DEPARTMENT OF DEFENSE
ARMS, AMMUNITION, AND EXPLOSIVES
TRAINING AND CERTIFICATION ASSESSMENT

REPORT LG601T3

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LMI
GOVERNMENT CONSULTING

JANUARY 2007

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Executive Summary

In pursuing our nation's defense objectives, and in light of the events of September 11, 2001, the Department of Defense seeks to safely and securely manage, store, transport, and handle arms, ammunition, and explosives (AA&E) throughout its worldwide AA&E logistics chain. Long recognizing the many challenges associated with this goal, the DoD recently developed and published two important documents: its strategic plan for the distribution of AA&E[1] and its implementation plan for the distribution of AA&E.[2] Among the findings within these documents is the need to assess each military department's AA&E training program and the need to improve and standardize a certification process for the entire AA&E stakeholder community.[3]

In response to those two challenges, the Assistant Deputy Under Secretary of Defense for Transportation Policy (ADUSD[TP]) and the Defense Ammunition Center (DAC) initiated a joint effort that would improve the training and certification processes throughout the DoD. LMI was asked to assist in that effort.

BACKGROUND

In the mid-1990s, DoD launched an AA&E initiative that focused on the munitions community's training requirements. Known as the Joint Ordnance Commanders Munitions Training Subgroup (JOCMTSG), the purpose of the initiative was to analyze training requirements. Although the JOCMTSG emphasized maximizing the use of joint resources, each military service remains responsible for maintaining a highly trained and qualified military and civilian ammunition workforce.

[1] *Department of Defense Strategic Plan: Distribution of Arms, Ammunition and Explosives*, signed by the Deputy Secretary of Defense, May 2004. Prepared by LMI as LG301C1.

[2] *Department of Defense Implementation Plan: Distribution of Arms, Ammunition and Explosives*, signed by the Under Secretary of Defense (Acquisition, Technology, and Logistics), March 2005. Prepared by LMI as LG401C1.

[3] See Action Implementation Plan (AIP) 13 of the *DoD Implementation Plan for the Distribution of AA&E.*

Today, many organizations play a key role in the AA&E logistics chain. Furthermore, AA&E professionals working in many different disciplines require training. This report examines the strengths and shortcomings of the AA&E training programs and job function requirements of the DoD, the military services, and other federal agencies. It also addresses the adequacy of AA&E certification programs for the DoD's professional military and civilian personnel.

OUR APPROACH

We conducted our research to answer four basic questions:

1. What careers or job positions require AA&E training and certification?
2. What AA&E-related training courses are currently offered by the military services?
3. How adequate is that training in meeting DoD requirements?
4. How can the DoD AA&E training program be improved?

To answer these questions, we first identified and documented currently available training courses. Our research revealed numerous worldwide training venues that offer a vast array of general and specialized AA&E-related courses. Because there is such a large number of locations and courses, we chose to concentrate our research on the Defense Ammunition Center and the *primary* schools of each military service. After completing our field research, we assessed the adequacy of the training courses and the certification process. To ensure objectivity of our recommendations, we conducted interviews with subject matter experts from each military service.

OUR ASSESSMENT

Below are some general observations and our assessment of the courses and certifications programs.

- General observations
  - The DoD is the leader for government-sponsored AA&E training.
  - The DoD continues to expand its application of "joint" AA&E training.
  - Many DoD organizations are involved in AA&E training.
  - The DoD is increasingly using computer-based training.

- Classroom training may be more desirable for AA&E professionals.
- Private industry provides AA&E training.

- Course assessment
  - DoD courses are extensive.
  - There may be a need to strengthen training in the "handling" of AA&E.
  - There is a need to integrate "security" of AA&E into the curriculum.
  - There is no standard method or capability for assessing AA&E curricula across the DoD.

- Certification assessment
  - DoD-mandated certification requirements are addressed by the DAC and military service schools.
  - The military services certification programs are varied.
  - The certification requirements for DoD hazardous material (HAZMAT) employees may be confusing.
  - The DoD does not have a comprehensive certification program for AA&E personnel.

RECOMMENDATIONS

An enviable safety record and proven successful management of hazardous materials worldwide attest to the effectiveness of our military services' AA&E training programs for their uniformed personnel, civilian employees, and contractors. However, despite such success, our research revealed opportunities for improvement.

We recommend the DoD consider undertaking the following actions:

- Conduct a comprehensive survey to determine if students, supervisors, and associated personnel are satisfied with the training courses and the various certification programs currently offered. The survey should
  - include all functions throughout the AA&E logistics chain;
  - assess course content for consistency across the military services;
  - identify opportunities for joint training;

- determine the sufficiency of cross-training in functions, such as the "safe handling and storage" of AA&E;
- identify opportunities to integrate "security" into the curriculum;
- identify mandatory courses for all AA&E professionals; and
- assess the effectiveness of distance learning, computer-based training, and web-based training.

- Determine if there should be a single primary certification course for hazardous material training.
  - Determine if any of the organizations that currently teach hazardous material certification courses (e.g., School of Military Packaging, 345th Training Squadron, Navy Supply Corps School, and DAC) are interested in acquiring this mission for the DoD.
  - Determine what resources would be necessary for a single organization to provide hazardous material certification training to all personnel who require both initial certification and recertification.
  - If necessary, provide an organization with additional resources, to ensure AA&E personnel continue proper training and hazardous material certification.

- Identify and designate a lead organization to be responsible for AA&E training across the logistics chain. The lead organization should work with the military services to
  - assess the need for standardized training,
  - clearly distinguish between jobs that require specialized training and those that require certification,
  - develop an AA&E logistics chain certification program, and
  - conduct an end-to-end system review.

- Rely on classroom (face-to-face) and on-the-job training to ensure personnel are competent and fully knowledgeable before being exposed to "hands-on" working conditions in a hazardous environment.

- Develop criteria for computer-based and distance learning AA&E training. Judiciously apply web-based training and distance learning when appropriate.

- Capitalize on the AA&E training and certification capabilities of commercial organizations and other government agencies.

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Acknowledgments

Several organizations provided valuable information that contributed to preparation of this report.

- Center for Explosive Ordnance Disposal and Diving, Panama City, FL
- Center for Sea-Air-Land and Special Warfare Combatant Crewmember, San Diego, CA
- Center for Seabees and Facilities Engineering, Port Hueneme, CA
- Center for Security Forces, Norfolk, VA
- Defense Ammunition Center, McAlester, OK
- Defense Security Service, Washington, DC
- Department of Homeland Security, Washington, DC
- Naval Ordnance Safety and Security Activity, Indian Head, MD
- U.S. Coast Guard, Washington, DC
- U.S. Marine Corps, Quantico, VA

Chapter 1
Introduction

In pursuing our nation's defense objectives and in light of the events of September 11, 2001, the Department of Defense seeks to safely and securely manage, store, transport, and handle Arms, Ammunition and Explosives (AA&E) throughout its worldwide AA&E logistics chain. Long recognizing the many challenges associated with this goal, the DoD recently developed and published two major documents: its strategic plan for the distribution of AA&E[1] and its implementation plan for the distribution of AA&E.[2] Among the findings within in these documents is the need to assess each military department's AA&E training program and improve and standardize a certification process for the entire AA&E stakeholder community.[3]

In response to these two findings, the Assistant Deputy Under Secretary of Defense for Transportation Policy (ADUSD[TP]) and the Defense Ammunition Center (DAC) initiated a joint effort that would improve the training and certification processes throughout the DoD. LMI was asked to assist in that effort.

BACKGROUND

In the mid-1990s, the DoD launched an AA&E initiative that focused on the munitions community's training requirements. Known as the Joint Ordnance Commanders Munitions Training Subgroup (JOCMTSG), the purpose of the initiative was to analyze training requirements and revise DoD 5160.65M, *Single Manager for Conventional Ammunition* (SMCA): *Implementing Joint Conventional Ammunition Policies and Procedures*.[4] Upon its completion, the revised manual reflected that both formal and on-the-job training are necessary. It also stressed that

- structured training and job certification should be at the internship, mid-level, and advanced levels;

[1] *Department of Defense Strategic Plan: Distribution of Arms, Ammunition and Explosives*, signed by the Deputy Secretary of Defense, May 2004. Prepared by LMI as LG301C1.

[2] *Department of Defense Implementation Plan: Distribution of Arms, Ammunition and Explosives*, signed by the Under Secretary of Defense (Acquisition, Technology, and Logistics), March 2005. Prepared by LMI as LG401C1.

[3] See action implementation plan (AIP) 13 of the *DoD Implementation Plan for the Distribution of AA&E.*

[4] Assistant Secretary of Defense (Production and Logistics), DoD 5160.65M, *Single Manger for Conventional Ammunition: Implementing Joint Conventional Ammunition Policies and Procedures*, April 1989.

- periodic recertification training should be designed and applied to ensure the employment of no less than fully competent personnel;
- maximum use should be made of existing ammunition training and career management programs; and
- duplication of resources should be eliminated as much as possible, and the use of existing resources should be maximized among the military services.

Although the JOCMTSG emphasized maximizing the use of joint resources, each military service remains responsible for maintaining a highly trained and qualified military and civilian ammunition workforce.

Today, many organizations play an important role in the AA&E logistics chain. Furthermore, AA&E professionals working in many different disciplines require AA&E training. This report looks at the strengths and shortcomings of the AA&E training programs and job function requirements of the DoD, the military services, and other federal agencies. It also addresses the adequacy of DoD AA&E certification programs for its professional military and civilian personnel.

OUR APPROACH

We conducted our research to answer four basic questions:

1. What careers or job positions require AA&E training and certification?
2. What AA&E-related training courses are currently offered by the military services?
3. How adequate is that training in meeting DoD requirements?
4. How can the DoD AA&E training program be improved?

To answer these questions, we first identified and documented currently available training courses that are required of and available to personnel working in an AA&E environment. As described in the implementation plan for the distribution of AA&E, we identified courses that address the handling, transportation, storage, or use of AA&E items that present a potential safety or security risk for the general population. We did not include courses that teach procedures on how to maintain, secure, handle, or fire a specific arm or weapon system. Our research revealed the existence of several worldwide training venues that offer a vast array of general and specialized AA&E-related courses.

In an initial search for AA&E training, we found more than 1,000 courses taught at all levels, from school houses to flight lines. Due to the high number of loca-

tions and courses, we chose to concentrate our research on the Defense Ammunition Center and the primary schools of each military service.[5]

After completing our field research, we assessed the adequacy of the training courses and the certification process. To ensure objectivity of our recommendations, we interviewed subject matter experts within each military service. We also located and interviewed points of contact at federal organizations (such as the Defense Security Service, the U.S. Coast Guard, and the Department of Homeland Security) that were likely to require AA&E-related training and with whom the DoD AA&E community could leverage and share training programs.

REPORT ORGANIZATION

In the remainder of this report, we document our review and assessment of DoD's AA&E training courses and certification requirements in the following four chapters:

- Chapter 2 describes the career programs for civilian and military professionals.
- Chapter 3 describes the AA&E-related certification programs.
- Chapter 4 identifies the primary AA&E schools.
- Chapter 5 documents our assessment and provides recommendations to improve the training and certification processes.

Detailed information pertaining to AA&E training and certification is provided in the appendixes.

- Appendix A, *Civilian Job Series*
- Appendix B, *Air Force Certifications*
- Appendix C, *Army Certifications*
- Appendix D, *Navy and Marine Corps Certifications*
- Appendix E, *Training Contact Information*
- Appendix F, *Worldwide AA&E Training Locations*
- Appendix G, *Defense Ammunition School Training Matrix*
- Appendix H, *Air Force Training Matrices*

[5] We present the Navy and Marine Corps together because their training requirements are managed jointly by the Naval Ordnance Safety and Security Activity.

- Appendix I, *Army Training Matrix*
- Appendix J, *Navy Course and Marine Corps Training Matrices*
- Appendix K, *Abbreviations*.

Chapter 2
AA&E Careers

In this chapter, we first describe how each military service manages its civilian and military AA&E professionals' careers, and present examples of job positions requiring AA&E training.

The military services train in a joint environment whenever possible, principally at the DAC; however, even with an emphasis on "jointness," each service is ultimately responsible for implementing directives and centrally managing its own personnel.[1] That responsibility contributes to differing career management and training philosophies among the military services, and contributes to each of service specifying their own minimum training requirements for eventual AA&E-related certification.

Although training requirements are often similar, each service's training program exhibits unique characteristics and qualities. Generally, such uniqueness is attributable to the types of AA&E and the operating environments peculiar to a military service. For example, the Air Force pursues a structured, centrally managed career program for its personnel; the Marine Corps relies on its field commanders, who are located at the place of duty, to determine what training is necessary for mission accomplishment. Furthermore, each military service may provide unique training to its civilian and military personnel to meet specific mission requirements.

As noted in Chapter 1, training requirements can extend to many disciplines, such as those related to acquiring, receiving, storing, moving, handling, disposing, and maintaining AA&E.[2] To illustrate the breadth and variety of positions that may require AA&E training, we present in Appendix A the job series for federal civilian personnel who *could* work in an AA&E environment. The positions range from "safety technicians" to "packaging and processing" professionals. These types of civilian positions also apply to military personnel in similar positions.

[1] U.S. Code, Title 10, *Armed Forces*.

[2] As an example of how broadly "AA&E" career fields can be defined, we note two Navy professions. The first is the Navy Sea-Air-Land (SEALS). The SEALS have a training program to learn how to safely handle and detonate explosives. The second is the Seabees "blasting and quarry" personnel. Although these Navy professions are outside the scope of this report, we mention them to show how broadly "AA&E" career-fields and training can be defined.

AIR FORCE CAREERS

In the following sections, we provide an overview of careers programs for Air Force AA&E specialists.

Civilians

The Air Force manages civilians working in munitions management positions as "logisticians." In general, the Air Force has very few civilians managing and operating munitions at the retail level; of those that do, most have extensive munitions backgrounds, often from previous military service or careers.[3]

Military

The Air Force formally manages the careers of uniformed munitions specialists through a "skill level" program prescribed in a Career Field Education and Training Plan (CFETP). The CFETP identifies mandatory training and certification requirements for each career field. Each career field (also known as an Air Force Specialty Code [AFSC]) has its own CFETP. Furthermore, the CFETP contains information that career field functional managers, commanders, supervisors, trainers, and the technical training centers use to plan, develop, manage, and conduct a robust career field training program.[4]

Although each military service employs a unique system to identify job specialties for its uniformed personnel, the Air Force employs a system of AFSCs that use a combination of letters and numbers.[5]

Examples of AFSCs for Air Force munitions airmen are listed in Table 2-1.

Table 2-1. Air Force Specialty Codes for Munitions Airmen

Position	AFSC
Aircraft maintenance officer	21AX
Munitions and missile maintenance officers	21MX
Munitions systems apprentice	2W0X1
Aircraft armament systems apprentice	2W1X1
Explosives ordnance disposal personnel	3E8X1

[3] Chapter 15, *SMCA Ammunition Training and Career Program Management.*

[4] CFETP 21AX, Aircraft Maintenance Officer, 1 June 2006.

[5] http://en.wikipedia.org/wiki/Military_Occupational_Specialty.

ARMY CAREERS

In the following sections, we provide an overview of career programs for Army AA&E specialists.

Civilians

Each Army installation or activity is responsible for developing a program of instruction to ensure civilian employees, military personnel, and contractors are familiar with AA&E-related operations.

The Army offers two principal career paths for civilians working with munitions. They are the Ammunition Management (AM) career program and the Quality Assurance Specialist (Ammunition Surveillance) (QASAS) career program. The two programs have been designated to fulfill many of the other military services' civilian career program needs for munitions professionals.

- The Army's AM career program includes positions in various civil service job series that require professional knowledge of Class V materiel (e.g., conventional ammunition, missiles, and chemical ammunition and explosives).
- The Army's QASAS career program includes positions responsible for analyzing and determining the quality and condition of stockpiled and stored ammunition, as well as ensuring all ammunition operations are conducted in compliance with strict explosives safety requirements.

Military

The Army classifies jobs by military occupation specialty (MOS). The Army has separate MOS systems for its enlisted personnel, warrant officers, and commissioned officers.

Most of the Army's enlisted AA&E professionals are members of the Army's Ordnance Battalion.[6] Examples of MOS codes for enlisted soldiers that require AA&E training are listed in Table 2-2.

[6] http://en.wikipedia.org/wiki/List_of_United_States_Army_MOS.

Table 2-2. MOS Codes for Army Enlisted Soldiers

Position	MOS
Multiple launch rocket system repairer	27M
Patriot system repairer	27X
Missile systems maintenance chief	27Z
Small arms/artillery repairer	45B
Armament repairer	45K
Ammunition specialist	55B
Aircraft armament/missile systems repairer	68J
AH-64 armament/electrical systems repairer	68X
AH-64D armament/electrical/avionics systems repairer	68Y
Transportation management coordinator	88N
Ammunition specialist	89B
Explosive ordnance disposal specialist	89D

The MOS codes for warrant officers are very similar to enlisted soldiers, except they begin with three digits before the first letter. The MOS codes for commissioned officers are structured differently, but look very similar to the enlisted MOS in that they also begin with two digits before the first letter.

Examples of MOS codes for warrant and commissioned officers are listed in Table 2-3.

Table 2-3. MOS Codes for Army Warrant and Commissioned Officers

Position	MOS
Ordnance officer	91A
Ammunition technician (warrant officer)	890A
Armament systems maintenance technician (warrant officer)	913A
Senior automotive maintenance/senior ordnance logistics officer (warrant officer)	915E

NAVY AND MARINE CORPS CAREERS

In the following sections we present an overview of career programs for Navy and Marine Corps AA&E specialists.

The Department of Navy (DoN) has the challenge of training AA&E personnel for two distinctive ammunition environments: ashore and afloat. Moreover, the DoN possesses and employs unique ordnance, such as torpedoes, missiles, underwater mines, and shipboard countermeasures. Training related to these unique munitions is not easily integrated with other joint DoD AA&E training efforts.

Navy Civilians

Ashore AA&E-related operations largely involve pier logistics and are usually conducted by DoN civilians. The Navy manages its civilian personnel through specific requirements built into position descriptions and individual training plans.

Marine Corps Civilians

The Marine Corps manages its civilian ordnance personnel under the guidance of the Department of Navy. As such, Marine Corps civilians working with AA&E follow the same career paths as their Navy counterparts.

Navy Military

The Navy uses a system of naval ratings and "designators," called Navy Officer Billet Classification (NOBC), to manage the careers of commissioned officers. An NOBC is similar to a Marine Corps MOS, and is based on a combination of experience and education.

For officers, ammunition careers fall within the Ammunition and Explosives Group NOBC, numbered 6000–6099. Examples of NOBCs for officers who require AA&E training are listed in Table 2-4.

Table 2-4. Naval Officer Billet Classification

Position	Position
Cargo handling officer	1215
Transportation logistics officer	1272
Ammunition material officer	6083
Surface munitions project officer	6090
Armament proof officer	6305
Weapons maintenance officer	6704
Weapons procurement officer	6708
Weapons material officer	6715
Weapons systems inspection and survey officer	6936
Weapons and ammunition inspection/safety officer	6938
Weapons logistics officer	6942
Weapons and ammunition production officer	6968
Weapons safety officer	6990
Gunnery/ordnance officer	9202
Explosive ordnance disposal officer	9230
Ordnance clearance officer	9231
Special weapons assembly officer	9297
Ship salvage operations officer	9375

For enlisted sailors, the Navy organizes its job series by Navy enlisted classification (NEC) codes. Afloat operations normally involve specialized military enlisted personnel. Examples of NECs for enlisted sailors who require AA&E training are listed in Table 2-5.

