

EXPLOSIVE SAFETY TRAINING

BARBARA J. OVERTON
CHIEF, CONVENTIONAL
AMMUNITION DEPARTMENT



"TRAINING FOR TOTAL QUALITY"



**U.S. ARMY DEFENSE AMMUNITION CENTER AND SCHOOL
SAVANNA ILLINOIS**

Report Documentation Page				Form Approved OMB No. 0704-0188	
Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.					
1. REPORT DATE AUG 1990		2. REPORT TYPE		3. DATES COVERED 00-00-1990 to 00-00-1990	
4. TITLE AND SUBTITLE Explosive Safety Training				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S)				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) U.S. Army Defense Ammunition Center and School, ,Savanna,IL,61074				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution unlimited					
13. SUPPLEMENTARY NOTES See also ADA235006, Volume 2. Minutes of the Explosives Safety Seminar (24th) Held in St. Louis, MO on 28-30 August 1990.					
14. ABSTRACT					
15. SUBJECT TERMS					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 47	19a. NAME OF RESPONSIBLE PERSON
a. REPORT unclassified	b. ABSTRACT unclassified	c. THIS PAGE unclassified			

Mission Statement

The mission of the Ammunition School is to provide education and training for ammunition managers, specialists, and operating personnel required to perform conventional ammunition logistics missions IAW requirements of the Single Manager for Conventional Ammunition (SMCA) and of military services under provisions of DODD 5160.65. Additionally, it provides specialized training in support of Department of Defense (DOD) certification programs. A primary part of the Ammunition School mission is to recruit and train personnel for the Department of the Army (DA) Quality Assurance Specialist (Ammunition Surveillance) (QASAS) and Ammunition Manager (AM) Career Intern Programs.

Geographical Location

The U.S. Army Defense Ammunition Center and School is located in Illinois at the Savanna Army Depot Activity. It is seven miles north of Savanna on the east bank of the Mississippi River, 155 miles west of Chicago, 65 miles north of Moline, and 40 miles south of Dubuque, Iowa. It is between the towns of Savanna and Hanover on Illinois Route 84, the Great River Road.



SOURCES OF STUDENTS

The U.S. Army Defense Ammunition Center and School (USADACS) conducts explosive safety training for a wide and varied clientele, crossing Service and Agency lines and even venturing into the private sector via government contractors.

Under the Department of the Army Explosive Safety Management Plan, the Ammunition School has responsibility for all Army explosive safety training. The Single Manager for Conventional Ammunition (SMCA) regulation, DOD 5160.65M, provides for the training for all the Services. Under a Memorandum of Agreement with the Department of the Navy, USADACS provides explosive safety training for both Navy civilians and military. Contractor personnel, non-DOD and international military students are provided explosive safety training on a space available basis.

SOURCES OF STUDENTS

ARMY

NAVY

AIR FORCE

MARINES

CONTRACTOR

OTHER FEDERAL AGENCIES

INTERNATIONAL MILITARY

TYPES OF TRAINING

- **Explosive safety is an integral part of all courses taught at USADACS. Those courses to be discussed here can be classified into four broad categories:**
- **1. Technical training required for operator/supervisor certification.**
- **2. Training required to certify transportation of hazardous materials by surface, rail, air or sea modes under Department of Transportation (DOT) and Coast Guard and aviation regulations.**
- **3. Non-technical training provided to safety and managerial personnel of the Army.**
- **4. Non-technical training provided to safety and managerial personnel of the Navy.**

