exercise

What went wrong?

• Leadership distracted
• Basic Training Soldiers recovered live round from earlier exercise
• Soldiers did not recognize live vs. dummy round
• Didn’t follow established procedures… Linking not allowed by Soldiers
Cardinal Principle

✓ Exposing the MINIMUM amount of personnel
✓ To the MINIMUM amount of explosives
✓ For the MINIMUM amount of time
DAC-USATCES Website

- DA/DDESB Policies
- Deployment Information
- Training/Course Information
- Explosives Safety Toolbox
- Explosives Safety Bulletins
- AmmoHelp
Explosives Safety Toolbox

✓ Web based on AKO
✓ Anyone with a .mil address can access
✓ 131 different files currently available
  ➢ Messages
  ➢ Checklists
  ➢ Publications
  ➢ Forms
  ➢ Templates
Explosives Safety Bulletin

- Published Quarterly
- Special Editions dedicated to specific areas
- Electronically distributed to approximately 6000 individuals
- Available online at our website
AMMOHELP – Response within 24 hours

- Centralized source ammunition technical information
- Web based (automated form) – www3.dac.army.mil
- Email – MCAL.DAC.AMMO.HELP@conus.army.mil
- Toll-free hotline – 1-877-668-2840
Defense Ammunition Center

Need Ammo or Explosives Safety Help:
Call on DAC because:

“DAC KNOWS AMMO”

WEB Site:  https://www3.dac.army.mil/ammohelp
EMAIL:  MCAL.DAC.AMMO.HELP@conus.army.mil
COMM PHONE:  1-877-688-2840

Questions?