Table 2-5. Navy Enlisted Classification Codes

Position	NEC
Air transportation specialist	2821
Explosive ordnance disposal mobile unit apprentice	5309
Explosive ordnance disposal apprentice diver	5330
Explosive ordnance disposal technician	5332
Explosive ordnance disposal technician/parachutist	5333
Senior explosive ordnance disposal technician	5334
Senior explosive ordnance disposal technician/parachutist	5335
Master explosive ordnance disposal technician	5336
Master explosive ordnance disposal technician/parachutist	5337
Ordnance clearance diver	5339
Master diver	5341
Diver first class	5342
Diver second class	5343
Blasting and quarry	5708
Advanced underwater construction technician	BU-5931
Basic underwater construction technician	BU-5932
Safety inspector	6021
Air-launched weapons technician	6801
Flight crew ordnanceman	8271
Safety technician	9571
Hazardous material control and management technician	9595

Marine Corps Military

Much like the Army, the Marine Corps classifies jobs by MOS. The Marine Corps system is different, however, in that the Marine Corps does not distinguish between enlisted and officer MOS. Rather, the Marine Corps classifies all jobs by general occupational “fields” that are numbered from 01 to 99. Specific ranks and jobs fall under each field.

Examples of MOS codes for the Marine Corps are listed in Table 2-6.

Table 2-6. MOS Codes for Marine Corps

Position	MOS
Senior ground ordnance weapons chief	2181
Ammunition technician	2311
Explosive ordnance disposal technician	2336
Ammunition officer	2340
Aviation ordnance officer	6502
Aircraft ordnance technician	6531
Aviation ordnance systems technician	6541
Aviation ordnance chief	6591

CONCLUSION

Although this chapter highlights the career management programs of each military service and their unique systems to identify military job specialties, all services work together to ensure professionals are qualified to safely handle AA&E in a joint environment.

Chapter 3
AA&E Certifications

In this chapter, we discuss the AA&E certification program established by each military service and briefly address additional certification programs sponsored by the DoD and Department of Transportation (DoT).

Although personnel who have received AA&E training may be technically qualified and have the knowledge to work safely with and around explosives, it could be argued that such training is insufficient if those individuals do not have the proper attributes to recognize the inherent hazards involved and the importance of following established rules for handling explosives. As such, in many instances the training is geared to certifying individuals as professional AA&E personnel. Among other benefits, training associated with a certification program strengthens and underwrites the training by[1]

- promoting and maintaining a high level of safety awareness;
- increasing technical knowledge and operational efficiency;
- ensuring personnel routinely employ safe work practices; and
- meeting management, supervisory, and regulatory obligations.

AIR FORCE CERTIFICATION

The Air Force's munitions certification program is centrally managed at the headquarters level. The Department of the Air Force publishes a series of documents called Career Field Education and Training Plan (CFETP). The Air Force's certification process reflects the training, education, and duty experience gained by the officer through a formal orientation program. The Air Force associates various "skill-levels" of progression—basic, senior, and master—with three levels of certification.

The skill levels and certification requirements are described in the CFETP for each career field. Squadron commanders certify each officer's progression by documenting task completion on the individual's Training Completion Certification sheet in the CFETP.

An initial step toward basic certification for all ammunition airmen is to attend 9 weeks of technical training at Sheppard Air Force Base. Ammunition airmen

[1] Ammunition and Explosives Certification Training, AMTEC Corporation, Safety and Training Division, 500 Wynn Drive, Suite 314, Huntsville, AL 35816-3429.

must then satisfy various rank and time-in-grade criteria to be certified at each progressive skill level.

Additional information regarding Air Force certifications, including a sample Training Completion Certification sheet, is in Appendix B.

ARMY CERTIFICATION

The Army's certification program is centrally managed by the Army Material Command (AMC) and described in AMC Regulation 350-4.[2] The certification authority is either the installation commander or a locally appointed certification board. The regulation specifies that certification is required for all government civilian and contractor personnel who perform operations or services involving ammunition, explosives, explosive components, guided missiles, and toxic chemicals at all AMC installations and activities. "Hazards Familiarization Training" is required for certification and mandatory for all personnel assigned to ammunition missions or functions.

Additional information regarding Army certifications is in Appendix C.

NAVY AND MARINE CORPS CERTIFICATIONS

Below is an overview of the Navy and Marine Corps' certification programs. Additional information regarding Navy and Marine Corps certifications is in Appendix D.

Navy Certification

The Navy's explosives safety training program for ashore is described in the Ordnance Pamphlet (OP)-05, *Ammunition and Explosives Safety Ashore*.[3] The Navy's explosives safety training program for afloat is described NAVSEA OP-04, *Ammunition and Explosives Safety Afloat*. The two documents contain specific training requirements for all DoN munitions personnel.

The documents state that military personnel should attempt to complete all applicable explosives safety training prior to reporting to their designated duty station. In addition, they specify that civilians and contractors shall have the applicable explosives safety training. Contractor employees in support of DoN contracts are authorized to attend DAC classes. Training requirements for both Navy and Marine Corps activities' personnel, including contractors, are managed by the Naval Ordnance Safety and Security Activity.

[2] AMC Regulation 350-4, *Training and Certification Program for Personnel Working in Ammunition Operations*, 20 March 2000.

[3] Commander, Naval Sea Systems Command (NAVSEA) Ordnance Pamphlet (OP)-05, *Ammunition and Explosives Safety Ashore.* Volume 1, Appendix D, 1 June 2004.

Marine Corps Certification

The Marine Corps' AA&E certification program is decentralized. It is described in Marine Corps Order 8023.3A.[4] The certification program applies to both civilian and military personnel that include: aviation personnel who handle explosive devices, explosives ordnance disposal (EOD) personnel, military working dog handlers, contractors, and Marine Corps aviation squadrons embarked aboard U.S. naval vessels. The certification program does not include vehicle drivers whose only involvement with ammunition and explosives is during transportation—they must, however, possess an explosives driver's permit.

According to Marine Corps Order 8023.3A, "all personnel who account for, maintain, receive, and distribute AA&E in the performance of their duties must be *screened* by a certification board prior to performing operations." The certification board comprises local members from each unit or activity. The Marine Corps recognizes three types of certifications boards for

- aviation maintenance personnel,
- ammunition personnel, and
- EOD personnel.

In general, the certification boards certify experienced ordnance and explosives personnel based on their past training and experience. Board members interview individuals up for certification and review all available information relating to the individual's past training, performance, and experience. Personnel may be qualified in different categories, such as team member, team leader, individual, quality assurance, and safety observer.

Certifications last for the duration of a specific assignment, but no more than 180 days. Recertification is required if the assignment continues beyond that period.

OTHER TRAINING AND CERTIFICATION PROGRAMS

In addition to the military service–sponsored certification programs described above, there are DoD and DoT training and certification programs for AA&E professionals.

[4] Marine Corps Order 8023.3A, *Personnel Qualification and Certification Program for Class V Ammunition and Explosives*, 6 March, 2002.

DoD Convention for Safe Container Inspector

The management and control of intermodal containers is addressed in DoD 4500.9-R, *Defense Transportation Regulation* (DTR), Part VI, which states that an inspector must be qualified to certify that International Organization for Standardization (ISO) containers meet the standards set out by 49 Code of Federal Regulations (CFR) and Convention for Safe Container (CSC)/46 United States Code, 1503. Only certified DoD or contractor personnel inspect and re-inspect military and commercially owned ISO containers.

DoD personnel and contractors are certified once they successfully complete the Intermodal Dry Cargo Container/CSC Re-Inspection course. This course is taught by the DAC, and is offered as classroom, CD-ROM, or computer-based training. Moreover, DoD inspectors must be re-certified every 48 months.

An example of the CSC certification is presented as Figure 3-1.

Figure 3-1. CSC Certification Transmittal Form

FAX TRANSMITTAL FORM

Date: (Current Date)
Total Number of Pages to Include Cover Sheet: 2
Classification: Unclassified
TO: Ms. Virginia Brown PHONE: DSN 328-2435
ATTN: DD Forms 2282 FAX: DSN 328-3373

FROM:	Requestor's Name
LOCATION:	Requestor's Location
	ATTN: Address (Office Symbol, Room Number)
	Street/Bldg. Number, Room Number
	City/State/Zip
PHONE:	Requestor's commercial / DSN phone numbers

Ms. Brown:

I have completed the *AMMO-43 for Intermodal Dry Cargo Container / CSC Re-inspection Course* conducted by the U.S. Army Defense Ammunition Center and I am employed by the (Insert the name of the Organization that employs the requester) located at (Location of the requester) and I would like to request certification decals DD Form 2282.

I would appreciate your assistance in providing me with (state the number and year of DD Form 2282 required). Thank you in advance for your assistance in this matter.

(Requestor's Name and Title).

My FedEx address is:
The Requestor's Name
ATTN: (Office Symbol)
Street/Bldg. Number, Room Number
City/State/Zip
Telephone DSN:_____ COMM: _____

Hazardous Material Employees

In general, hazardous material (HAZMAT) employees are not required to be certified; however, they *must* receive familiarization and safety training. Training requirements for HAZMAT employees are described in 49 CFR, Section 172.704, and the DTR, Part II. According to 49 CFR, hazardous material employee training must include general awareness and familiarization training; function-specific training; safety training; and security awareness training. The DAC's HAZMAT Familiarization and Safety in Transportation course satisfies the CFR requirement for familiarization and safety training.

Although not all HAZMAT employees require certification, those who sign shipping papers must be certified. The DTR states that all personnel signing certifications statements on shipping papers must be appointed, in writing, by the activity, unit commander, or designated representative. Personnel must successfully complete an initial 80 hour certification course from one of the schools listed below:

1. School of Military Packaging Technology
2. 345th Training Squadron
3. Navy Supply Corps School
4. Defense Ammunition Center.

Moreover, *all* hazardous material personnel must receive refresher training every 24 months.

Transportation

DoD drivers are not required to be certified, but like HAZMAT employees, they do require special training. Training requirements for DoD drivers are described in 49 CFR and the DTR, Part II. DoD civilians, military personnel, and contractors transporting regulated hazardous material over public highways must receive training on proper vehicle operation, securing of loads (blocking and bracing), placarding requirements, vehicle route restrictions, required documentation, actions in the event of an incident or accident, and emergency notification procedures. The DAC offers courses that meet these requirements. In addition, drivers must meet licensing requirements and the requirements of DoDR 4500.36-R, *Management, Acquisition, and Use of Motor Vehicles,* when using DoD motor vehicles. The driver must present at least one form of identification that contains the driver's photograph.

Chapter 4
AA&E Schools

As noted in Chapter 1, there are numerous AA&E courses taught at schools throughout the defense establishment. In this chapter, we provide an overview of the current training environment, the military services' professional development commands, and the primary AA&E schools. Contact information for these schools is in Appendix E.

We conclude this chapter with a brief discussion about other schools the DoD could work with to enhance or supplement its current training curricula.

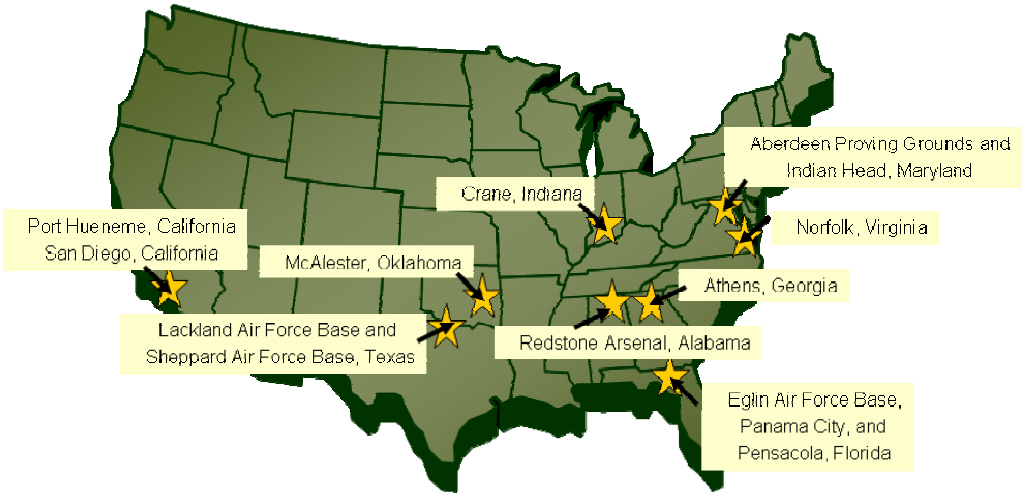
TODAY'S TRAINING ENVIRONMENT

Today's schools offer four basic training methods: classroom instruction, distance learning, on-site mobile training, and off-campus instructional facilities.

Classroom Instruction

The traditional training method is classroom instruction. Figure 4-1 is a map of the primary DoD and military service AA&E schoolhouse training locations.

Figure 4-1. DoD AA&E Training Locations



In addition to these training sites, our research revealed that a considerable amount of AA&E-related training occurs at military locations worldwide. Much of that training occurs at the unit and field levels. Appendix F depicts the world-wide training locations for each service.

Distance Learning

In addition to classroom instruction, many schools also offer courses through "distance learning." Distance learning can be offered in several ways, including via

- the World Wide Web
- CD-ROM, and
- video teleconference.

In most cases, distance learning allows students to learn and test independently on a computer. Distance learning also allows professionals to receive training in a self-paced environment. With recent improvements in technology, and considering the cost of travel and lodging, the military services are moving toward distance learning as a preferred training option.

On-Site Mobile Training

In addition to classroom instruction, schools may offer mobile on-site training, in which the instructor or training team travels to wherever a group of students is located. The Air Force, for example, utilizes many mobile on-site training teams.

Off-Campus Instruction Facilities

The military service schools also have partnered with other organizations to offer classroom instruction to DoD professionals and contractors. For example, the DAC partnered with Training and Consulting, Incorporated (TCI), to teach Ammo 65, DoD Contractor Explosives Safety Standards, in Reno, Nevada, and Nashville, Tennessee. In addition, the DAC partnered with the Oklahoma State University (OSU). The OSU has established a computer lab at their facilities for web-based training.

PROFESSIONAL DEVELOPMENT ORGANIZATIONS

The military services are responsible for maintaining a highly qualified military and civilian ammunition workforce. Each military service has an organization that is responsible for the development and education of its professionals. These organizations develop the training requirements for their personnel. We describe each briefly below.

- *Air Force*. The Air Force's Air Education and Training Command (AETC), established in 1993, is headquartered at Randolph Air Force Base, Texas. The AETC provides training in numerous disciplines, including AA&E

training, at various sites and multiple levels to both Air Force military and civilian personnel.[1]

- *Army*. The Army's DAC is responsible for professional development in the ammunition career field. The DAC manages two Department of the Army career programs for ammunition expertise: the Quality Assurance Specialists (Ammunition Surveillance) career program through its Ammunition Civilian Career Management Office, and the Ammunition Managers career program through its Ammunition Management Career Program Office.[2]

- *Navy and Marine Corps*

  - The Naval Education and Training Command, located at Pensacola, Florida, directs the education and training of Navy and Marine Corps personnel, both officers and enlisted personnel. It does not provide training, but it oversees the commands and activities that do provide courses.

  - The Naval Ordnance Safety and Security Activity (NOSSA), a field activity of Naval Sea Systems Command (NAVSEA), is located at Indian Head, Maryland. NOSSA manages all aspects of the Department of the Navy Explosives Safety Program. It has two explosives safety support offices in San Diego, California, and Norfolk, Virginia. These offices provide explosives safety technical support assessments and training services to all Navy and Marine Corps commands.[3]

  - The Marine Corps Systems Command in Quantico, Virginia, has the program management lead for ammunition within the Marine Corps. The program manager for ammunition works with the NOSSA safety training officer to ensure Marine Corps AA&E training requirements are met.

  - The Marine Corps Training and Education Command (TECOM), also located at Quantico, Virginia, is responsible for the professional development and education of Marines and civilians. It ensures Marines receive the proper training to meet the challenges of present and future operational environments. TECOM works with the Marine Corps Systems Command.

PRIMARY DOD SCHOOLS

In this section, we provide an overview of each of the primary DoD schools. These schools provide training on-site, through distance learning, and through mobile training at various locations worldwide. Detailed matrices regarding these

[1] http://www.af.mil/sites/sitecmd.asp?id=11.
[2] http://www.dac.army.mil/mission.html.
[3] http://www.nossa.navsea.navy.mil.

AA&E courses for each military service are at Appendixes G–J. In these matrices, we present detailed information on 165 courses. Table 4-1 lists the number of AA&E courses included in the matrices.

Table 4-1. Number of Courses Taught at Primary DoD Schools

School	Number of courses
Air Force Combat Ammunition Center	3
Center for Naval Aviation Technical Training	36
Center for Naval Explosive Ordnance Disposal and Diving	13
Defense Ammunition Center	52
Lackland AFB, Texas	3
Marine Corps Detachment Redstone Arsenal	4
Naval Civil Engineer Corps Officers School	3
Naval Supply Corps School	2
Sheppard AFB, Texas	32
U.S. Army Ordnance Munitions and Electronics Maintenance School	17
Total	165

The Defense Ammunition Center

The Army's Defense Ammunition Center is the principal DoD AA&E school.[4] Previously located in Savanna, Illinois, the DAC moved to its current location in McAlester, Oklahoma in 1998. The DAC's mission is to provide timely ammunition training as well as training on demilitarization technology, explosives safety, engineering, and career management.[5]

The DAC provides AA&E training worldwide. Students include military, civilian, and contractor personnel from all the military services, the U.S. Coast Guard (USCG), and other federal agencies, as well as military personnel from a variety of foreign nations. In its effort to support all the military services, the DAC has developed numerous training courses that are designed specifically for Navy and Marine Corps personnel.

Most of the training provided by the DAC supports regulatory or DoD certification requirements. Moreover, the American Council on Education (ACE) determined that some DAC training courses are college-level instruction and recommends credit be awarded for completion of those courses.

[4] The DAC is a subordinate element of the U.S. Army Joint Munitions Command (JMC). In turn, the JMC is the largest subordinate command of the U.S. Army Material Command.

[5] http://www.dac.army.mil.

Air Force Schools

In this section, we introduce the primary Air Force training organizations and schools.

344TH TRAINING SQUADRON, LACKLAND AFB

For many years, Lackland Air Force Base has hosted new Air Force enlistees and provided them with basic military training. Lackland Air Force Base also offers courses in munitions maintenance and the transportation of hazardous materials. The 344th Training Squadron provides enlisted undergraduates with technical air-crew training.

345TH TRAINING SQUADRON, LACKLAND AFB

The 345th Training Squadron provides technical training to more than 15,000 active duty, Reserve and Guard officer, enlisted, and civilian personnel annually in 75 basic and advanced contracting, acquisition, logistics plans, recruiting, supply, and transportation courses. The 345th Training Squadron offers courses for hazardous materials transportation certification.

363RD TRAINING SQUADRON, SHEPPARD AFB

Most of the Air Force's AA&E courses are taught at Sheppard Air Force Base. The 363rd Training Squadron trains armament, munitions, and nuclear weapons military professionals. The 363rd Training Squadron's Aircraft Armament Apprentice School has incorporated state-of-the-art technologies into its classrooms that allow for "virtual reality" and interactive computer training.[6]

AIR FORCE COMBAT AMMUNITION CENTER

The 9th Munitions Squadron at Beale Air Force Base, California, administers the Air Force Combat Ammunition Center (AFCOMAC) training program. The Air Force developed the AFCOMAC to provide the Air Force munitions community with advanced training in mass combat ammunition planning and production techniques. It uses a combination of in-depth classroom instruction and an intensive 4-day practical exercise called Iron Flag. Iron Flag uses live munitions in a realistic, bare-base scenario.

[6] http://www.military-training-technology.com/article.cfm?DocID=271.

Army School

The U.S. Army Ordnance Munitions and Electronics Maintenance School (USAOMMCS) is located at Redstone Arsenal, Alabama. The 59th Ordnance Brigade was assigned management of the USAOMMCS in 2002. The mission of the USAOMMCS and the 59th Ordnance Brigade is to ensure the combat commander is supported during Army, joint, and combined operations.

The school provides training to ordnance officers, warrant officers, soldiers, and civilians, ensuring they are technically competent in the munitions management; explosive ordnance disposal; electronic and missile maintenance; and test, measurement, and diagnostic equipment areas.