TYPES OF TRAINING

- OPERATOR/SUPERVISOR CERTIFICATION
- TRANSPORTATION CERTIFICATION
- ARMY EXPLOSIVE SAFETY
- NAVY EXPLOSIVE SAFETY

OPERATOR/SUPERVISOR CERTIFICATION

SPECIAL TECHNICAL AMMUNITION AMMO-C-9

- **PURPOSE:** This course provides basic training in the safety and fundamental aspects of ammunition and explosives for personnel directly involved in ammunition operations. It is primarily designed for non-supervisory wage grade employees, including wage leaders, requiring certification as required by AMCR 350-4, TRADOC-R 350-30, and FORSCOM-R 350-10.
- **SCOPE:** Course content will introduce the different classes of ammunition and explosives, stressing safe handling and explosive safety requirements during the receipt, storage, maintenance, production, demilitarization, or issue of ammunition at U.S. Army Installations.
- **SPECIAL INFORMATION:** This course can also be presented onsite and may be tailored to meet Major Army Command (MACOM) requirements (AMMO-C-9-OS).
- **PREREQUISITES:** Nominees should be AMC civilian personnel having a need to become certified under provisions specified in AMCR 350-4.
- **SECURITY CLEARANCE:** None.
- **LENGTH:** 1 Week, 3 Days

Special Technical Ammunition
AMMO-C-9 - Length: 1 Week, 3 Days

Course Content

Orientation
Explosives, Propellants, and Chemical Agents
Packing and Marking
Small Caliber Ammunition
Artillery and Navy Gun Ammunition
Mortars
Rockets
Grenades, 40mm, and Pyrotechnics
Mines and Firing Devices
Bombs
Demolition Materials
Explosive Safety Standards
Standard Tools, Equipment, and Buildings
Storage
Transportation
Standing Operating Procedures
Operational Safety - Maintenance
Operational Safety - Demilitarization
Examination and Critique

SPECIAL TECHNICAL AMMUNITION FOR LOGISTICS ASSISTANCE REPRESENTATIVES (LARS) AMMO-C-24

- **PURPOSE:** This course provides training in the safety and fundamental aspects of ammunition and explosive for AMCCOM Logistics Assistance Representatives (LARS).
- **SCOPE:** Course curriculum will familiarize AMCCOM LARS with different types and classes of ammunition/explosive stressing safety, maintenance, packaging, marking, condition coding, restrictions, and malfunction reporting.
- **PREREQUISITES:** Nominees will be Logistics Assistance Representatives. This course is presented resident only.
- **SECURITY CLEARANCE:** None.
- **LENGTH:** 1 Week, 3 Days

Special Technical Ammunition for Logistics Assistance Representatives (LARS) - AMMO-C-24

Length: 1 Week, 3 Days

Course Content

Orientation

Sources of Information - Army

QASAS Responsibilities at a Using Unit

Explosives, Propellants, and Chemical Agents

Packing and Marketing

Small Caliber Ammunition

Artillery Ammunition

Mortars

Rockets

Grenades, 40mm, and Pyrotechnics

Mines and Firing Devices

Demolition Materials

Explosive Safety Standards

Malfunction Reporting

Examination

TECHNICAL AMMUNITION AMMO-C-3

- **PURPOSE:** This course provides basic training in the technical aspects of ammunition and explosives for personnel involved in ammunition related operations. The course provides a base for advanced study in the ammunition areas of maintenance, demilitarization, storage, supply, and inventory management. In addition, the course meets the requirements for certification of personnel under the provisions specified in AMCR 350-4, TRADOC-R 350-30, and FORSCOM-R 350-10.
- **SCOPE:** Course content includes Army, Navy, and Air Force references for ammunition and related operations, basic information on types of explosives and non-surety chemical agents, ammunition items description and functioning, quantity-distance consideration for explosive safety, and requirements for the storage and transportation of ammunition.
- **PREREQUISITES:** Priority acceptance will be for personnel requiring the course for certification IAW AMCR 350-4. Candidates selected for attendance should be working with ammunition or in related field.
- **SPECIAL INFORMATION:** This course is identified for attendance by international military students through provisions of AR 12-15. This course is presented resident only.
- **SECURITY CLEARANCE:** None.
- **LENGTH:** 7 Weeks, 3 Days