Navy and Marine Corps Schools

The Naval Ordnance Safety and Security Activity, a field activity of NAVSEA, is located in Indian Head, Maryland. NOSSA manages all aspects of the DoN Explosives Safety Program. Its two explosives safety support offices provide explosives safety technical support assessments and training services to all Navy and Marine Corps commands worldwide.[7]

Center for Naval Aviation Technical Training

The Center for Naval Aviation Technical Training (CNATT) was established in 2003.[8] Its mission is to provide the aviation technical training necessary to meet validated fleet requirements for sailors and marines.

Center for Explosive Ordnance Disposal and Diving

The Center for Explosive Ordnance Disposal and Diving (CENEODDIVE), established in 2003, is located in Panama City, Florida. It offers courses in diving and explosive ordnance disposal to the fleet.[9] The school house is the Naval School EOD (NAVSCHOLEOD).

NAVSCHOLEOD teaches highly specialized skills to ensure its student can conduct explosive procedures in both permissive and non-permissive environments, on land and at sea. The curriculum is reviewed every 2 years and has the flexibility to be modified as new technologies or the enemy's tactics, techniques, and procedures (TTPs) are identified. All NAVSCHOLEOD courses are mandatory to meet the needs of the fleet to support the Global War on Terror.

After successfully completing training at NAVSCHOLEOD, each student is awarded Explosive Driver and Basic Demolition Operator certifications. These

[7] http://www.nossa.navsea.navy.mil.

[8] Center for Naval Aviation Technical Training is also abbreviated CENAVNTECHTRA in course catalogs.

[9] https://www.npdc.navy.mil/ceneoddive.

two certifications make that sailor immediately employable and useful at his first command. The sailor may earn additional EOD certifications as he progresses through his career.

Civilian Engineer Corps Officers School

The Civilian Engineer Corps Officers School (CECOS) falls under the auspices of the DoN, and provides training to both military and civilians. The school's mission is to provide instruction in all facets of facilities planning, acquisition, public works, Seabee readiness, and environmental management. In 1947, the school moved from Rhode Island to its current location in Port Hueneme, California.

Marine Corps Detachment Ordnance Missile and Electronic Maintenance School

The Ordnance Missile and Electronic Maintenance School (OMEM) is a detachment of the U.S. Marine Corps Training and Education Command. The Marine Corps deactivated its Ordnance School at Quantico, Virginia, in 1972, and transferred its trainees to the current school location at the Army Missile Munitions Center and School at Redstone Arsenal.

The ammunition section became part of the Munitions Training Department, within the Conventional Ammunition Division. A Marine Element was established to train and track Marine Ammunition Students. OMEM offers four AA&E courses to Marine Corps personnel.

Naval Supply Corps School

The Naval Supply Corps School (NSCS) is located in Athens, Georgia. It supports the professional development of all DoD military and civilian members and international personnel through logistics, administrative, and media training.[10] For example, Air Force ammunition specialists are trained in transporting hazardous materials at the NSCS.

Other DoD Schools

In addition to the DAC and military service schools, other DoD agencies offer training to ammunition specialists. The two primary agencies are the School of Military Packaging and Technology (SMPT) and the Defense Security Service (DSS).

School of Military Packaging and Technology

SMPT was assigned to the U.S. Army Ordnance Center and School at Aberdeen Proving Ground, Maryland, in 1997. It provides basic, specialized, and advanced

[10] https://www.npdc.navy.mil/css/nscs.

training to develop the hazardous materials packaging for transportation skills of DoD personnel.[11]

DEFENSE SECURITY SERVICE

The DSS provides security education and training to DoD security program professionals, industrial security representatives, defense contractors, employees of other federal agencies, and selected foreign government personnel. Its professional staff of instructors, technology professionals, and education support personnel combine expertise to create, collaborate, and facilitate delivery of quality education and training across the security disciplines.[12]

The DSS offers one AA&E-related course. The AA&E Reference Research Exercise is provided as web training to DSS industrial security representatives.[13] The exercise introduces industrial security representatives to the regulations and requirements for AA&E contractor facilities that fall under DSS oversight. Students must correctly answer 75 percent of the questions posed to receive a written certificate of successful completion.

SCHOOLS EXTERNAL TO DOD

Federal

Our research revealed that federally provided AA&E training outside DoD is offered by both the Department of Homeland Security (DHS) and USCG. Although the training curricula of both agencies are extensive, they concentrate their efforts on preparing for and responding to the use of weapons of mass destruction (WMD). Accordingly, they do not offer specific AA&E training the DoD could leverage to enhance its AA&E training capabilities.

Nonetheless, the DHS established a training and federal intergency data exchange group. The DoD may be able to participate in and obtain pertinent information from this group, which reviews member courses for consistency, avoidance of unnecessary duplication, and use of the most up-to-date information protocols.[14]

To attain these objectives, the DHS works with the following agencies and federal offices:

- Centers for Disease Control and Prevention
- Department of Energy

[11] http://smpt.apg.army.mil/HISTORY/HISTORY.HTM.

[12] http://www.dss.mil/training/index.htm.

[13] Industrial security representatives are DSS employees who conduct compliance checks/ inspections at industrial facilities that handle and/or store classified material.

[14] http://www/ojp.usdoj.gov/odp/training.htm.

- Department of Justice
- Department of Health and Human Services
- Emergency Management Institute
- Environmental Protection Agency
- Federal Bureau of Investigation
- Federal Emergency Management Agency
- Federal Law Enforcement Training Center
- U.S. Fire Administration's National Fire Academy.

Our research of government training organizations also revealed that most agencies have virtual campuses and offer employees online training courses.

Private

Several commercial organizations have developed, implemented, and offer aggressive, effective ammunition and explosives training and certification programs. One such company is AMTEC Corporation, a small business headquartered in Huntsville, Alabama.[15]

AMTEC offers test and evaluation support, systems engineering, technology applications, training, manufacturing, and fabrication services for government and commercial customers. In regard to training, AMTEC offers a variety of ammunition and explosives certification programs as well as safety refresher training that is geared to maintaining safety awareness and controlling complacency. According to one brochure, AMTEC offers

> practical training tailored to training requirements and missions, flexible schedules and arrangements at or near the client's facility or a location arranged by AMTEC, training that meets all regulatory requirements, sophisticated training aids, experienced instructors; and reasonable prices.

[15] www.amtec-corp.com.

Chapter 5
Assessment and Recommendations

In the preceding chapters, we provided an overview of the defense AA&E training environment. Clearly, that environment is remarkable from two standpoints: its scope and diversity, and the laudable efforts of the military services and DoD to infuse sensitive and critical training with "jointness" and standardization.

We conclude our report by providing some general observations about DoD AA&E training, an assessment of the courses offered and the associated certification requirements, and several recommendations we believe can further enhance the DoD AA&E training curricula and improve the safety, security, effectiveness, and efficiency of DoD's AA&E logistics chain.

GENERAL OBSERVATIONS

Below are our general observations of DoD AA&E training.

1. *The DoD is the leader for government-sponsored AA&E training.*

   Although we investigated AA&E training associated with several other federal organizations, such as the Department of Homeland Security, Defense Security Service, and U.S. Coast Guard, we found DoD is the premier provider for such training.

   a. DHS focuses on "first responder" training to prepare for an attack involving a weapon of mass destruction.

   b. DSS trains its investigators and inspectors of commercial facilities who are authorized to handle classified material and documents

   c. The USCG tailors its training to accommodate its unique port and waterway missions.

   Most AA&E training of personnel associated with other government agencies that exceed their internal resources is accommodated by DoD at its various schools and venues.

2. *The DoD continues to expand its application of "joint" AA&E training.*

   Throughout the many defense organizations providing AA&E training, there is a noticeable effort to become more joint (that is, to provide standardized training applicable to personnel of more than a single military service). As such, today's DoD schools offer more "universally" accepted

standard training that appeals and is applicable to a broad-based student population. Among the many examples of interservice cooperation, Navy instructors teach some AA&E-related courses at Sheppard Air Force Base.

In addition to pursuing their joint objectives, defense schools are attempting to stay current with industry standards and are making improvements to course curricula as necessary.

3. *Many DoD organizations are involved in AA&E training*.

   We found that many defense organizations are involved in AA&E training, including

   a. the professional development and training commands of each military service;

   b. the functional lead offices that determine training requirements (e.g., NOSSA and Marine Corps Systems Command);

   c. the schools themselves, each with additional worldwide training locations; and

   d. many individual installations that train their personnel locally.

   The number and variety of defense organizations involved with AA&E training makes the identification of who is responsible for different aspects of AA&E training challenging. Many of these organizations do not routinely interact with one another, leaving the AA&E organizational training structure fragmented.

4. *The DoD is increasingly using computer-based training*.

   Distance learning and web-based training are receiving increasing emphasis throughout the defense knowledge environment for AA&E instruction as well as for most other types of training. Computer-based training is fully warranted in many cases, because it is more economical and less resource intensive than hands-on and classroom face-to-face training. For example, in light of budgetary constraints, the Air Force is looking for ways to certify personnel without mandating in-residence courses. Several ammunition courses are offered electronically through the Defense Automated Visual Information System/Defense Instructional Technology Information System (DAVIS/DITIS).

   In addition to traditional distance learning techniques, the DoD has a new initiative, the Shareable Content Object Reference Manual (SCORM),[1] to apply advanced distributed learning concepts, whereby information is pre-packaged in tailored bundles for distribution to organizations needing fast and direct

[1] http://www.adlnet.gov/scorm/index.cfm.

access to specific knowledge. Currently, such tailored information is available via the Internet to warfighters, emergency response teams, and others who need information quickly under varying operational situations. The information provided is reusable as well as interoperable among organizations.

5. *Classroom training may be more desirable for AA&E professionals.*

   The widespread application of computer-based training to AA&E students may not be as desirable as classroom training. Caution may be warranted in applying "high-tech" methods without restrictions to AA&E training. As noted in DoD 5160.65M:

   > Ammunition is a unique and complex commodity. Due to its inherent hazards and criticality to national defense, personnel required to maintain and manage the DoD stockpile must be highly knowledgeable of ammunition, to include its characteristics, properties, safety requirements, and operating environments. Extensive training, both formal and on-the-job (OJT) is necessary to fully master the technical aspects of ammunition and the associated logistics functions of supply, transportation, production, maintenance, and quality.

   DoD 5160.65M also addresses the need for structured explosives training and job certification and recertification to ensure only the most competent personnel are employed.

   In addition, a private lab and training provider, the Lawrence Livermore National Laboratory's (LLNL),[2] emphasizes OJT and classroom training in its training manual:

   > …on-the-job training is the key to training because it is a highly effective method of imparting skills and knowledge…[3]

   The *Environmental Safety and Health Manual* goes on to describe the

   > required classroom training and on-the-job training…for each explosives-aware person, explosives support person, or explosives handler…

   The views expressed in DoD 5160.65M, supplemented by the emphasis on OJT and classroom training in LLNL's manual, suggest that web-based training and distance learning may not always be ideal AA&E training vehicles in light of the combination of the commodity's "inherent hazards," the stated need for both structured formal training and OJT, and job certification and recertification requirements.

[2] The LLNL, managed by the University of California since 1952 for the National Nuclear Security Administration of the U.S. Department of Energy, is a premier applied science laboratory.

[3] *Lawrence Livermore National Laboratory Environmental Safety and Health Manual*, Volume II: "Health and Safety: Controls and Hazards;" Part 17, *Explosives/Firearms*; Document 17.7, "Explosives Training and Qualification Program," approved 25 November 2002 and editorially revised 10 October 2005.

6. *Private industry provides AA&E training.*

   Following a review of LLNL and (as noted in Chapter 4 of this report) AMTEC, we believe some government agencies and selected commercial organizations have done considerable work in developing AA&E-related training and certification programs. Selected contents of those programs, as well as their facilities and training capabilities, may serve to supplement or support DoD's AA&E training and certification efforts.

COURSE ASSESSMENT

Below are our findings and assessment of current DoD AA&E courses.

1. *The DoD courses are extensive*.

   The DoD's AA&E training community is large, complex, and inter-related. We noted many AA&E training courses taught at all levels of the DoD. The numerous courses offered by defense schools tend to be comprehensive, thorough, and varied. Most military service–provided training is taught in residence over a timeframe of about 2 weeks to more than 3 months.

2. *There may be a need to strengthen training in the "handling" of AA&E*.

   Although all the people we interviewed expressed satisfaction with the training programs their organizations offer, many also voiced a concern that much of the training fails to emphasize the safe "handling" of explosives. Although DoD certification programs and training courses emphasize the safe transport of AA&E, instruction is limited when it comes to activities such as receiving, segregating, and storing (i.e., "handling") AA&E.

3. *AA&E "security" needs to be integrated into the curriculum*.

   Prior to September 11, 2001, AA&E training and regulations primarily emphasized safety. Today, security of AA&E as it is handled and moved through the logistics pipeline is a major national concern; but, AA&E security has not been integrated sufficiently into the AA&E training curriculum. Rather, security concerns are included in courses about weapons of mass destruction that are taught by the DHS and military service schools. These schools are separate from AA&E training schools, and their courses do not address security of conventional AA&E in their curriculum.

4. *There is no standard methodology or capability to assess AA&E curricula across the DoD*.

   Our research led us to conclude that the DoD cannot currently measure its overall success in training and certifying AA&E professionals. Today, a multitude of courses available at training institutions worldwide offer many opportunities for in-depth AA&E training. The schools and training

commands survey students as they complete instruction, and they keep data on attendance and pass/fail rates, but they do not necessarily know whether the teaching methods used or what the student takes away from the training are making the handling of AA&E safer, more secure, effective, and efficient for the DoD.

Furthermore, it is difficult for DoD to ensure consistent training across the department and to identify and address weaknesses or inconsistencies in training. It is also difficult to identify instructional duplications in similar courses offered by different organizations.

CERTIFICATION PROGRAMS ASSESSMENT

1. *DoD-mandated certification requirements are addressed by the DAC and other military service schools*.

   DoD-mandated certification requirements for hazardous material handlers, hazardous material shippers, and CSC inspectors are described in the CFRs and DTR. Each certification requires specific initial training and refresher training. These training requirements are satisfied by the DAC and the military services.

   Although each school currently has comparable courses to get personnel certified, the Navy and Marine Corps may stop providing hazardous material certification training. Moreover, the Air Force may scale back its hazardous material certification training and focus its curriculum on "airlift." The DoD should plan for such a scale-back. If the military service schools eliminate this training, 10,000 students annually will still require initial certification or recertification.

2. *The military services' certification programs are varied.*

   Although each military service has its own career progression and certification programs, none of these programs necessarily conflicts with any other. However, there are philosophical differences in how each program is managed and variations in the courses required by each military service. For example:

   a. Air Force requirements for certification are mandated at the headquarters level;

   b. Navy requirements for certification are determined by each naval operational command; and

   c. Army and Marine Corps requirements for certification are determined locally by certification boards.

3. *The certification requirements for DoD HAZMAT employees may be confusing*.

   There may be confusion with the term "certification" for HAZMAT employees. According to the 49 CFR, HAZMAT employees must receive familiarization and safety training every 2 years; they do not need to be certified. "Certification" is required, however, for HAZMAT employees who certify shipments and ISO container inspectors. This distinction confuses some HAZMAT employees. For example, many DoD drivers believe they need to be certified to drive a truck carrying HAZMAT and unnecessarily take the 2 week HAZMAT certification course.

4. *The DoD does not have a comprehensive certification program for AA&E personnel*.

   Today, there is no single comprehensive AA&E certification program that ensures all personnel who handle or oversee AA&E in one segment of the end-to-end logistics chain comply with the rules, requirements, and regulations of the other segments of the chain. Nor is there evidence of sufficient collaboration on business process changes and improvements or exchange of information between the various segments of the AA&E logistics chain. Rather, there are specialized training programs for personnel working within and supporting individual segments. As a result, many individuals do not take the highly detailed courses that are provided because those skills are not central to their specific job function.

   In addition, a review of the courses revealed they do not emphasize the business processes and higher decision-making issues embedded in the AA&E logistics chain. In short, the training and learning environment for the AA&E stakeholder community appears to lack the standardization (e.g., who should be trained; when should they be trained; how frequently should they be retrained) found in some other public and private sector specialties.

CONCLUSIONS

An enviable safety record and proven successful management of hazardous material worldwide attest to the effectiveness of our military services' AA&E training programs for their uniformed personnel, civilian employees, and contractors. Despite such success, our research revealed opportunities for improvement. The current AA&E training environment is very diverse, and at times fragmented. No single organization is responsible for bringing together all the AA&E curricula, school houses, and professional development and certification programs. Although the DoD is not exercising any significant degree of central oversight and management, it may wish to establish such a goal for greater efficiency, effectiveness, safety, and professionalism of its AA&E personnel.

RECOMMENDATIONS

In support of our findings, assessment, and conclusions regarding AA&E training and certification requirements and capabilities, we recommend the DoD consider undertaking the following actions.

1. Conduct a comprehensive in-depth survey to determine if students, supervisors, and associated personnel are satisfied with the training courses and the various certification programs currently offered. At a minimum, the survey should

    a. include all functions throughout the AA&E logistics chain;

    b. assess course content for consistency across the military services;

    c. identify opportunities for joint training;

    d. determine the sufficiency of cross-training in functions such as the "safe and secure handling and storage" of AA&E;

    e. identify opportunities to integrate "security" into the curriculum;

    f. identify mandatory courses for all AA&E professionals; and

    g. assess the effectiveness of distance learning, computer-based training, and web-based training for personnel supporting AA&E-related missions.

2. Determine if there should be a single primary certification course for hazardous material training.

    a. Determine if any of the organizations that currently teach hazardous material certification courses (e.g., School of Military Packaging, 345th Training Squadron, Navy Supply Corps School, and DAC) are interested in acquiring this mission for the DoD.

    b. Determine what resources would be necessary for a single organization to provide hazardous material certification training to all personnel who require both initial certification and recertification.

    c. If necessary, provide an organization with additional resources to ensure AA&E personnel continue proper training and hazardous material certification.

3. Identify and designate a lead organization to be responsible for AA&E training across the logistics chain. The lead organization should work with the military services to

    a. assess the need for standardized training,

    b. clearly distinguish between jobs that require specialized training and those that require certification,

    c. develop an AA&E logistics chain certification program, and

    d. conduct an end-to-end system review.

4. Rely principally on classroom (face-to-face) and on-the-job training, to ensure personnel are competent and fully knowledgeable before being exposed to “hands-on” working conditions in a hazardous environment.

5. Develop criteria for computer-based and distance learning AA&E training. Judiciously apply web-based training and distance learning when appropriate.

6. Capitalize on SCORM and the AA&E training and certification capabilities of commercial organizations and other government agencies.

Appendix A
Civilian Job Series

Below is a list of General Schedule (GS) job series for federal civilian employees who may work in an AA&E environment. Civilians in these job series may require AA&E training and certification. Below this list of GS job series is a list of Wage Grade job families related to AA&E.

GENERAL SCHEDULE JOB SERIES

GS-000	Miscellaneous Occupational Group
GS-018	Safety and Occupational Health Management
GS-019	Safety Technician
GS-028	Environmental Protection Specialist
GS-029	Environmental Protection Assistant
GS-080	Security Administrator
GS-081	Fire Protection and Prevention
GS-084	Nuclear Material Courier
GS-085	Security Guard
GS-300	General Administration, Clerical, and Office Services Group
GS-301	Miscellaneous Administration and Program
GS-340	Program Management
GS-346	Logistics Management Series
GS-600	Medical, Hospital, Dental, and Public Health Group
GS-698	Environmental Health Technician
GS-800	Engineering and Architecture Group
GS-801	General Engineering Series
GS-802	Engineering Technician
GS-803	Safety Engineering
GS-804	Fire Protection Engineering
GS-806	Materials Engineering
GS-810	Civil Engineering

GS-850	Electrical Engineering
GS-856	Electronics Technician
GS-895	Industrial Engineering Technician
GS-896	Industrial Engineering
GS-1100	Business and Industry Group
GS-1101	General Business and Industry
GS-1102	Contracting Series
GS-1103	Industrial Property Management
GS-1104	Property Disposal
GS-1105	Purchasing
GS-1106	Procurement Clerical and Assistance
GS-1107	Property Disposal Clerical and Technician
GS-1150	Industrial Specialist
GS-1152	Production Control
GS-1600	Equipment, Facilities, and Services Group
GS-1601	General Facilities and Equipment
GS-1640	Facility Management
GS-1670	Equipment Specialist
GS-1800	Investigation Group
GS-1801	General Inspection, Investigation, and Compliance
GS-1802	Compliance Inspection Support
GS-1810	General Investigation
GS-1900	Quality Assurance, Inspection, and Grading Group
GS-1910	Quality Assurance
GS-2000	Supply Group
GS-2001	General Supply
GS-2003	Supply Program Management
GS-2005	Supply Clerical and Technician
GS-2010	Inventory Management
GS-2030	Distribution Facilities and Storage Management
GS-2032	Packaging
GS-2050	Supply and Cataloging

GS-2100	Transportation Group
GS-2101	Transportation Specialist
GS-2121	Railroad Safety
GS-2123	Motor Carrier Safety
GS-2130	Traffic Management
GS-2134	Shipment Clerical and Assistance
GS-2144	Cargo Scheduling
GS-2150	Transportation Operations
GS-2151	Dispatching
GS-2161	Marine Cargo

WAGE GRADE JOB FAMILIES

4800	General Equipment and Maintenance Family
4848	Mechanical Parts Repairing
5400	Industrial Equipment Operating Family
5439	Testing Equipment Operating
5700	Transportation/Mobile Equipment Operation Family
5703	Motor Vehicle Operator
5704	Fork Lift Operating
5705	Tractor Operating
5725	Crane Operating
5736	Braking, Switching and Conducting
5767	Locomotive Engineering
6500	Ammunition, Explosives and Toxic Materials Work Family
6502	Explosives Operating
6505	Munitions Destroying
6511	Missile/Toxic Materials Handling
6517	Explosive Test Operating
6600	Armament Work Family
6605	Artillery Repairing
6606	Artillery Testing
6610	Small Arms Repairing

6641	Ordnance Equipment Mechanic
6652	Aircraft Ordnance Systems Mechanic
6656	Special Weapons Systems Mechanic
6900	Warehousing and Stock Handling Family
6902	Lumber Handling
6907	Materials Handler
6910	Materials Expediting
6912	Materials Examining and Identifying
7000	Packing and Processing Family
7002	Packing
7004	Preservation Packaging
7006	Preservation Servicing

Appendix B
Air Force Certifications

This appendix provides additional information on Air Force certifications.

AIR FORCE CERTIFICATION FORM

Below is an example of a "training completed for certification" form[1] used by the Air Force for munitions and missile maintenance officers in Air Force Specialty Code (AFSC) 21MX. The Air Force has similar forms for other AFSCs.

Figure B-1. Sample Air Force Certification Form

Training Completion Certification Signatures

The following table certifies which Munitions, Missile and Space Maintenance Officer training courses have been completed during initial skills training and the certification levels attained by

_____, _____
(Rank) (Last, First, Middle Initial)

Course	Certification
Initial Skills Training MOFC and CMOC or MMOC (Circle Courses Completed)	Insert Squadron Commanders Signature Block
21M3 Certification	Insert Squadron Commander's Signature Block
Senior Certification	Insert Squadron Commander's Signature Block
Master Certification	Insert Squadron Commander's Signature Block

OPR: 360 TRS/TRR (Mr. Michael White), DSN 736-2996
Approved by: Lt Col Keith Jackson, USAF/A4MW

[1] *AFSC 21MX Munitions, Missile and Space Maintenance Officer Career Field Education and Training Plan*, 14 July 2006.

EXAMPLE CERTIFICATION PROGRAMS

Below are examples of "certification" programs for Air Force professionals. As described in Chapter 3, the Air Force's certification program measures skill level progression of airmen.

Aircraft Maintenance and Munitions and Missile Maintenance Officers

The aircraft maintenance officers and munitions and missile maintenance officers are required to receive initial and follow-on training through a program at Sheppard Air Force Base, Texas. Their training program, called Aircraft and Munitions Maintenance Officer Courses (AMMOC), comprises eight different courses. The courses are listed in Table B-1.

Table B-1. Aircraft and Munitions Maintenance Officer Courses

Number	Course number	Course title
1	J3OBR21A1 0A1A	The Aircraft Maintenance Officer Course
2	J3OBR21A1 0A2A	Aircraft Maintenance Officer Course Accelerated—Company Grade
3	J3OBR21A1 0B2A	Aircraft Maintenance Officer Course Accelerated—Field Grade
4	J3OAR21XX 0A1A	The Maintenance Officer Intermediate Course
5	J3OQR21M1 0F1A	Munitions and Missile Maintenance Officer Fundamentals Course
6	J3OBR21M1 0M1A	Conventional Munitions Maintenance Officer Course
7	J3OLR21M1 0M1A	Conventional Munitions Maintenance Officer Bridge
8	J3OLR21M1C 0N1A	Nuclear Maintenance Officer Course

Aircraft maintenance officers and munitions and missile maintenance officers must complete all eight courses.

Munitions Systems Apprentice

The Munitions Systems Apprentice Program is for the Air Force's enlisted personnel. This career field has one of the broadest missions in the Air Force and offers the widest range of experience and training to its members. Munitions systems apprentices are responsible for the maintenance, storage, testing, delivery, and disposal of unguided non-nuclear munitions, nuclear weapons, and non-hazardous unserviceable munitions.[2] All munitions systems apprentices must take the following course, which is taught at Sheppard Air Force Base:

Course Number: 293ABR2W031

Course Title: Munitions Systems Apprentice.

[2] http://www.airforce.com/careers/job.php?catg_id=2&sub_catg_id=3&af_job_id=189.

Aircraft Armament Systems Apprentice

The Aircraft Armament Systems Apprentice Program is for the Air Force's enlisted personnel who are interested in a career in mechanics. The apprentices check and electrically test aircraft weapon release and gun systems; repair, inspect, and assemble test equipment, broken wiring, connectors, and electrical components; operate different types of equipment and gauges; and test and evaluate new and prototype weapons and weapons systems.[3] All aircraft armament systems apprentices are required to take the courses listed in Table B-2, which are taught at Sheppard Air Force Base.

Table B-2. Aircraft Armament Systems Apprentice Courses

Number	Course number	Course title
1	293ABR2W131C	Aircraft Armament Systems Apprentice A-10
2	293ABR2W131E	Aircraft Armament Systems Apprentice F-15
3	293ABR2W131F	Aircraft Armament Systems Apprentice F-16
4	293ABR2W131K	Aircraft Armament Systems Apprentice B-52
5	293ABR2W131L	Aircraft Armament Systems Apprentice B1B
6	293ABR2W131Z	Aircraft Armament Systems Apprentice

Air Force Explosives Ordnance Disposal Personnel

Air Force explosives ordnance disposal (EOD) personnel receive professional development from the Air Force Civil Engineer Support Agency, EOD Division. The EOD Division has overall responsibility for managing EOD readiness forces; preparing Air Force EOD instructions; and determining manpower, training, and equipment requirements that enable EOD forces to meet current and projected missions.[4] All Air Force EOD personnel are required to take the two courses listed in Table B-3.

Table B-3. Air Force Explosives Ordnance Disposal Courses

Number	Course number	Course title	School location
1	295ABN3E831	Explosive Ordnance Disposal	Sheppard Air Force Base, TX
2	313AQR3E831	Explosive Ordnance Disposal Preliminary	Lackland Air Force Base, TX

[3] http://airforce.com/careers/job.php?catg_id=2&sub_catg_id=1&af_job_id=136.

[4] http://www.afcesa.af.mil/about.asp.

Appendix C
Army Certifications

This appendix provides additional information on Army certifications.

According to the Army Material Command Regulation 350-4, two types of military and civilian ammunition handlers require training:

- Conventional ammunition personnel
- Toxic chemical agent and munitions personnel.

The minimum training requirements for specific jobs within these two categories of ammunition handlers are described below. All courses are taught by the Defense Ammunition Center.

CONVENTIONAL AMMUNITION PERSONNEL

At a minimum, personnel involved in conventional ammunition, explosives, explosive components not associated with Toxic Chemical Munitions, and guided missiles, must complete the training presented in the section below. The section is organized alphabetically by job.

Ammunition Handler

The ammunition handler may be a warehouseman, explosives truck, or forklift operator. The ammunition handler is required to take the following course:

Course number: Ammo 45

Course title: Introduction to Ammunition.

Ammunition Operations Supervisor and Planner

The ammunition operations supervisor and planner are required to take the courses listed in Table C-1.

Table C-1. Ammunition Operations Supervisor and Planner Courses

Number	Course number	Course title
1	Ammo 45	Introduction to Ammunition
2	Ammo 54	Risk Management and Preparation of Standing Operating Procedures for Ammunition and Explosive Operations
3	Ammo 56	Risk Management for Ammunition Operations
4	Ammo 60	Technical Ammunition

Note: Only planners are required to take Ammo 54 and 56. At the time of publication, however, the DAC was not offering Ammo 56.

Ammunition Surveillance Inspector

The ammunition surveillance inspector must take courses if he is assigned to provide on-site surveillance in lieu of a quality assurance specialist (ammunition surveillance) (QASAS), or if the inspector provides essentially day-long coverage with only periodic support from a "roving" QASAS. Inspectors should be trained in all areas to which they may be assigned without regard to QASAS support.

The ammunition surveillance inspector is strongly encouraged or required take the courses listed in Table C-2.

Table C-2. Ammunition Surveillance Inspector Courses

Number	Course number	Course title
1	Ammo 4	Ammunition Demilitarization
2	Ammo 12	Ammunition Storage
3	Ammo 28	Electrical Explosives Safety for Naval Facilities[a]
4	Ammo 31	Environmental Considerations for Ammunition Personnel
5	Ammo 43 or Ammo 43-DL	Intermodal Dry Cargo Container (CSC)/CSC Reinspection[b]
6	Ammo 45	Introduction to Ammunition
7	Ammo 48	Loading and Inspection of Motor Vehicles[c]
8	Ammo 54	Risk Management and Preparation of Standing Operating Procedures for Ammunition and Explosive Operations
9	Ammo 56	Risk Management for Ammunition Operations[d]
10	Ammo 60	Technical Ammunition
11	Ammo 62	Technical Transportation of Hazardous Materials
12	Ammo 63-DL	U.S. Army Explosives Safety

[a] At the time of publication, the DAC offered Ammo 28, Electrical Explosives Safety for Naval Facilities. The AMC-R 350-4 specified a course called Ammo 28, Electrical Explosives Safety for Army Facilities.

[b] Ammo 43 must be completed every 4 years to retain certification status. Personnel successfully completing this course may be certified as DoD CSC Inspectors, as specified in the *Defense Transportation Regulation,* (DoD 4500.9-R, Volume VI).

[c] At the time of publication, the DAC was not offering Ammo 48.

[d] At the time of publication, the DAC was not offering Ammo 56.

Contractor Explosives Operator, Planner, Supervisor

Contractor explosives operators, planners, and supervisors are required to take the following course:

Course number: Ammo 34

Course title: Explosives Safety for Defense Contractors.

At the time of publication, the DAC was not offering Ammo 34. However, the DAC does offer AMMO-65, DoD Contractor Explosives Safety Standards.

Demilitarization Operator

The demilitarization operator is required to take the courses listed in Table C-3.

Table C-3. Demilitarization Operator Courses

Number	Course number	Course title
1	Ammo 4	Ammunition Demilitarization
2	Ammo 45	Introduction to Ammunition

Demilitarization Planner, Supervisor, Inspector

Demilitarization planners, supervisors, and inspectors are required to take the courses listed in Table C-4 below.

Table C-4. Demilitarization Planner, Supervisor, and Inspector Courses

Number	Course number	Course title
1	Ammo 4	Ammunition Demilitarization
2	Ammo 31	Environmental Considerations for Ammunition Personnel
3	Ammo 45	Introduction to Ammunition
4	Ammo 54	Risk Management and Preparation of Standing Operating Procedures for Ammunition and Explosive Operations
5	Ammo 56	Risk Management for Ammunition Operations[a]
6	Ammo 60	Technical Ammunition

[a] Only planners are required to take Ammo 54 and 56. However, at the time of publication, the DAC was not offering Ammo 56.

Explosives Safety Director, Officer

The explosives safety director is responsible for overseeing operations at facilities and enforces all safety regulations. The explosives safety director is required to take the courses listed in Table C-5.

Table C-5. Explosives Safety Director Courses

Number	Course number	Course title
1	Ammo 45	Introduction to Ammunition
2	Ammo 63-DL	U.S. Army Explosives Safety

Explosives Safety Specialist

The explosives safety specialist is responsible for monitoring chemical programs and operations on site. The explosives safety specialist is required to take the courses listed in Table C-6.

Table C-6. Explosives Safety Specialist Courses

Number	Course number	Course title
1	Ammo 45	Introduction to Ammunition
2	Ammo 60	Technical Ammunition
3	Ammo 63-DL	U.S. Army Explosives Safety

Hazardous Material Document Preparation Personnel

Hazardous material document preparation personnel are required to take the courses listed in Table C-7 below.

Table C-7. Hazardous Material Document Preparation Personnel Courses

Number	Course number	Course title
1	Ammo 45	Introduction to Ammunition
2	Ammo 62	Technical Transportation of Hazardous Materials[a]

[a] Ammo 62 must be completed every 2 years by personnel who certify hazardous materials, as specified in the DoD 4500.9-R, *Defense Transportation Regulation.*

Inspector of Dry Cargo Container

Inspectors of dry cargo containers are required to take the courses listed in Table C-8.

Table C-8. Inspector of Dry Cargo Containers Courses

Number	Course number	Course title
1	Ammo 43 or Ammo 43-DL	Intermodal Dry Cargo Container (CSC)/CSC Reinspection[a]
2	Ammo 45	Introduction to Ammunition

[a] Ammo 43 must be completed every 4 years to retain certification status. Personnel successfully completing this course may be certified as DoD CSC Inspectors, as specified in the DoD 4500.9-R Volume VI, *Defense Transportation Regulation.*

Inspector of Explosive Laden Vehicles

The inspector of explosive laden vehicles is responsible for signing the DD626 and DD836. The inspector of explosive laden vehicles is required to take the courses listed in Table C-9.

Table C-9. Inspector of Explosive Laden Vehicles Courses

Number	Course number	Course title
1	Ammo 45	Introduction to Ammunition
2	Ammo 48	Loading and Inspection of Motor Vehicles[a]
3	Ammo 62	Technical Transportation of Hazardous Materials[b]

[a] At the time of publication, the DAC was not offering Ammo 48.

[b] Ammo 62 must be completed every 2 years by personnel who certify hazardous materials, as specified in the DoD 4500.9-R, *Defense Transportation Regulation.*

Maintenance and Dissassy, Demilitarization Operator

The maintenance and dissassy, demilitarization operator is required to take the following course:

Course number: Ammo 45

Course title: Introduction to Ammunition.

Maintenance and Dissassy, Demilitarization Planner, Supervisor, Inspector

Maintenance and dissassy, demilitarization planners, supervisors, and inspectors are required to take the courses listed in Table C-10.

Table C-10. Maintenance and Dissassy; Demilitarization Planner, Supervisor, and Inspector Courses

Number	Course number	Course title
1	Ammo 45	Introduction to Ammunition
2	Ammo 53	Ammunition Production and Maintenance
3	Ammo 54	Risk Management and Preparation of Standing Operating Procedures for Ammunition and Explosive Operations
4	Ammo 56	Risk Management for Ammunition Operations[a]
5	Ammo 60	Technical Ammunition

[a] Only planners are required to take Ammo 54 and 56; however, at the time of publication, the DAC was not offering Ammo 56.

Senior Ammunition Operations Manager

The senior ammunition operations manager could be the director of missions. The senior ammunition operations manager is required to take the courses listed in Table C-11.

Table C-11. Senior Ammunition Operations Manager Courses

Number	Course number	Course title
1	Ammo 45	Introduction to Ammunition
2	Ammo 60	Technical Ammunition

Storage Operations Supervisor, Planner, and Inspector

The storage operations supervisors, planners, and inspectors are required to take the courses listed in Table C-12.

Table C-12. Storage Operations Supervisor, Planner, and Inspector Courses

Number	Course number	Course title
1	Ammo 12	Ammunition Storage
2	Ammo 45	Introduction to Ammunition
3	Ammo 54	Risk Management and Preparation of Standing Operating Procedures for Ammunition and Explosive Operations
4	Ammo 56	Risk Management for Ammunition Operations[a]

[a] Only planners are required to take Ammo 54 and 56; however, at the time of publication, the DAC was not offering Ammo 56.

Transportation Supervisor, Planner, Inspector

Transportation supervisors, planners, and inspectors are required to take the courses listed in Table C-13.

Table C-13. Transportation Supervisor, Planner, and Inspector Courses

Number	Course number	Course title
1	Ammo 45	Introduction to Ammunition
2	Ammo 54	Risk Management and Preparation of Standing Operating Procedures for Ammunition and Explosive Operations
3	Ammo 56	Risk Management for Ammunition Operations[a]
4	Ammo 60	Technical Ammunition
5	Ammo 62	Technical Transportation of Hazardous Materials[b]

[a] Only planners are required to take Ammo 54 and 56; however, at the time of publication, the DAC was not offering Ammo 56.

[b] Ammo 62 must be completed every 2 years by personnel who certify hazardous materials, as specified in DoD 4500.9-R, *Defense Transportation Regulation.*

TOXIC CHEMICAL AGENT AND MUNITIONS PERSONNEL

At a minimum, personnel involved in toxic chemical agent and munitions operations must complete the training presented in the section below. The section is organized alphabetically by job.[1]

Ammunition Surveillance Inspector

The ammunition surveillance inspector is required to take the courses listed in Table C-14.

Table C-14. Ammunition Surveillance Inspector Courses

Number	Course number	Course title
1	Ammo 24	Chemical Surety Material Refresher[a]
2	Ammo 28	Electrical Explosives Safety for Naval Facilities[b]
3	Ammo 45 or Ammo 45-DL	Introduction to Ammunition
4	Ammo 54	Risk Management and Preparation of Standing Operating Procedures for Ammunition and Explosive Operations
5	Ammo 55	Quality Assurance for Toxic Chemical Munitions
6	Ammo 61	Technical Chemical Surety Material
7	Ammo 63-DL	U.S. Army Explosives Safety

[1] Personnel are required to take Ammo 45 only if explosives or explosively configured toxic chemical munitions are stored at the activity. Ammo 28, Ammo 45, and Ammo 63 are required as annual refresher training, but may be waived for any year that Ammo 24 or Ammo 61 is taken.

Table C-14. Ammunition Surveillance Inspector Courses

Number	Course number	Course title

[a] Ammo 24 is required only after a lapse in chemical activities greater than 4 years. At the time of publication, the DAC was not offering Ammo 24.

[b] At the time of publication, the DAC offered a course called Ammo 28, Electrical Explosives Safety for Naval Facilities. The AMC-R 350-4 specified a course called Ammo 28, Electrical Explosives Safety for Army Facilities.

Chemical Monitoring

Chemical monitoring professionals are required to take the following course:

Course number: Ammo 45 or Ammo 45-DL

Course title: Introduction to Ammunition.

Chemical Operations Supervisor, Planner

Chemical operations supervisors and planners are required to take the courses listed in Table C-15.

Table C-15. Chemical Operations Supervisor and Planner Courses

Number	Course number	Course title
1	Ammo 19	Chemical Accident/Incident Response Assistance Operations
2	Ammo 24	Chemical Surety Material Refresher[a]
3	Ammo 45 or Ammo 45-DL	Introduction to Ammunition
4	Ammo 54	Risk Management and Preparation of Standing Operating Procedures for Ammunition and Explosive Operations
5	Ammo 56	Risk Management for Ammunition Operations[b]
6	Ammo 61	Technical Chemical Surety Material

[a] Ammo 24 is required only after a lapse in chemical activities greater than years. At the time of publication, the DAC was not offering Ammo 24.

[b] At the time of publication, the DAC was not offering Ammo 56.