Technical Ammunition
AMMO-C-3 - Length: 7 Weeks, 3 Days

Course Content

Medium Caliber Artillery Ammunition and Fuzes
Mortar Ammunition
Large Caliber Artillery Ammunition
Navy Gun Ammunition
Rockets, Ratios, and Propellant Actuated Devices
Grenades
Aircraft Bombs and Dispenser Munitions
Demolition Materials and Disposal
Military Pyrotechnics
Mines and Firing Devices
DOD Explosives Safety Standards
Ammunition Storage
Transportation
Course Critique, Closeout, and Graduation

BASIC MISSILE OPERATIONAL SAFETY AMMO-M-19-OS

- **PURPOSE:** This course provides the student with training in the basic operating principles of guided missiles and the functioning of missile Class V Components while stressing safe handling procedures and explosive safety requirements during storage, transportation, and maintenance of guided missile ammunition. It is primarily designed for non-supervisory, non-quality assurance wage grade employees requiring certification as defined by AMCR 350-4, TRADOCR 350-30, and FORSCOMR 350-10.
- **SCOPE:** Course includes generalized training on missile shop safety, Standing Operation Procedures (SOPs), blocking and bracing procedures, storage and outloading drawings, fire safety, grounding requirements, hazards of static electricity, and electromagnetic radiation.
- **PREREQUISITES:** None
- **SPECIAL INFORMATION:** This course can also be presented onsite at installations that store, issue, receive, maintain, test, inspect, and demilitarize guided missiles.
- **SECURITY CLEARANCE:** None
- **LENGTH:** 1 Week

Basic Missile Operational Safety
AMMO-M-19-OS - Length: 1 Week

Course Content

Orientation and Introduction

Guided Missile Operating Principles

Explosives and Class V Components

Operational Safety - Missile Maintenance

Operational Safety - Missile Demilitarization

**Operational Safety - Missile Transportation,
Storage, and Handling**

TECHNICAL CHEMICAL SURETY MATERIEL AMMO-M-8

- **PURPOSE:** This course is designed to provide current information and procedures regarding storage and handling of chemical surety agents and ammunition.
- **SCOPE:** Topics discussed include protective clothing, agent detection, decontamination, disposal, general safety, accident response, and the personnel reliability program. Meets the requirements for wage grade certification under AMCR 350-4, TRADOC-R 350-30, and FORSCOM-R 350-10.
- **PREREQUISITES:** This course is for those individuals who are enrolled in the Ammunition Management Intern program as defined in AR 690-950, and individuals requiring certification under the provisions of AMCR 350-4, TRADOC-R 350-30, and FORSCOM-R 350-10. Nominees should be assigned or have a planned assignment requiring knowledge of chemical agents/munitions. They must be capable of moderate exertion while wearing a protective mask and butyl rubber clothing. Students must be clean shaven as required by AMCR 385-131 for the duration of the course. Individuals are not required to be in the Chemical Personnel Reliability Program (CPRP), and no access to Chemical Surety Materiel is required. Federal Hazard Communication training is a prerequisite for U.S. students.
- **SPECIAL INFORMATION:** This course can also be presented onsite. (AMMO-M-8-OS)
- **SECURITY CLEARANCE:** None.
- **LENGTH:** 2 Weeks

Technical Chemical Surety Materiel
AMMO-M-8 - Length: 2 Weeks

Course Content

Orientation
Surety Agents
Chemical Munitions/Containers
Protective Clothing and Equipment
Detection and Identification
Decontamination
Disposal
Effects of Weather and Terrain
Surety Program
Safety Criteria for Agent Activities
Chemical Event Response and Assistance
Examinations