Chemical Storage, Handling Operations

Chemical storage, handling operations personnel are required to take the courses listed in Table C-16.

Table C-16. Chemical Storage, Handling Operations Courses

Number	Course number	Course title
1	Ammo 45 or Ammo 45-DL	Introduction to Ammunition
2	Ammo 61	Technical Chemical Surety Material

Contracting Officer's Representative within a Chemical Demilitarization Facility

Training is required for contracting officer's representatives and staff with munitions processing oversight responsibilities within chemical demilitarization facilities. This does not include contractor and government operators. Contracting Officer's Representatives are required to take the courses listed in Table C-17.

Table C-17. Contracting Officers Representative Courses

Number	Course number	Course title
1	Ammo 24	Chemical Surety Material Refresher[a]
2	Ammo 45 or Ammo 45-DL	Introduction to Ammunition
3	Ammo 61	Technical Chemical Surety Material

[a] Ammo 24 is required only after a lapse in chemical activities greater than 4 years. At the time of publication, the DAC was not offering Ammo 24.

Environmental Specialist and Risk Management

Environmental specialist and risk management personnel are required to take the courses listed in Table C-18.

Table C-18. Risk Management Courses

Number	Course number	Course title
1	Ammo 45 or Ammo 45-DL	Introduction to Ammunition
2	Ammo 56	Risk Management for Ammunition Operations[a]

[a] At the time of publication, the DAC was not offering Ammo 56.

Safety Specialist

Safety specialists are required to take the courses listed in Table C-19.

Table C-19. Safety Specialist Courses

Number	Course number	Course title
1	Ammo 20	Chemical Agent Safety
2	Ammo 24	Chemical Surety Material Refresher[a]
3	Ammo 28	Electrical Explosives Safety for Naval Facilities[b]
4	Ammo 45 or Ammo 45-DL	Introduction to Ammunition
5	Ammo 63-DL	U.S. Army Explosives Safety

[a] Ammo 24 is required only after a lapse in chemical activities greater than 4 years. At the time of publication, the DAC was not offering Ammo 24.

[b] At the time of publication, the DAC offered a course called Ammo 28, Electrical Explosives Safety for Naval Facilities. The AMC-R 350-4 specified a course called Ammo 28, Electrical Explosives Safety for Army Facilities.

Security

Security professionals are required to take the following course:

Course number: Ammo 45 or Ammo 45-DL

Course title: Introduction to Ammunition.

Senior Manager, Director

The senior manager and director are involved in or oversee chemical operations. The senior manager and director are required to take the courses listed in Table C-20.

Table C-20. Senior Manager, Director Courses

Number	Course number	Course title
1	Ammo 19	Chemical Accident/Incident Response Assistance Operations
2	Ammo 45 or Ammo 45-DL	Introduction to Ammunition

Surety Officer, Personnel Reliability Program Certifying Official

The surety officers and personnel reliability program certifying officials are required to take the courses listed in Table C-21.

Table C-21. Surety Officer, Personnel Reliability Program Certifying Official Courses

Number	Course number	Course title
1	Ammo 45 or Ammo 45-DL	Introduction to Ammunition
2	Ammo 59	Surety Management[a]

[a] At the time of publication, the DAC was not offering Ammo 59.

Appendix D
Navy and Marine Corps Certifications

This appendix provides additional information on Navy and Marine Corps certifications.

MARINE CORP CERTIFICATION FORM

Figure D-1 is an example of a "training completed for certification" form for Marine Corps AA&E professionals.

Figure D-1. Sample Marine Corps Certification Form

A&E CERTIFICATION FORMAT

CERTIFICATION LEVELS

TM - TEAM MEMBER TL - TEAM LEADER IND - INDIVIDUAL
QA - QUALITY ASSURANCE SO - SAFETY OBSERVER

WORK TASK CODES

1. STORAGE/STOWAGE
2. HANDLING
3. ASSEMBLY/DISASSEMBLY
4. LOAD/DOWNLOAD
5. TUBELOADING
6. ARM/DEARM
7. INSTALLATION/REMOVAL
8. AIRCRAFT RELEASE & CONTROL
9. GUN-JAM CLEARING
10. TRANSPORTATION
11. PNEUMATIC
12. PIER/WHARF OPERATIONS
13. SAFING

EXPLOSIVE FAMILY/DEVICE	WORK TASK CODE	CERT LEVEL	INDIVIDUAL SIGNATURE	CHAIRPERSON SIGNATURE	DATE CERTIFIED

ANNUAL AA&E SCREENING AND CERTIFICATION LEVELS ABOVE HAVE BEEN REVIEWED AS PER DATES AND SIGNATURES INDICATED BELOW.

INDIVIDUAL BOARD CHAIRPERSON

_____ _____
SIGNATURE DATE SIGNATURE DATE

_____ _____
SIGNATURE DATE SIGNATURE DATE

_____ _____
SIGNATURE DATE SIGNATURE DATE

COMMANDING OFFICER:_____
SIGNATURE (IF REQUIRED) DATE

NAME_____ RANK_____ SSN/MOS_____

ACTIVITY_____

EXAMPLE CERTIFICATION PROGRAMS

Below are examples of required training and certification programs for Navy and Marine Corps professionals. Other than the explosive ordnance disposal (EOD) certification program described first, the training requirements below are prescribed in NAVSEA OP 5, Volume I, Appendix D.

Explosive Ordnance Disposal Certification Program

Each student, upon successfully completing training at the Naval School Explosive Ordnance Disposal, earns an Explosives Driver and a Basic Demolition Operator certification. These two certifications, coupled the with the EOD basic curriculum, make sailors immediately employable and useful at their first command. All EOD and diving commands have similar missions, but with some small variations. Each command will provide further certifications through a qualification certification program, as required by the command's mission. These certifications are run by each command.

Commanding Officer in-Charge and Senior Civil Officials

The commanding officer in-charge and senior civil officials are required to take the following course:

Course number: Ammo 33

Course title: Explosives Safety and Environmental Risk Management

Ammo 33 is taught by the Defense Ammunition Center (DAC).

Crane Riggers Who Handle Ordnance

Crane riggers who handle ordnance are required to take the courses listed in Table D-1.

Table D-1. Crane Riggers Who Handle Ordnance Courses

Number	Course number	Course title	School
1	Ammo 18	Basics of Naval Explosives Hazard Control	DAC
2		Crane Rigging and Category 3 Crane Safety	Navy Crane Center

Explosives Driver

Explosives drivers are required to take the courses listed in Table D-2.

Table D-2. Explosives Driver Courses

Number	Course number	Course title	School
1	Ammo 18	Basics of Naval Explosives Hazard Control	DAC
2		Ammunition and Explosives Driver 12-hour Training Course	Local and CD-ROM

Explosives Material Handling Equipment Operator

Explosives material handling equipment (MHE) operators are required to take the courses listed in Table D-3.

Table D-3. MHE Operator Courses

Number	Course number	Course title	School
1	Ammo 18	Basics of Naval Explosives Hazard Control	DAC
2		Material Handling Equipment (MHE) Operator Course	On site

Explosives Safety Officer

The explosives safety officer (ESO) oversees facilities and enforces all safety requirements. The ESO is required to take the courses listed in Table D-4.

Table D-4. Explosives Safety Officer Courses

Number	Course number	Course title	School
1	Ammo 29	Electrical Explosives Safety for Naval Facilities	DAC
2	Ammo 36	Explosives Safety for Naval Facility Planning	DAC and Marine Corps Ground Ammunition School (Ordnance Managers Course) Redstone Arsenal, AL
3	Ammo 49	Naval Explosives Safety for Supervisors/Managers	DAC
4	Ammo 51	Naval Motor Vehicle and Railcar Course	DAC
5	Ammo 74	Explosives Safety Officer Orientation and Refresher	DAC
6		Munitions Rules Training	DAC

Explosives Safety Specialist

The explosives safety specialist is required to take the following course:

Course number: Ammo 49

Course title: Naval Explosives Safety for Supervisors/Managers

Ammo 49 is taught by the DAC.

Inspectors of Explosives-Laden Vehicles and Railcars Required to Sign Forms (DD 626 and NAVSEA 8023/3)

Inspectors of explosives-laden vehicles and railcars are required to take the courses listed in Table D-5.

Table D-5. Inspectors of Explosives-Laden Vehicles and Railcars Courses

Number	Course number	Course title	School
1	Ammo 18	Basics of Naval Explosives Hazard Control	DAC
2	Ammo 51	Naval Motor Vehicle and Railcar Course	DAC

Local Instructor

Local instructors are required to take the courses listed in Table D-6.

Table D-6. Local Instructor Courses

Number	Course number	Course title	School
1		MHE Operator Course	On site
2		Ammunition and Explosives Driver 12-hour Training Course	Local and CD-ROM
3		Munitions Rules Training	DAC
4	CNL-1-DC-AP-1	Instructional Delivery Continuum (IDC) Apprentice (Apprentice Trainer Course)	Distance learning at Navy Knowledge Online
5		Safety Course for Non-cab Operated Category 3 Crane (non-Rigging)	Navy Crane Center, Navy Knowledge On-line, and on site through train-the-trainer

Naval Ordnance Safety and Security Activity (NOSSA) Explosives Safety Inspectors

NOSSA explosives safety inspectors are required to take the courses listed in Table D-7.

Table D-7. NOSSA Explosives Safety Inspectors Courses

Number	Course number	Course title	School
1	Ammo 29	Electrical Explosives Safety for Naval Facilities	DAC
2	Ammo 36	Explosives Safety for Naval Facility Planning	DAC and Marine Corps Ground Ammunition School (Ordnance Managers Course) Redstone Arsenal, AL
3	Ammo 49	Naval Explosives Safety for Supervisors/Managers	DAC
4	Ammo 51	Naval Motor Vehicle and Railcar Course	DAC
5	Ammo 74	Explosives Safety Officer Orientation and Refresher	DAC
6		Munitions Rules Training	DAC
7	A-041-0040	Ammunition Supply Administration (ASA)	Chief of Naval Education and Training

Navy and Marine Corps Personnel Who Are Directly Involved in Sentencing of Conventional Ammunition

Navy and Marine Corps personnel who are directly involved in sentencing of conventional ammunition are required to take the courses listed in Table D-8.

Table D-8. Navy and Marine Corps Personnel Who Are Directly Involved in Sentencing of Conventional Ammunition Courses

Number	Course number	Course title	School
1	Ammo 49	Naval Explosives Safety for Supervisors/ Managers	DAC
2		Navy and Marine Corps Conventional Ammunition Sentencing Course	Naval Operational Logistics Support Center

Ordnance Weapons Officer

Ordnance weapons officer is required to take the following course:

Course number: Ammo 49

Course title: Naval Explosives Safety for Supervisors/Managers

Ammo 49 is taught by the DAC.

Retail Ordnance Logistics Management System Operators and Database Administrators Who Process and Maintain Records Relating in Ordnance Assets

Personnel assigned as Retail Ordnance Logistics Management System (ROLMS) operators and database administrators who process and maintain records relating in ordnance assets are required to take the following course:

Course number: A-041-0040

Course Title: Ammunition Supply Administration (ASA)

This course is taught by the Surface Combat Systems.

Personnel Required by OPNAVINST 8020.14 (Series) to Be Qualified and Certified to Handle Ordnance and Explosives

Personnel required by Chief of Naval Operations Instruction (OPNAVINST) 8020.14 (series) to be qualified and certified to handle ordnance and explosives (i.e., ordnance workers) are required to take the following course:

Course number: Ammo 18

Course title: Basics of Naval Explosives Hazard Control

Ammo 18 is taught by the DAC.

Personnel Involved in the Handling or Management of Waste Military Munitions

Personnel who are involved in the handling or management of waste military munitions are required to take the courses listed in Table D-9.

Table D-9. Personnel Who Are Involved in the Handling or Management of Waste Military Munitions Courses

Number	Course number	Course title	School
1	Ammo 49	Naval Explosives Safety for Supervisors/Managers	DAC
2		Munitions Rules Training	DAC

Personnel Required to Inspect or Reinspect Intermodal Dry Cargo Containers

Personnel who are required to inspect or reinspect intermodal dry cargo containers are required to take the following course:

Course number: Ammo 43

Course title: Intermodal Dry Cargo Container/Convention for Safe Container (CSC) Reinspection

Ammo 43 is taught by the DAC.

Personnel Who Conduct or Inspect Grounding, Bonding, and Lightning Protection

Personnel who conduct or inspect grounding, bonding, and lightning protection are required to take the following course:

Course number: Ammo 29

Course title: Electrical Explosives Safety for Naval Facilities

Ammo 29 is taught by the DAC.

Personnel Who Operate Category 3, Non-Cab Cranes for Moving Ordnance on NAS, MCAS, and Other Activities

Personnel who operate category 3, non-cab cranes for moving ordnance on naval air stations (NASs), Marine Corps air stations (MCASs), and other activities are required to take the following course:

Course number: Not applicable

Course Title: Safety Course for Non-cab Operated Category 3 Crane (non-Rigging)

This course is available through the Navy Crane Center, Navy Knowledge Online, and on site through train-the-trainer classes.

Personnel Who Prepare, Review, and Approve Site Approval Requests

Personnel who prepare, review, and approve site approval requests are required to take the following course:

Course Number: Ammo 36

Course Title: Explosives Safety for Naval Facility Planning

Ammo 36 is taught by the DAC and the Ground Ammunition School (Ordnance Managers Course), at Redstone Arsenal, Alabama.

Appendix E
Training Contact Information

This appendix provides contact information for primary education organizations. The Defense Ammunition Center (DAC) is presented first, followed by each military service organization.

DEFENSE AMMUNITION CENTER CONTACTS

Defense Ammunition Center

Address: 1 C Tree Road
Building 35
McAlester, Oklahoma 74501

DAC training coordinator phone: (918) 420-8950

Website for DAC: http://www.dac.army.mil/default1.html

Web training courses: http://ammo.okstate.edu

CD ROM courses (e-mail): cbt@dac.army.mil

Video teletraining/video teleconferencing courses: (918) 420-8933

Oklahoma State Ammo School

Address: 100 Telecommunication Center
Stillwater, Oklahoma 74078

Contact: Samantha Krawczyk

Phone: (877) 457-2666

DAC Training Center Help Desk: http://ammo.okstate.edu

Training and Consulting, Inc.

Address: 306A West 7th Street
Suite 101
Georgetown, Texas 78626

Phone: (703) 530-7735

Website: www.tci-training.com

AIR FORCE CONTACTS

344th Training Squadron, Lackland Air Force Base, Texas

Contact:	Levy Sarino
Phone:	DSN 473-0097
Website:	http://www.lackland.af.mil/37trg/344.asp

345th Training Squadron, Lackland Air Force Base, Texas

Contact:	MSgt Mark Kelps
Phone:	DSN 473-3603
E-mail:	mark.kelps@lackland.af.mil
Website:	http://www.lackland.af.mil/37trg/345.asp

363rd Training Squadron, Sheppard Air Force Base, Texas

Contact:	Theodore Oster, AETC Training Manager
Phone:	(940) 676-3279
Website:	http://www.sheppard.af.mil/82trgPublic/363default.asp

Air Force Combat Ammunition Center

Address:	9th Ammunition Squadron 5890 A Street, Suite 134 Beale Air Force Base, California 95903
Phone:	(530) 634-2400

Air Force Education and Training Command

Address:	100 H Street, Suite 4 Randolph AFB, TX 78150-4330
Phone:	(210) 652-4400
Website:	https://etca.randolph.af.mil/

Aircraft Munitions Maintenance Officer Courses

E-mail:	360.ammoc@sheppard.af.mil
Website:	http://www.sheppard.af.mil/82trgPublic/Ammocdefault.asp

Defense Automated Visual Information System/ Defense Instructional Technology Information System

Address: Joint Visual Information Services Distribution Activity
Building 3/Bay 3
11 Hap Arnold Boulevard
Tobyhanna, Pennsylvania 18466-5102

Phone: (570) 895-654

Website: http://dodimagery.afis.osd.mil/davis/

Note: This defense organization supports all military services.

ARMY CONTACTS

U.S. Army Ordnance Munitions and Electronics Maintenance School

Phone: (256) 876-4887

Website: http://omems.redstone.army.mil/

NAVY AND MARINE CORPS CONTACTS

Center for Naval Aviation Technical Training

Address: 230 Chevalier Field Avenue
Suite C
Pensacola, FL 32508

Phone: (850) 452-9700, extension 3102

Website: https://www.npdc.navy.mil/cnatt/

Center for Naval Aviation Technical Training courses are listed at:
https://cantrac.training.navy.mil/portal/

Center for Naval Explosive Ordnance Disposal and Diving

Address: 350 South Crag Road
Panama City, Florida, 32407-7016

Phone: (850) 230-7267

Website: https://www.npdc.navy.mil/ceneoddive/

Center for Naval Explosive Ordnance Disposal and Diving courses are listed at:
https://www.npdc.navy.mil/ceneoddive/default.cfm?fa=courses.listing&listing=true

Marine Corps Detachment Redstone Arsenal

Address: U.S. Army Ordnance Missile and Electronic Maintenance School
Redstone Arsenal, Alabama 35897-6914

Phone: (256) 876-8441

Website: http://www.tecom.usmc.mil/redstone

Marine Corps Systems Command

Address: Program Manager for Ammunition
2200 Lester Street
Quantico, Virginia 22134-5010

Phone: (703) 432-3157

Website: https://www.marcorsyscom.usmc.mil/

Marine Corps Training and Education Command

Address: Personnel Management Support Branch (MMSB-17)
2008 Elliot Road
Quantico, Virginia 22134-5030

Phone: 703-784-3941

Website: http://www.tecom.usmc.mil

Naval Aviation Schools Command

Address: OTS Code 055
181 Chambers Avenue, Suite C
Pensacola, Florida 32508-5221

Phone: (850) 452-8626

Website: https://www.cnet.navy.mil/nascweb/aoocp/aoos.htm

Naval Civil Engineer Corps Officers School

Address: 3502 Goodspeed Street Suite 1
Port Hueneme, California 93043-4336

Phone: (805) 982-6524

Website: https://www.cecos.navy.mil

Navy Crane Center

Address: Norfolk Naval Shipyard Bldg 491
Portsmouth, Virginia

Contact: Dave Decker

Phone: (610) 595-0952

Website: https://portal.navfac.navy.mil/portal/

Online Courses available at Navy Knowledge Online: https://wwwa.nko.navy.mil

Naval Diving and Salvage Training Center

Address: 350 South Crag Road
Panama City, Florida 32407

Phone: (850) 234-4651

Website: https://www.npdc.navy.mil/ceneoddive/ndstc/

Naval Education and Training Command

Address: 250 Dallas Street
Pensacola, Florida 32508-5220

Phone: (850) 452-4858

Website: https://www.cnet.navy.mil/index.asp

Naval Operational Logistics Support Center

Address: 1837 Morris Street
Building Z-133 Suite 600
Norfolk, VA 23511

Contact: Jim Midgarden

Phone: (717) 605-3130

E-mail: jim.midgarden@navy.mil

Naval Ordnance Safety and Security Activity

Address:	Attention: Explosives Safety Training Officer Farragut Hall, Building D-323 (N521) 23 Strauss Avenue Indian Head, Maryland 20640-555
Contact:	Mr. Mike McCollum
Phone:	(301) 744-6089
Website:	https://www.npdc.navy.mil/ceneoddive/eods/

Naval School Explosive Ordnance Disposal

Address:	304 N. McCarthy Ave, Suite 117 Eglin Air Force Base, Florida 32542
Phone:	(850) 882-8370
Website:	https://www.npdc.navy.mil/ceneoddive/eods/

Naval Supply Corps School

Address:	1425 Prince Avenue Athens, Georgia 30606
Phone:	(800) 828-6727
Website:	https://www.npdc.navy.mil/css/nscs/training2.asp?ID=572T

Appendix F
Worldwide AA&E Training Locations

This appendix lists the worldwide AA&E training locations for the Defense Ammunition Center (DAC), Air Force, and Navy and Marine Corps. Training is offered regularly at these sites, in addition to the primary school houses.

DAC LOCATIONS

Below are DAC training locations within the continental United States (CONUS) and outside CONUS (OCONUS).

CONUS

Table F-1 lists the DAC CONUS training locations. They are listed in alphabetical order by state.

Table F-1. DAC CONUS Training Locations

Town/activity	State
San Diego	California
Fort Carson	Colorado
Peterson Air Force Base	Colorado
Jacksonville	Florida
Fort Stewart	Georgia
Fort Riley	Kansas
Fort Campbell	Kentucky
Fort Knox	Kentucky
Fort Polk	Louisiana
Gulfport	Mississippi
Fort Leonard Wood	Missouri
Kansas City	Missouri
Reno	Nevada
Fort Drum	New York
Fort Bragg	North Carolina
McAlester	Oklahoma
Fort Hood	Texas
Dugway Proving Ground	Utah
Norfolk	Virginia
Fort Lewis	Washington
Naval Undersea Warfare Center Keyport	Washington

OCONUS

Table F-2 lists the DAC OCONUS training locations. They are listed in alphabetical order by country and state.

Table F-2. DAC OCONUS Training Locations

Town/activity	Country/state
Fort Wainwright	Alaska
Ramstein	Germany
Wheeler Air Force Base	Hawaii
Naval Air Station Sigonella	Italy
Akizuki	Japan
Camp Zama	Japan
Okinawa	Japan
Yokosuka	Japan
Osan	Korea

AIR FORCE LOCATIONS

Below are Air Force CONUS and OCONUS training locations.

CONUS

Table F-3 lists the primary CONUS Air Force training locations. They are listed in alphabetical order by state.

Table F-3. Air Force CONUS Training Locations

Town/activity	State	Phone
Davis-Monthan Air Force Base	Arizona	(520) 228-3527/DSN[a] 228
Luke Air Force Base	Arizona	DSN 896-3010/3011
Eglin Air Force Base	Florida	(850) 882-2696/DSN 872
Hurlburt Field	Florida	DSN 579-6550/7616
Tyndall Air Force Base	Florida	DSN 523-2768/2750
Mountain Home Air Force Base	Idaho	DSN 728-6461/6513
Barksdale Air Force Base	Louisiana	(318) 456-8589/DSN 781
Whiteman Air Force Base	Missouri	DSN 975-1080/7518
Nellis Air Force Base	Nevada	DSN 682-8151/2670
Cannon Air Force Base	New Mexico	(505) 784-4183/DSN 681
Kirtland Air Force Base	New Mexico	DSN 246-1479/1455/1434
Pope Air Force Base	North Carolina	DSN 424-4893/1608
Seymour Johnson	North Carolina	DSN 722-3019

Table F-3. Air Force CONUS Training Locations

Town/activity	State	Phone
Shaw Air Force Base	South Carolina	DSN 965-6043/6042
Ellsworth Air Force Base	South Dakota	(605) 385-2319/DSN 675
Dyess Air Force Base	Texas	(915) 696-3018/DSN 461
Lackland Air Force Base	Texas	DSN 473-3603
Sheppard Air Force Base	Texas	(940) 676-3279
Hill Air Force Base	Utah	DSN 777-2084/2841
Langley Air Force Base	Virginia	DSN 574-7742/7741

Source: Website for courses at the CONUS locations is https://webm.sheppard.af.mil/982trg/maps/usmap.htm.

[a] DSN = Defense Switched Network.

OCONUS

Table F-4 lists the OCONUS Air Force training locations. They are listed in alphabetical order by country and state.

Table F-4. Air Force OCONUS Training Locations

Town/activity	Country/state	Phone
Eielson Air Force Base	Alaska	(907) 377-2465/DSN 317-377
Elmendorf Air Force Base	Alaska	(907) 552-5626/DSN 317-552
Spangdahlem	Germany	DSN 314-452-6390/6105
Aviano Air Base	Italy	DSN 314-632-8602
Kadena Air Force Base	Japan	DSN 315-634-3305/1085
Misawa Air Base	Japan	DSN 315-226-4191/3132
Lakenheath Royal Air Force Station	United Kingdom	DSN 314-226-3550/3965

Source: Website for courses at the OCONUS locations is https://webm.sheppard.af.mil/982trg/maps/osmap.htm.

NAVY LOCATIONS

Below are the Center for Naval Aviation Technical Training (CNATT) and Center for Naval Explosive Ordnance Disposal and Diving (CENEODDIVE) training locations.

CNATT

CNATT training sites are listed in the Table F-5.

Table F-5. CNATT Training Sites

Town/activity	State
Camp Pendleton	California
Lemoore	California
San Diego	California
Jacksonville	Florida
Milton	Florida
Pensacola	Florida
Cherry Point	North Carolina
Norfolk	Virginia
Virginia Beach	Virginia
Keyport	Washington
Oakharbor	Washington

CENEODDIVE

CENEODDIVE training sites are listed in Table F-6.

Table F-6. CENEODDIVE Training Sites

Site name	Town/activity	State	Phone
Naval School Explosive Ordnance Disposal, Eglin Air Force Base	Eglin Air Force Base	Florida	(850) 882-4494/9238
Naval Diving and Salvage Training Center	Panama City	Florida	(850) 234-46511
CENEODDIVE Learning Site Pearl Harbor	Pearl Harbor	Hawaii	(808) 473-1490
CENEODDIVE Learning Site Great Lakes	Great Lakes	Illinois	(847) 688-4686
Naval School Explosive Ordnance Disposal	Indian Head	Maryland	(301) 743-4335/4565

Appendix G
Defense Ammunition Center Training Matrix

Table G-1 depicts information regarding the AA&E courses taught at the Defense Ammunition Center (DAC). Information presented includes identification number, title, sponsor (if other than DAC), length, training mode, functional area, target students (including quality assurance specialists [ammunition surveillance] [QASAS] and ammunition management interns), and certification requirements.

The “functional areas” were derived from course descriptions. These functional areas are consistent with the duty areas published by Joint Ordnance Commanders Ammunition Training Subgroup in DoD 5160.65M. Titles of courses that address the “distribution” functional area are marked with an asterisk. Spaces in the table were left blank when information was not available in the training catalog.

Table G-1. DAC Course Matrix

Number	Course ID #	Alternate course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	QASAS/ammo mgmt intern	Prerequisite	Required for certification	Type of certification	Reference stating training required
1	Ammo-01		Conventional Ammunition Orientation		9 weeks	Classroom	All	Personnel requiring training in scope of course				x				
2	Ammo-04		Ammunition Demilitarization		2 weeks, 3 days	Classroom	Demilitarization					x	Ammo-45-DL or Ammo-60	x		◆ AMC-R 350-4[a] ◆ FORSCOM-R 350-10[b] ◆ TRADOC-R 350-30[c]
3	Ammo-05		Ammunition Facilities		2 days	Classroom	Facilities	Personnel requiring a basic knowledge of ammunition facilities				x				
4	Ammo-10		Ammunition Quality Assurance (QA)		3 days	Classroom	Quality Assurance	Personnel requiring basic knowledge of QA systems				x				
5	Ammo-12		Ammunition Storage		5 days	Classroom	Storage	Personnel requiring knowledge in ammunition storage				x	Ammo-45-DL for non-interns	x		◆ AMC-R 350-4 ◆ AMC-R 385-100[d] ◆ DA Pam 385-64[e]
6	Ammo-13		Ammunition Supply and Inventory		2 weeks	Classroom	◆ Inventory ◆ Supply	Personnel requiring basic knowledge of ammunition supply and inventory				x				
7	Ammo-14		Ammunition Surveillance		7 weeks	Classroom	Surveillance	Personnel requiring basic knowledge of surveillance applications				x				
8	Ammo-18-DL	A-4E-3000 (Navy)	Basics of Naval Explosives Hazard Control	NOSSA		Web based	Safety	Navy/Marine Corps active-duty members at grade levels of E-3 or above, O-1 or O-3 Civilians of GS 05-11 grade level, or WG 05 or above	x	x	x			x		NAVSEA OP 5, Volume 1, Appendix D[f]
9	Ammo-19		Chemical Accident/ Incident Response and Assistance Operations		3 1/2 days	Classroom	Emergency Response	Personnel who are assigned to chemical accident/incident response positions				x				AMC-R 350-4
10	Ammo-20		Chemical Agent Safety		4 days	Classroom	◆ Inspection ◆ Safety	Safety Officers; surety analysts, and inspection personnel						x		AMC-R 350-4
11	Ammo-27	J5AZA2W071-017 (Air Force)	Conventional Ammunition Radiation Hazards		3 days	Classroom	◆ Maintenance ◆ Safety	Ammunition planners, maintenance supervisors, safety officers, radiation protection officers, accountable officers, QASAS, and ammunition managers.	x	x	x					
12	Ammo-28		Electrical Explosives Safety for Naval Facilities		3 1/2 days	Classroom	◆ Facilities ◆ Maintenance	GS 07-12 and WG 06-09 personnel involved in the design, installation, test, inspection, (including record keeping and review), and maintenance of electrical equipment, static dissipation systems, lightning protection systems, and bonding in explosive facilities.		x						AMC-R 350-4
13	Ammo-29	A-4E-3001 (Navy)	Electrical Explosives Safety for Naval Facilities	NOSSA	3 1/2 days	Classroom	◆ Facilities ◆ Safety	Navy or Marine Corps personnel who require initial training. Engineers, technicians, or safety inspectors involved in public works, facility planning, safety or test departments involved in the design, installation, testing, and inspection of electrical services and lightning/grounding systems in hazardous locations.	x	x	x			x	Electrical Explosive Safety for Naval Facilities—refresher	NAVSEA OP 5, Volume 1, Appendix D
14	Ammo-29-DL	A-4E-3001 (Navy)	Electrical Explosives Safety for Naval Facilities	NOSSA		Web based	Safety	Personnel required to understand lightning protection program	x	x	x		Ammo-29	x	Electrical Explosives Safety for Naval Facilities—refresher	NAVSEA OP 5, Volume 1, Appendix D
15	Ammo-31		Environmental Considerations for Ammunition Personnel		4 days	Classroom	Environment	Managers, supervisors, and planners of ammunition and explosive operations								AMC-R 350-4

Table G-1. DAC Course Matrix

Number	Course ID #	Alternate course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	QASAS/ammo mgmt intern	Prerequisite	Required for certification	Type of certification	Reference stating training required
16	Ammo-33	A-4E-3002 (Navy)	Explosive Safety and Environmental Risk Management	NOSSA	2 days	Classroom	Environment	Senior representatives from Navy and Marine Corps activities that handle ammunition or explosives								NAVSEA OP 5, Volume 1, Appendix D
17	Ammo-36	A-4E-3003 (Navy)	Explosives Safety for Naval Facilities Planning	NOSSA	4 1/2 days	Classroom	Facilities	Navy/Marine Corps facility planners responsible for explosives facilities at shore installations, safety department personnel responsible for review of facility site plans, or individuals who fall within the review chain of a typical Navy/Marine Corps facility site plan	x	x	x			x		NAVSEA OP 5, Volume 1, Appendix D
18	Ammo-37	A-4E-3004 (Navy)	* General Transportation of Hazardous Materials		1 week	Classroom	Transportation	Personnel from all services who perform work in some phase of transportation of hazardous materials	x	x	x			x	Refresher	DoD 4500.9-R[g]
19	Ammo-43	J5AZA2W071 013 (Air Force)	Intermodal Dry Cargo Container/CSC Reinspection	NOSSA	3 days	Classroom	Inspection	Personnel requiring knowledge of container reinspection standards	x	x	x	x		x	DoD CSC Inspector (every four years)	◆ AMC-R 350-4 ◆ DoD 4500.9-R, Vol. VI[h] ◆ NAVSEA OP 5
20	Ammo-43-DL	A-4E-3005 (Navy)	* Intermodal Dry Cargo Container/CSC Reinspection	NOSSA		Web based	◆ Inspection ◆ Transportation	Refresher for Navy and Marine Corps; Army and Air Force do not need initial classroom training					Ammo-43 for Navy and Marine Corps	x	CSC Inspector—refresher (every two years)	◆ AMC-R 350-4 ◆ DoD 4500.9-R, Vol. VI ◆ NAVSEA OP 5
21	Ammo-45-DL		Introduction to Ammunition			Web based	◆ Maintenance ◆ Production ◆ Transportation	Production maintenance personnel, handling and transportation, and administrative personnel requiring familiarization with ammunition								AMC-R 350-4
22	Ammo-47		Lightning Protection for Air Force Facilities		3 1/2 days	Classroom	Maintenance	Base civil engineers and technicians responsible for the design, testing, inspection, and maintenance of lightning protection systems								
23	Ammo-49-DL	A-4E-3006 (Navy)	Naval Explosives Safety Managers/ Supervisors Orientation	NOSSA		Web based	Safety	Navy/Marine Corps shore activity Explosive Safety Officers; E-6 and above; O-1 to O-6, WG 9 and above; GS 07 and above who are responsible for safety of ammunition and explosive operations	x	x	x			x		NAVSEA OP 5, Volume 1, Appendix D
24	Ammo-50		Naval Laboratory Explosives Safety		2 days	Classroom	Research, Development, Test, and Evaluation	Navy laboratory technicians and scientists engaged in ammunition and explosives Research, Development, Test, and Evaluation activities					Ammo-49 or Ammo-18			
25	Ammo-51	◆ A-4E-3007 (Navy) ◆ J5AZA2T051-000 (Air Force)	* Naval Motor Vehicle and Railcar Inspection	NOSSA	1 week	Classroom	◆ Inspection ◆ Transportation	Navy or Marine Corps personnel who inspect motor vehicles and or railcars	x	x	x			x	Basic training	◆ NAVSEA OP 5, Volume 1, Appendix D ◆ NAVSEA SW020-AG-SAF-010[i]
26	Ammo-51-DL	◆ A-4E-3007 (Navy) ◆ J5AZA2T051-000 (Air Force)	* Naval Motor Vehicle and Railcar Inspection	NOSSA		Web based	◆ Inspection ◆ Transportation	Navy/Marine Corps shore activity Explosive Safety Officers; E-6 and above; O-1 to O-6, WG 9 and above; GS 07 and above who are responsible for safety of ammunition and explosive operations	x	x	x		Knowledge of ammunition and explosives	x	Refresher (every two years); (sign DD Form 626 or NAVSEA Form 8023/2)	NAVSEA OP 5, Volume 1, Appendix D
27	Ammo-53		Ammunition Production and Maintenance		3 weeks	Classroom	◆ Maintenance ◆ Production	Personnel requiring basic knowledge of ammunition production and maintenance				x	For non-interns, Ammo-45-DL or Ammo-60			AMC-R 350-4
28	Ammo-54		Risk Management and Preparation of Standard Operating Procedures s for Ammunition and Explosives Operations		1 week, 3 days	Classroom	Safety						Ammo-45-DL or Ammo-60	x		◆ AMC-R 340-4 ◆ AMC-R 385-100 ◆ DA Pam 385-64

Table G-1. DAC Course Matrix

Number	Course ID #	Alternate course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	QASAS/ammo mgmt intern	Prerequisite	Required for certification	Type of certification	Reference stating training required
29	Ammo-55		Quality Assurance for Toxic Chemical Munitions		3 days	Classroom	Surveillance	Personnel assigned to surveillance sections at chemical activities who require certification		x		x	Ammo-61	x		AMC-R 350-4
30	Ammo-58		Service Response Force Commander/On-Scene Coordinator (OSC)		1 1/2 days	Classroom	Emergency Response	Potential or deputy service response force commander, or on-scene coordinator								
31	Ammo-60		Technical Ammunition		3 weeks, 3 days	Classroom	All							x		◆ AMC-R 350-4 ◆ FORSCOM-R 350-10 ◆ TRADOC-R 350-30
32	Ammo-61		Technical Chemical Surety Material		1 week, 3 days	Classroom	Chemical agents	Personnel requiring knowledge of chemical agents munitions				x	Recommend Ammo-45-DL and Ammo 60	x		◆ AMC-R 350-4 ◆ FORSCOM-R 350-10 ◆ TRADOC-R 350-30
33	Ammo-62	◆ A-4E-3008 (Navy) ◆ J5AZA2W071 012 (Air Force)	* Technical Transportation of Hazardous Materials		2 weeks	Classroom	Transportation	Personnel who perform duties in some phase of transportation of hazardous materials					basic familiarization with federal and military regulations pertaining to transportation of hazardous materials			AMC-R 350-4
34	Ammo-63-DL		U.S. Army Explosives Safety			Web based	Safety	Personnel requiring training in Army explosives safety					Ammo-77-CPE; Ammo-81-OPS; Ammo-81-IQD; and Ammo-81-HC			AMC-R 350-4
35	Ammo-64-1-DL		Class V Issue and Turn-In Procedures for Using Units			Web based	◆ Issue ◆ Receipt	Personnel responsible for requesting and drawing Class V items from their unit					Recommend Ammo-45-DL or Ammo-45-CBT			
36	Ammo-64-2-DL		Class V Issue and Turn-In Procedures for Ammunition Supply Point			Web based	◆ Issue ◆ Receipt	Personnel responsible for issue and receipt of Class V from Ammunition Supply Point	x	x	x		Recommend Ammo-45-DL or Ammo-45-CBT			
37	Ammo-65		DoD Contractor Explosives Safety Standards		1 week	TCI	Safety	Contractor personnel			x					DoD 4145.26[j]
38	Ammo-66-DL		Radioactive Material Handling Safety			Web based	Safety	Radiation Safety Officers	x							
39	Ammo-66-5-DL		The MC-1 Tester			Web based	Safety	Radiation Safety Officers	x				Familiarization with radiation safety principles			
40	Ammo-66-6-DL		The M-1 Abrams			Web based	Safety	Radiation Safety Officers	x				Familiarization with radiation safety principles			
41	Ammo-66-7-DL		The LORAD X-ray Machine			CD ROM	Safety	Radiation Safety Officers	x							
42	Ammo-66-8-DL		Magnesium-Thorium Alloys			Web-based training	Safety	Radiation Safety Officers	x				Familiarization with radiation safety principles			
43	Ammo-67-DL		* Hazardous Material Familiarization and Safety in Transportation			Web based	◆ Safety ◆ Transportation	Hazardous material employees					Personnel who are certifying officials require Ammo-62 per DoD 4500.9-R, Chapter 204.D.1.b	x	Hazardous material (general awareness and safety)	49 CFR Section 172.704[k]
44	Ammo-69-DL		Shipboard Explosives Safety			CD ROM	◆ Safety ◆ Storage	Personnel handling, storing, using and transferring ammunition and explosives								

Table G-1. DAC Course Matrix

Number	Course ID #	Alternate course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	QASAS/ammo mgmt intern	Prerequisite	Required for certification	Type of certification	Reference stating training required
45	Ammo-71		Tools and Equipment		3 days	Classroom	Equipment	Personnel requiring basic knowledge of ammunition tools and equipment				x	For non-interns, Ammo-45-DL or Ammo-60			
46	Ammo-74	A-4E-3009 (Navy)	Explosives Safety Officer Orientation Course	NOSSA	1 week, 2 1/2 days	Classroom	Safety	Explosive Safety Officer	x	x	x		Familiarization with NAVSEA OP5, MCO 8020.10, completion of Ammo-49-DL, Ammo-29, Ammo-36, and Ammo-51	x		◆ MCO 8020.10[l] ◆ NAVSEA OP 5, Volume 1, Appendix D
47	Ammo-75		Ammunition Physical Security		2 days	Classroom	Security	Personnel requiring basic knowledge of ammunition physical security				x				
48	Ammo-76-DL		Identification of Ammunition			Web based	Identification	Personnel requiring training in identification of ammunition								
49	Ammo-82		U.S. Army Explosives Safety Quantity Distance		1 week, 3 days	Classroom	Facilities	Personnel requiring basic knowledge of quantity distance site planning				x	For non-interns, Ammo-45-DL, working knowledge of the hazardous materials classification system, and working knowledge of ammunition storage compatibility system			
50	Ammo-86		* Transportation of Radioactive Materials		8 hours	Video Tele-training/Video Tele-conference	Transportation						Ammo-62 or equivalent			
51	TAMIS-R-DL		Total Ammunition Management Information System—Redesigned			CD ROM	All	Personnel that requisition training or operational ammunition, CONUS and OCONUS	x	x						
52			Introduction to Weapons Safety–Air Force			Web based	Safety	Airmen or officer personnel recently assigned as weapons safety professionals, or personnel who have not attended the six-week AETC "Weapons Safety Course	x					x	Safety (refresher)	

[*] Titles of courses that address the "distribution" functional area are marked with an asterisk.

[a] AMC-R 350-4 = Army Material Command Regulation 350, *Training and Certification Program for Personnel Working in Ammunition Operations*.

[b] FORSCOM-R 350-10 = U.S. Forces Command Regulation 350-10, *Training and Certification Program for Personnel Working in Ammunition Operations*.

[c] TRADOC-R 350-30 = Training and Doctrine Command Regulation 350-30, *Training and Certification Program for Personnel Working in Ammunition Operations*.

[d] AMC-R 385-100 = Army Material Command Regulation 385-100, *Safety Manual.*

[e] DA Pam 385-64 = Department of the Army Pamphlet 385-64, *Ammunition and Explosives Standards*.

[f] NAVSEA OP 5, Volume 1, Appendix D = Commander, Naval Sea Systems Command Ordnance Pamphlet 5, Volume 1, *Ammunition and Explosives Ashore: Safety Regulations for Handling, Storing, Production, Renovation and Shipping, Appendix D, Explosives Safety Training Program*.

[g] DoD 4500.9-R = Department of Defense Regulation 4500.9-R, Defense Transportation Regulations.

[h] DoD 4500.9-R, Volume VI = Department of Defense Regulation 4500.9-R, Defense Transportation Regulations Part VI *Management Control of Intermodal Containers and System 463-L Equipment*.

[i] NAVSEA SW020-AG-SAF-010 = Commander, Naval Sea Systems Command SW020-AG-SAF-010, *Naval Transportation Safety Handbook for Ammunition, Explosives and Related Hazardous Materials*.

[j] DoD 4145.26-M = *Department of Defense Manual, Department of Defense Contractors Safety Manual for Ammunition and Explosives*.

[k] 49 CFR, Section 172.704 = Title 49 Code of Federal Regulations-Transportation, Chapter I-Research and Special Programs Administration, Department of Transportation, Part 172-*Hazardous Materials Table, Special Provisions, Hazardous Materials, Communications, Emergency Response Information, and Training Requirements*.

[l] MCO 8020.10 = Marine Corps Order 8020.10, *Ammunition and Explosives Safety Policies Program, Requirements, and Procedures for Class 5*.

Appendix H
Air Force Training Matrices

The tables in this appendix list information regarding the Air Force's AA&E courses. Information presented includes identification number, title, sponsor, length, training mode, functional area, target students, certification and AFSC requirements.

The "functional areas" noted were derived from course descriptions. These functional areas are consistent with the duty areas published by Joint Ordnance Commanders Ammunition Training Subgroup in DoD 5160.65M. Titles of courses that address the "distribution" functional area are marked with an asterisk. Spaces in the table were left blank when information was not available in the training catalog.

There is a separate table for the following school and training locations:

1. Air Force Combat Ammunition Center (Table H-1)
2. Defense Automated Visual Information System/Defense Instructional Technology Information System (Table H-2)
3. Lackland Air Force Base, Texas (Table H-3)
4. Sheppard Air Force Base, Texas (Table H-4).

Table H-1. Air Force Combat Ammunition Center Courses

Number	Course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	Prerequisite	Required for certification/AFSC	Type of certification	Reference stating training required
1	CAPP	Combat Ammunition Planning and Production	AFCOMAC	3 weeks	Classroom and exercise	Production	◆ Senior Airmen through Captain ◆ 2W0—Munitions Systems	x				x	7- and 9-level training requirement for all 2W0 personnel	
2	SOO	Senior Officer Orientation	AFCOMAC	4 days	Classroom and exercise	Logistics	Major and above	x						
3	AMMOS	Advanced Maintenance/ Munitions Officers School	AFCOMAC	6 days	Classroom and exercise	◆ Logistics ◆ Maintenance		x						

Table H-2. Defense Automated Visual Information System/Defense Instructional Technology Information System

Number	Course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	Prerequisite	Required for certification/AFSC	Type of certification	Reference stating training required
1	AFCESA	Unexploded Ordnance Safety Training Program	Air Force Civil Engineer Support Agency	1 hour	CD Rom	Safety	DoD personnel	x	x					
2	AFSC 461 X0	Airmen Munitions Career Field	Air Force	20 minutes	Video	Munitions	Airmen entering career field	x						
3	C6AGMOOCCB7510	Munitions Explosive Safety Program	367th Training Support Squadron	2 hours	Worldwide web	Safety	Munitions Systems Specialists	x						
4	G081	Maintenance Data Collection	367th Training Support Squadron	1 hour	Worldwide web	Maintenance	2AXX–Aircraft	x						
5	M-60 Tank	Munitions Clearance Vehicle	Air Force	30 minutes	Video	◆ Disposal ◆ Safety	Civil engineer EOD personnel	x						
6	PA #40	Weapons, Munitions and Cargo Courier Course	Nebraska Military Department	1 hour	Worldwide web	Courier	Active Air Force, Reserve, and National Guardsmen serving as weapons and munitions couriers	x						

Table H-3. Lackland Air Force Base Courses

Number	Course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	Prerequisite	Required for certification/AFSC	Type of certification	Reference stating training required
1	L3AZR2W071 001	Weapons Safety	AETC/Technical Training	30 days	Resident Course	Maintenance	◆ Technical ◆ 2WXX—apprentice	x						
2	L3AZR2T051 00AA	* Hazardous Materials Preparer (Initial) Resident	AETC/Enlisted Operations	10 days	Resident Course	Transportation	◆ Enlisted ◆ 2T0XX—transportation	x			Knowledge of AFMAN 24-204(I),[a] 49 CFR,[b] IATA,[c] and IMDG[d]	x	AFSC 2T0XX personnel who prepare and certify hazardous material shipments	49 CFR
3	L3AZR2T251 00AA	* Hazardous Materials Airlift Inspector (Initial) Resident	AETC/Enlisted Operations	5 days	Resident Course	Transportation	◆ Enlisted ◆ 2T2XX–Air Transportation	x			Knowledge of AFMAN 24-204(I), 49 CFR, and IATA			

* Titles of courses that address the “distribution” functional area are marked with an asterisk.

[a] AFMAN 24-204(I) = Air Force Manual 24-204 (I), *Preparing Hazardous Materials for Military Air Shipment*.

[b] 49 CFR = Title 49 Code of Federal Regulations-*Transportation.*

[c] IATA = International Air Transport Association (IATA) *Dangerous Goods Regulations.*

[d] IMDG = International Maritime Dangerous Goods (IMDG) Codes.

Table H-4. Sheppard Air Force Base Courses

Number	Course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	Prerequisite	Required for certification/AFSC	Type of certification	Reference stating training required
1	293ABR2W031	Munitions Systems Apprentice				All	2W0X1—Munitions Systems Apprentice	x						
2	293ABR2W131C	Aircraft Armament Systems Apprentice A-10				Weapons	2W1X1—Aircraft Armament Systems Apprentice	x						
3	293ABR2W131E	Aircraft Armament Systems Apprentice F-15				Weapons	2W1X1—Aircraft Armament Systems Apprentice	x						
4	293ABR2W131F	Aircraft Armament Systems Apprentice F-16				Weapons	2W1X1—Aircraft Armament Systems Apprentice	x						
5	293ABR2W131K	Aircraft Armament Systems Apprentice B-52				Weapons	2W1X1—Aircraft Armament Systems Apprentice	x						
6	293ABR2W131L	Aircraft Armament Systems Apprentice B1B				Weapons	2W1X1—Aircraft Armament Systems Apprentice	x						
7	293ABR2W131Z	Aircraft Armament Systems Apprentice				Weapons	2W1X1—Aircraft Armament Systems Apprentice	x						
8	295ABN3E831	Explosive Ordnance Disposal				Disposal	3E8X1—Explosives Ordnance Disposal	x						
9	J3ABR2W131 C000A	Aircraft Armament Systems Apprentice (A-10) Mission Ready Airman (MRA)	AETC	74 days		Weapons	◆ 2W1—Weapons Loaders ◆ 2W131C—Aircraft Armament Systems Apprentice, A10	x						
10	J3ABR2W031 0A0B	Munitions Systems Apprentice TM-J9	AETC	43 days		Weapons	◆ 2W0—Munitions Maintenance ◆ 2W0X1—Munitions Systems Apprentice	x						
11	J3ABR2W0X1 0S0A	Munitions Systems Security Assistance Training Program (SATP) TM-J9	AETC	18 days		Weapons	◆ 2W0—Munitions Maintenance ◆ 2W0X1—Munitions Systems Apprentice	x			Proficient at driving motorized four-wheel vehicles. Ability to perform strenuous physical labor such as lifting.			
12	J3ABR2W131E025A	Aircraft Armament Apprentice, F-15 MRA	AETC	77 days		Weapons	◆ 2W1—Weapons Loaders ◆ 2W131E—Aircraft Armament Systems Apprentice, F-15	x						
13	J3ABR2W131F026A	Aircraft Armament Systems Apprentice (F-16) MRA	AETC	72 days		Weapons	◆ 2W1—Weapons Loaders ◆ 2W131F—Aircraft Armament Systems Apprentice, F-16	x						
14	J3ABR2W131FX26A	Aircraft Armament Apprentice, F-16 SATP	AETC	59 days		Weapons	◆ 2W1—Weapons Loaders ◆ 2W131F—Aircraft Armament Systems Apprentice, F-16	x						
15	J3ABR2W131K003A	Aircraft Armament Systems Apprentice (B-52) MRA	AETC	95 days		Weapons	◆ 2W1—Weapons Loaders ◆ 2W131K—Aircraft Armament Systems Apprentice, B-52	x						
16	J3ABR2W131L001A	Aircraft Armament Systems Apprentice (B-1B) MRA	AETC	58 days		Weapons	◆ 2W1—Weapons Loaders ◆ 2W131L—Aircraft Armament Systems Apprentice, B-1	x						
17	J3ABR2W131Z048A	Aircraft Armament Systems Apprentice (Special Mission) MRA	AETC	46 days		Weapons	◆ 2W1—Weapons Loaders ◆ 2W131Z—Aircraft Armament Systems Apprentice, all other	x						
18	J3ABR2W1X1 XS0A	Aircraft Armament Systems SATP	AETC	10 days		Weapons	◆ 2W1—Weapons Loaders ◆ 2W1X1—Aircraft Armament Systems Apprentice	x			Proficient at driving motorized four-wheel vehicles. Ability to perform strenuous physical labor such as lifting.			
19	J3ACR2W071 0C0B	Munitions Systems Craftsman TM-J9	AETC	10 days		Weapons	◆ 2W0—Munitions Maintenance ◆ 2W071—Ammunition Specialist	x						
20	J3ACR2W171 0C0A	Aircraft Armament Systems Craftsman	AETC Technical Training	10 days		Weapons	◆ 2W1—Weapons Loaders ◆ 2W171—Aircraft Armament Systems Craftsman	x						
21	J3AZR2W051 010A	Munitions Inspection TM-J9	AETC	15 days		Weapons	◆ 2W0—Munitions Maintenance ◆ 2W0X1—Munitions Systems Apprentice	x						
22	J3AZR2W051 0A0B	Conventional Munitions Accountability TM-J9	AETC	15 days		Weapons	2W0—Munitions Maintenance	x						

Table H-4. Sheppard Air Force Base Courses

Number	Course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	Prerequisite	Required for certification/AFSC	Type of certification	Reference stating training required
23	J3OBR21A1 0A1A	The Aircraft Maintenance Officer Course				All	◆ 21AX—Aircraft Maintenance Officer ◆ 21MX—Munitions and Missile Maintenance Officers	x				x	21A1 upgrade	CFETP AFSC 21 AX*
24	J3OBR21A1 0A2A	Aircraft Maintenance Office Accelerated—Company Grade				All	◆ 21AX—Aircraft Maintenance Officer ◆ 21MX—Munitions and Missile Maintenance Officers	x				x	21A1 upgrade	CFETP AFSC 21 AX
25	J3OBR21A1 0B2A	Aircraft Maintenance Office Accelerated—Field Grade				All	◆ 21AX—Aircraft Maintenance Officer ◆ 21MX—Munitions and Missile Maintenance Officers	x				x	21A1 upgrade	CFETP AFSC 21 AX
26	J3OAR21XX 0A1A	The Maintenance Officer Intermediate Course				All	◆ 21AX—Aircraft Maintenance Officer ◆ 21MX—Munitions and Missile Maintenance Officers	x				x	Senior certification	
27	J3OQR21M1 0F1A	Munitions and Missile Maintenance Officer Fundamentals Course				Maintenance	◆ 21AX—Aircraft Maintenance Officer ◆ 21MX—Munitions and Missile Maintenance Officers	x						
28	J3OBR21M1 0M1A	Conventional Munitions Maintenance Officer Course				Maintenance	◆ 21AX—Aircraft Maintenance Officer ◆ 21MX—Munitions and Missile Maintenance Officers	x				x	21A1 upgrade	CFETP AFSC 21 AX
29	J3OLR21M1 0M1A	Conventional Munitions Maintenance Officer Course Bridge				Maintenance	◆ 21AX—Aircraft Maintenance Officer ◆ 21MX—Munitions and Missile Maintenance Officers	x						
30	J4AST2W051 000	Munitions Inspection (Mobile Training Team)-TM-J9				Inspection	2W0—Munitions Maintenance	x						
31	J4AST2W051 010A	Munitions Inspection (Mobile Training Team)-TM-J9	AETC/ Enlisted Operations Training	3 weeks		Inspection	◆ Enlisted ◆ 2W0—Munitions Maintenance ◆ 2W051—Ammunition Specialist ◆ 2W071—Munitions Systems Apprentice	x	x			x	AFSC 2W051, 2W071, and civilian equivalent	
32	J3ACR2W071 0C0B	Munitions Systems Apprentice				All	2W071—Munitions Systems Apprentice	x						

* CFETP AFSC 21 AX = Career Field Education and Training Plan (CFETP) for Air Force Specialty Code (AFSC) 21 AX: Air Force Air Craft Maintenance Officer, 1 June 2006.

Appendix I
Army Training Matrix

Table I-1 depicts information regarding the AA&E courses taught at the U.S. Army Ordnance Munitions and Electronics Maintenance School. Information presented includes identification number, title, sponsor, length, training mode, functional area, target students, and certification requirements.

The “functional areas” noted were derived from course descriptions. These functional areas are consistent with the duty areas published by Joint Ordnance Commanders Ammunition Training Subgroup in DoD 5160.65M. Spaces in the table were left blank when information was not available in the training catalog.

Table I-1. Army Training Matrix

Number	Course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	Prerequisite	Required for certification	Type of certification	Reference stating training required
1	645-55B10	Ammunition Specialist		10 weeks, 2 days	Classroom	All	MOS 55B1O: Ammunition Specialist	x						
2	645-55B40 Phase 2	Ammunition Specialist ANCOC		8 weeks, 3 days	Classroom	All	MOS 55B40: Ammunition Specialist	x		Course 600-ANCOC				
3	645-55B40-RC Phase 2	Ammunition Specialist ANCOC-RC		2 weeks	Classroom	All	MOS 55B40: Ammunition Specialist	x		Course 600-BNCOC Phase 1				
4	645-55B30	Ammunition Specialist BNCOC		14 weeks	Classroom	All	Ammunition Specialist	x						
5	645-55B30-RC Phase 3	Ammunition Specialist BNCOC		2 weeks	Classroom	◆ Inspection ◆ Maintenance ◆ Storage	MOS 55B30: Ammunition Specialist	x						
6	645-55B10-RC	Ammunition Specialist-RC		2 weeks	Classroom	All	MOS 55B10: Ammunition Specialist	x						
7	4-9-C32-910A	Ammunition Warrant Officer Advanced		4 weeks	Classroom	All	Warrant Officer	x						
8	4-9-C32- 910A-RC Phase 1	Ammunition Warrant Officer Advanced-RC		2 weeks	Classroom	All	Warrant Officer	x						
9	4-9-C32- 910A-RC Phase 2	Ammunition Warrant Officer Advanced-RC		2 weeks	Classroom	System	Warrant Officer	x						
10	4E-910A	Ammunition Warrant Officer Basic		9 weeks, 1 day	Classroom	All	Warrant Officer	x						
11	4E-910-RC Phase 2	Ammunition Warrant Officer Basic-RC		2 weeks, 1 day	Classroom	All	Warrant Officer	x						
12	4E-910A-RC Phase 4	Ammunition Warrant Officer Basic-RC		2 weeks	Classroom	System	Warrant Officer	x						
13	2G-F45	Missile and Munition Pre-Command		1 week, 3 1/2 days	Classroom	All	Students who need TRADOC mandated instruction for multifunctional ordnance assignments	x						
14	645-F3-AC/RC	SAAS-Modernization (DAO/ASP) Functional		2 weeks	Classroom	System	SAAS-Modernization user	x						
15	645-F2-AC/RC	SAAS-Modernization (MMC) Functional		2 weeks	Classroom	System	Systems administrator	x						
16	2E-SI5J/494-ASIJ5	Technical Escort ASI: J5		3 weeks, 3 days	Classroom	◆ Emergency response ◆ Environment ◆ Hazardous material ◆ Identification	Hazardous Material Technicians	x			x	◆ Hazardous Material Technician Level Operational Response, and Environmental Sampling training ◆ Confined Space Awareness Level training	◆ 29 CFR 1910.120[a] and Environmental Protection Agency Emergency Response Team Protocols ◆ 29 CFR 1910.146[b]	
17	2E-F231/030-F14	Explosive Ordnance Clearance Agent Course				Disposal	Explosive Ordnance Clearance Agents	x						

[a] 29 CFR 1910.120 = Title 29 Code of Federal Regulations, *Labor*, Chapter XVII, *Occupational Safety and Health Administration, Department of Labor*, Part 1910, *Occupational Safety and Health Standards*, Section 120, *Hazardous Waste Operations and Emergency Response*.

[b] 29 CFR 1910.146 = Title 29 Code of Federal Regulations, *Labor*, Chapter XVII, *Occupational Safety and Health Administration, Department of Labor*, Part 1910, *Occupational Safety and Health Standards,* Section 146, *Permit-Required Confined Spaces.*

Appendix J
Navy Course and Marine Corps Training Matrices

The tables in this appendix depict information regarding the Navy and Marine Corps' AA&E courses. Information presented includes identification number, title, sponsor, length, training mode, functional area, target students, and certification requirements.

The "functional areas" noted were derived from course descriptions. These functional areas are consistent with the duty areas published by Joint Ordnance Commanders Ammunition Training Subgroup in DoD 5160.65M. Titles of courses that address the "distribution" functional area are marked with an asterisk. Spaces in the tables were left blank when information was not available in the training catalog.

There is a separate table for the following schools:

1. Center for Naval Aviation Technical Training (Table J-1)
2. Center for Naval Explosive Ordnance Disposal and Diving (Table J-2)
3. Marine Corps Detachment Redstone Arsenal (Table J-3)
4. Naval Civil Engineer Corps Officers School (Table J-4)
5. Naval Supply Corps School (Table J-5).

Table J-1. Center for Naval Aviation Technical Training

Number	Course ID #	Alternate Course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	Prerequisite	Required for certification	Type of certification/skill award	Reference stating training required
1	C-122-3111		Air Launched Guided Missiles Intermediate Maintenance		18 to 32 days (varies)	Classroom	◆ Maintenance ◆ Safety ◆ Weapons	◆ Enlisted ◆ Aviation Ordnancemen ◆ Gunner's Mates ◆ Torpedomen	x						
2	C-122-3113		Precision Guided Weapons Intermediate Maintenance		5 to 7 days (varies*)	Classroom	◆ Inspection ◆ Maintenance ◆ Safety ◆ Storage ◆ Weapons	◆ Enlisted ◆ Aviation Ordnancemen	x						
3	C-4E-0010		Aviation Ordnance Officer Career Progression Level 1		40 days	Classroom	All	◆ Navy NOBC: 636X/736X/616X/716X/648X/748X ◆ Marine Corps MOS: 65XX/2305/2311/2336/2340/2341 ◆ Marine Corps MOS 6502: Aviation Ordnance Officer ◆ EOD: 5336/5337	x	x		Background in the Ordnance Field		Skill award	
4	C-4E-0011		Aviation Ordnance Officer Career Progression Level 2		12 days	Classroom	All	◆ Officers and Senior Enlisted personnel at their mid-career point ◆ Navy NOBC: 636X/736X/616X/716X/648X/748X ◆ Marine Corps MOS: 65XX/2305/2311/2336/2340/2341 ◆ EOD: 5336/5337	x	x		Attended level I with minimum 1-year gap since attended course			
5	C-4E-0012		Aviation Ordnance Officer Career Progression Level 3		12 days	Classroom	All	◆ Officers and Senior Enlisted personnel at upper career point ◆ Navy NOBC: 636X/736X/616X/716X/648X/748X ◆ Marine Corps MOS: 65XX/2305/2311/2336/2340 ◆ EOD: 5336/5337	x			Attended level I and II with minimum 1-year gap between last course			
6	C-646-2011		Aviation Ordnanceman 'A' School		28 to 43 days (varies)	Classroom	◆ Safety ◆ Weapons	Navy and Marine Corps Aviation Ordnancemen	x	x				Graduates will perform at the apprentice level afloat and ashore	
7	C-646-2012		Aviation Ordnanceman Navy Difference Training		16 to 19 days (varies)	Classroom	Weapons	Navy Aviation Ordnancemen	x			Course 646-2011		Graduates will perform at the apprentice level afloat and ashore	
8	C-646-3109		Armament Weapon Support Equipment Technician		19 to 23 days (varies)	Classroom	◆ Hazardous material ◆ Material handling ◆ Safety	◆ Aviation Ordnanceman ◆ Navy NEC 6811: Armament Weapons Support Equipment ◆ Marine Corps MOS 6511: Aviation Ordnance-Trainee						C1 Enlisted NEC awarding	
9	C-646-3111		Aviation Ordnance Systems Technician Course Core		29 to 44 days (varies)	Classroom	◆ Accountability ◆ Assembly	◆ Enlisted ◆ Aviation Ordnance Systems Technicians	x						
10	C-646-3112		Aviation Ordnance Systems Technician Course Marine Expeditionary Unit Strand		29 to 44 days (varies)	Classroom	◆ Safety ◆ Weapons	Aviation Ordnance Intermediate Maintenance Technicians	x						
11	C-646-3118		Strike Armament Equipment Intermediate Maintenance Repair		39 to 44 days (varies)	Classroom	◆ Maintenance ◆ Weapons	◆ Aviation Ordnance Technicians ◆ Navy NEC 6802: Strike Intermediate Armament Maintenanceman	x					C1 Enlisted NEC awarding	
12	C-646-3341		UH-1N Armament Organizational Maintenance		10 to 13 days (varies)	Classroom	◆ Maintenance ◆ Weapons	◆ Enlisted ◆ Marine Corps MOS 6531: Aircraft Ordnance Technician ◆ Marine Corps MOS Eligible 6511: Aviation Ordnance-Trainee	x					M3 specialized skill training	

Table J-1. Center for Naval Aviation Technical Training

Number	Course ID #	Alternate Course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	Prerequisite	Required for certification	Type of certification/skill award	Reference stating training required
13	C-646-3342		H-1 Conventional Weapons Loading		15 to 16 days (varies)	Classroom	◆ Maintenance ◆ Weapons	◆ Enlisted ◆ Marine Corps MOS 6531: Aircraft Ordnance Technician ◆ Marine Corps MOS Eligible 6511: Aviation Ordnance-Trainee	x					M3 specialized skill training	
14	C-646-3363		AH-1W Armament Repait Organizational Maintenance		12 to 15 days (varies)	Classroom	◆ Maintenance ◆ Weapons	◆ Enlisted ◆ Marine Corps MOS 6531: Aircraft Ordnance Technician ◆ Marine Corps MOS Eligible 6511: Aviation Ordnance-Trainee	x					M3 specialized skill training	
15	C-646-3364		AH-1W Turret/M197/M89/20MM Feed Systems Organizational Maintenance		11 to 14 days (varies)	Classroom	◆ Maintenance ◆ Weapons	◆ Enlisted ◆ Marine Corps MOS 6531: Aircraft Ordnance Technician ◆ Marine Corps MOS Eligible 6511: Aviation Ordnance-Trainee	x					M3 specialized skill training	
16	C-646-3573		P-3 Conventional Weapons Loading Course		14 to 15 days (varies)	Classroom	Weapons	◆ Enlisted ◆ Aviation Ordnancemen	x						
17	C-646-3867		Aviation Ordnance Systems Technician Course F-18 Strand		29 to 44 days (varies)	Classroom	◆ Maintenance ◆ Weapons	◆ Enlisted ◆ Aviation Ordnance Intermediate Maintenance Technicians	x						
18	C-646-4106		Quickstrike Mines Intermediate Maintenance		3 to 6 days (varies)	Classroom	Weapons	◆ Enlisted ◆ Aviation Ordnanceman ◆ Gunner's Mate ◆ Torpedoman's Mate ◆ Navy NEC 6801: Air Launched Weapons Technician	x						
19	C-646-4108		Air Launched Weapons Ordnance Supervisor Course		17 to 19 days (varies)	Classroom	◆ Safety ◆ Systems ◆ Weapons	◆ Officers ◆ Senior enlisted, E4-E7	x						
20	C-646-4109		Weapons Department General Aviation Ordnance		12 to 15 days (varies)	Classroom	Weapons	◆ Enlisted ◆ Aviation Ordnanceman assigned to shipboard and shore-board as Conventional Weapons Handlers	x						
21	C-646-9407		H-60 Armament and Related Systems Organizational Maintenance		31 to 35 days	Classroom	Weapons	◆ Enlisted ◆ Aviation Ordnancemen	x						
22	C-646-9412		H-60 Conventional Weapons Loading Course		5 to 7 days (varies)	Classroom	Weapons	◆ Enlisted ◆ Aviation Ordnancemen	x						
23	C-646-9677		S-3B Armament Control and Delivery Systems (Career) Organizational Maintenance		9 days	Classroom	Weapons	◆ Enlisted, E-4 or above ◆ Aviation Ordnanceman Technicians ◆ Navy NEC 8347: System Organizational Career Maintenance Technician	x					C1 Enlisted NEC awarding	
24	C-646-9678		S-3B Armament Control and Delivery Systems (Initial) Organizational Maintenance		17 to 20 days (varies)	Classroom	◆ Maintenance ◆ Safety ◆ Weapons	◆ Enlisted ◆ Aviation Ordnanceman Technicians	x						
25	C-646-9741		EA-6B Armament Systems Organizational Maintenance		9 to 10 days (varies)	Classroom	Organizational maintenance	◆ Enlisted ◆ Aviation Ordnancemen	x			Course 646-2012			
26	C-646-9888		AV-8B Aircraft Ordnance Technician Organizational Maintenance		29 to 30 days (varies)	Classroom	◆ Maintenance ◆ Safety ◆ Weapons	◆ Enlisted ◆ AAV-8B Aviation Ordnance Technician ◆ Marine Corps MOS 6531: Aircraft Ordnance Technician	x						

Table J-1. Center for Naval Aviation Technical Training

Number	Course ID #	Alternate Course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	Prerequisite	Required for certification	Type of certification/skill award	Reference stating training required
27	C-646-9973		F/A-18 Stores Management System (Initial) Organizational Maintenance		5 to 8 days (varies)	Classroom	◆ Maintenance ◆ Systems ◆ Weapons	◆ Enlisted ◆ Aviation Ordnancemen ◆ Navy NEC 8342: Systems Organizational Maintenance Technician	x					C1 Enlisted NEC awarding	
28	C-646-9974		F/A-18 Stores Management Systems (Career) Organizational Level Maintenance		5 to 12 days (varies)	Classroom	◆ Maintenance ◆ Systems ◆ Weapons	◆ Enlisted, E4 or above ◆ Aviation Ordnancemen ◆ Navy NEC-8842 ◆ Navy NEC 8341: Systems Organizational Career Maintenance Technician	x					C1 Enlisted NEC awarding	
29	C-646-9975		F/A-18 E/F Stores Management System (Career) Organizational Maintenance		5 to 12 days (varies)	Classroom	◆ Maintenance ◆ Systems ◆ Weapons	◆ Enlisted ◆ Aviation Ordnancemen ◆ Navy NEC 8341: Systems Organizational Career Maintenance Technician ◆ Navy NEC 8841				Course 646-9976		C1 Enlisted NEC awarding	
30	C-646-9976		F/A-18 E/F Stores Management System (Initial) Organizational Maintenance		22 to 24 days (varies)	Classroom	◆ Maintenance ◆ Systems ◆ Weapons	◆ Enlisted ◆ Aviation Ordnancemen	x						
31	C-646-9977		F/A-18 E/F Armament Systems Difference Organizational Maintenance		4 to 5 days (varies)	Classroom	◆ Systems ◆ Weapons	◆ Enlisted ◆ Aviation Ordnancemen ◆ Navy NEC 8842 ◆ Navy NEC 8342	x						
32	D-646-1143		P-3 Conventional Weapons Loading		Not available	Classroom	◆ Inspection ◆ Safety ◆ Weapons	◆ Enlisted ◆ Loading crew members	x			Course 646-9571			
33	K-050-2131		Light Airborne Multipurpose System Aviation Ordnance Handling		4 days	Classroom	◆ Safety ◆ Weapons	◆ Enlisted ◆ Shipboard personnel assigned to Light Airborne Multi-Purpose System Aviation Ordnance Handling duties ◆ Torpedomen ◆ Sonar Technicians ◆ Gunner's Mates	x						
34	C-646-7007		General Shipboard/Naval Air Station Weapons Department Aviation Ordnance Maintenance		49 to 66 days (varies)	Classroom	◆ Maintenance ◆ Weapons	◆ Enlisted, E3-E9 ◆ Navy NEC 681: Air Launched Weapons Technician	x			Course 646-2013		C1 Enlisted NEC awarding	
35	M-646-7027		Aviation Ordnance System Technician Marine Expeditionary Course		61 to 79 days (varies)	Classroom	All	◆ Enlisted ◆ Marine Corps MOS 6541: Aircraft Ordnance Systems Technicians	x						
36	M-646-7028		** Aviation Ordnance Systems Technician F-18 Course		60 to 79 days (varies)	Classroom	◆ Maintenance ◆ Safety ◆ Transportation ◆ Weapons	◆ Enlisted ◆ Marine Corps MOS 6541: Aircraft Ordnance Systems Technicians	x						

* Course lengths vary and are defined by the local training center.

** Titles of courses that address the "distribution" functional area are marked with an asterisk.

Note: NOBC = Navy Officer Billet Classification, MOS = Military Occupational Specialty, EOD = Explosives Ordnance Disposal, NEC = Navy Enlisted Classification.

Table J-2. Center for Naval Explosive Ordnance Disposal and Diving

Number	Course ID #	Alternate course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	Prerequisite	Required for certification	Type of certification/skill award	Reference stating training required
1	A-431-0011		Explosive Ordnance Disposal Basic (Navy)		283 to 310 days (varies*)	Classroom	EOD	Naval Officer and enlisted EOD personnel	X			◆ Course 431-0075 ◆ Course 431-0083			
2	A-431-0012		Explosive Ordnance Disposal Basic (Surface) Other Services (Marine Corps/Air Force)		195 to 221 days (varies)	Classroom	EOD	◆ Officer and enlisted E-6 and above personnel of the Army ◆ All officers and enlisted personnel of the Marine Corps and Air Force in EOD	X					C1 Enlisted NEC awarding	
3	A-431-0019		International Explosive Ordnance Disposal Phase 2 Navy			Classroom	EOD	Underwater EOD	X						
4	A-431-0020		International Explosive Ordnance Disposal Phase 2 Surface			Classroom	EOD	Surface EOD	X						
5	A-431-0054		International Explosive Ordnance Disposal (IED)Very Important Person Orientation				EOD	International military personnel in EOD	X						
6	A-431-0056		Explosive Ordnance Disposal Mobile Unit Apprentice		15 to 47 days (varies)		EOD	Navy and Navy Reserves personnel in the basics of EOD	X						
7	A-431-0057		International Explosive Ordnance Disposal Familiarization		10 to 12 days		EOD	Experienced international EOD officers and enlisted personnel in the basics of U.S. EOD	X						
8	A-431-0065		Advanced Access and Disablement				EOD	Officer and enlisted personnel in the Navy, Army, Marines, and Air Force in advanced EOD	X						
9	A-431-0069		International Explosive Ordnance Disposal Phase 1		62 to 82 days (varies)		EOD	Officer and enlisted personnel of selected foreign services in EOD	X						
10	A-431-0073		International Explosive Ordnance Disposal Specialized Missile		8 to 10 days (varies)		EOD	International Military students in safe EOD	X			Course 431-0020			
11	A-431-0083		Explosive Ordnance Disposal Diver		54 to 73 days (varies)		EOD	Qualified non-diving personnel with the basic training necessary to safely and effectively perform as an EOD dive team	X						
12	A-431-0200		Advanced Improvised Explosive Device Disposal		19 to 22 days (varies)		EOD	◆ EOD Technicians and Officers ◆ Team leaders				◆ Navy: A-431-0011 and 43171-2 series ◆ Army, Air Force, and U.S. Marine Corps A-431-0012			
13	A-431-0113		Army Explosive Ordnance Disposal Basic-Surface		171 to 193 days (varies)		EOD	Army enlisted personnel E5 and below in EOD	X						

* Course lengths vary and are defined by the local training center.

Table J-3. Marine Corps Detachment Redstone Arsenal

Number	Course ID #	Alternate course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	Prerequisite	Required for certification	Type of certification/skill award	Reference stating training required
1	645-55B10		Ammunition Specialist Course		10 days	Classroom	◆ Demolition ◆ Identification	Army, reserve components, and Marine Corps enlisted	x						
2	A2123C1		Enlisted Ammunition Technician Course		18 days	Classroom	All	Enlisted personnel	x						
3	A21GPKM		Ammunition Noncommissioned Officer Course		21 days	Classroom	All	Marine Noncommissioned Officers	x						
4	A21GPL1		Ammunition Managers Course		23 days	Classroom	All, includes Ammo 36	◆ Ammunition Officer ◆ Non Commissioned Officer within the Fleet Marine Forces ◆ MOS 2311—Ammunition Technician ◆ MOS 2340—Ammunition Officer	x						

Table J-4. Naval Civil Engineer Corps Officers School

Number	Course ID #	Alternate course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	Prerequisite	Required for certification	Type of certification/skill award	Reference stating training required
1			Hazardous Waste Annual Refresher		4 hours	CD ROM	Hazardous waste							Does not meet the standard training requirement for hazardous material personnel.	
2			Introduction to Hazardous Waste Management Overseas		2 hours	CD ROM	Hazardous waste	Personnel who handle hazardous and dangerous wastes in Italy, Spain, and Greece.							
3	A-4A-0093		Munitions Response Site Management		3 days	Classroom	Environment	◆ Remedial Project Managers ◆ Remedial Technical Managers ◆ Base Realignment and Closure Environmental Coordinator ◆ Engineers in Charge ◆ O1-O3 ◆ GS-5 and above	x	x		6 months experience and attended an introductory environmental restoration course.			

Table J-5. Naval Supply Corps School

Number	Course ID #	Alternate course ID #	Title	Sponsor	Length	Training mode	Functional area	Audience	Military	Civilians	Contractors	Prerequisite	Required for certification	Type of certification	Reference stating training required
1	A-822-0011	L5AZN2T051 001 (Air Force)	* Transportation of Hazardous Material Recertification	◆ Naval School, Transportation Management ◆ AETC	5 days	Classroom	Transportation	Transportation managers who require re-certification for hazardous materials for shipments	x	x	x	A-822-0012 or Army and Air Force equivalent.	x	Hazardous material (every 24 months)	◆ 49 CFR[a] ◆ 29 CFR[b] ◆ DoD 4500.9-R[d]
2	A-822-0012	L5OZN21T3 006 (Air Force)	* Transportation of Hazardous Material	◆ Naval School, Transportation Management ◆ AETC	10 days	Classroom	Transportation	Personnel who must “certify hazardous materials for shipment”	x	x	x		x	Hazardous material	◆ 49 CFR ◆ 29 CFR ◆ DoD 4500.9-R

* Titles of courses that address the “distribution” functional area are marked with an asterisk.

[a] 49 CFR = Title 49 Code of Federal Regulations, *Transportation.*

[b] 29 CFR = Title 29 Code of Federal Regulations, *Occupational Safety and Health Standards.*

[c] DoD 4500.9-R = Department of Defense Regulation 4500.9-R, *Defense Transportation Regulations.*

Appendix K
Abbreviations

AA&E	arms, ammunition, and explosives
ACE	American Council on Education
ADUSD(TP)	Assistant Deputy Under Secretary of Defense for Transportation Policy
AETC	Air Education and Training Command
AFB	Air Force base
AFCOMAC	Air Force Combat Ammunition Center
AFMAN	Air Force manual
AFSC	Air Force specialty code
AIP	Action Implementation Plan
AM	ammunition management
AMC	Army Material Command
AMMOC	Aircraft and Munitions Maintenance Officer Course
ASA	Ammunition Supply Administration
CECOS	Civilian Engineer Corps Officers School
CENEODDIVE	Naval Explosive Ordnance Disposal and Diving
CFETP	Career Field Education and Training Plan
CFR	Code of Federal Regulations
CNATT	Center for Naval Aviation Technical Training
CONUS	continental United States
CSC	Convention for Safe Container
DA	Department of the Army
DAC	Defense Ammunition Center
DAVIS/DITIS	Defense Automated Visual Information System/ Defense Instructional Technology Information System
DHS	Department of Homeland Security
DoD	Department of Defense
DoN	Department of Navy

DoT	Department of Transportation
DSN	Defense Switched Network
DSS	Defense Security Service
DTR	Defense Transportation Regulation
EOD	explosives ordnance disposal
ESH	environment, safety, and health
ESO	explosives safety officer
FORSCOM	U.S. Forces Command Regulation
GS	General Schedule
IATA	International Air Transport Association
IDC	Instructional Delivery Continuum
IED	International Explosive Ordnance Disposal
IMDG	International Maritime Dangerous Goods
ISO	International Organization for Standardization
JMC	Joint Munitions Command
JOCMTSG	Joint Ordnance Commanders Munitions Training Subgroup
LLNL	Lawrence Livermore National Laboratory
MCAS	Marine Corps air station
MCO	Marine Corps order
MHE	material handling equipment
MOS	military occupation specialty
MRA	mission ready airman
NAS	Naval air station
NAVSCHOLEOD	Naval School EOD
NAVSEA	Naval Sea Systems Command
NEC	Navy enlisted classification
NOBC	Navy officer billet classification
NOSSA	Naval Ordnance Safety and Security Activity
NSCS	Naval Supply Corps School
OCONUS	outside the continental United States
OJT	on-the-job-training
OMEM	Ordnance Missile and Electronic Maintenance School

OP	ordnance pamphlet
OPNAVINST	Chief of Naval Operations Instruction
OSC	on-scene coordinator
OSU	Oklahoma State University
QA	quality assurance
QASAS	quality assurance specialist (ammunition surveillance)
ROLMS	Retail Ordnance Logistics Management System
SATP	Security Assistance Training Program
SCORM	Sharable Content Object Reference Manual
SEALS	sea-air-land
SMCA	Single Manger for Conventional Ammunition
SMPT	School of Military Packaging and Technology
TCI	Training and Consulting, Incorporated
TECOM	Training and Education Command
TRADOC	Training and Doctrine Command Regulation
USAOMMCS	U.S. Army Ordnance Munitions and Electronics Maintenance School
USCG	U.S. Coast Guard
WMD	weapon of mass destruction