CHEMICAL HAZARD PREDICTION AMMO-M-7

- **PURPOSE:** This course provides current information relative to the prediction of downwind hazard areas resulting from the accidental release of toxic chemical agents.
- **SCOPE:** Course content is designed to provide current information on the chemical and physical properties, toxicity, and physiological effects of the toxic agents GB, VX, and HD and to provide descriptions and characteristics of toxic chemical munitions. Emphasis is on prediction of downwind hazard resulting from a release of toxic agents using personal computers. Maximum Credible Events (MCE), Safety Arcs, and Public Access Exclusion Distance (PAED) are discussed.
- **PREREQUISITES:** Nominees should be individuals who are enrolled in the QASAS Intern Program as defined in AR 690-950-20 or individuals assigned to a position which requires familiarity with the calculation of downwind hazard distances for toxic chemical releases. Examples include hazards analysis for safety submissions, calculation for agent releases for Chemical Accident/Incident Response and Assistance (CAIRA), and emission hazards for chemical operations. Individuals are not required to be in the Chemical Personnel Reliability Program, but must be employees of the U.S. Government. No access to chemical surety materiel is required. Prior completion of the Chemical Surety Materiel Course (AMMO-M-6), Technical Chemical Surety Materiel Course (AMMO-M-8), or equivalent, is recommended but not mandatory. This course is presented resident only.
- **SECURITY CLEARANCE:** None.
- **LENGTH:** 1 Week

Chemical Hazard Prediction
AMMO-M-7 - Length: 1 Week

Course Content

Orientation

Chemical Agents

Chemical Ammunition

Hazard Prediction Control

Estimation of Chemical Hazard Distance

Examinations

TRANSPORTATION CERTIFICATION

GENERAL TRANSPORTATION OF HAZARDOUS MATERIALS AMMO-L-16

- **PURPOSE:** This course provides personnel from all Services with general information pertaining to the transportation of hazardous items.
- **SCOPE:** Course content includes emphasis on DOT and DOD regulations, planning, packaging, marking, labeling, compatibility requirements, placarding and documentation of hazardous material shipments by all modes of transportation. Emphasis placed on physical security of sensitive conventional arms, ammunition, and explosives during transportation. Satisfactory completion of this course meets the requirements of para 1-20b of AFR 71-4/TM 38-250/ NAVSUP PUB 505/MCO P4030.19E/DLAM 4146.3 for certification of DD Form 1387-2, and para 33-7a (1)(b) of AR 55-355/ NAVSUPINST 4600.7/AFR 75-2/MCO P4600.14B/DLAR 4500.3. This course will also cover the procedures necessary for preparing DD Form 1387-2. "Special Handling Data / Certification required for shipments of explosives and other hazardous materials by military air.
- **PREQUISITES:** First priority is for those individuals requiring special certification for job performance. Candidates selected for attendance should be performing work in some phase of transportation of hazardous materials.
- **SPECIAL INFORMATION:** Personnel who successfully complete this course will be certified to accomplish the DD Form 1387-2.
- **SECURITY CLEARANCE:** None
- **LENGTH:** 1 Week

**General Transportation of Hazardous Material
Course - AMMO-L-16 - Length: 1 Week**

Course Content

Orientation

Related Organizations

**Regulations for Safe Shipment of Explosives and
Other Hazardous Materials**

Duties of Transportation Officer

**Definitions of Explosives and Other Hazardous
Materials**

**General Requirements for Safe Shipment of Explosives
and Other Hazardous Materials in Transportation**

**Shipping Paper Requirements for Safe Shipments of
Explosives and Other Hazardous Materials**

**Marking Requirements for Safe Shipment of Explosives
and Other Hazardous Materials**

**General Transportation of Hazardous Material
Course, Continued - AMMO-L-16 - Length: 1 Week**

Course Content

**Placard and Labeling Requirements for Safe Shipment
of Explosives and Other Hazardous Materials**

**Compatibility Requirements for Safe Shipment of
Explosives and Other Hazardous Materials**

**Containers Acceptable for Packaging of Explosives and
Other Hazardous Materials**

DOD Marking and Labeling Requirements

**Physical Security of Sensitive Arms, Ammunition, and
Explosives During Transportation**

**Safe Shipment of Explosives and Other Hazardous
Materials by Air**

Examination and Critique

TECHNICAL TRANSPORTATION OF HAZARDOUS MATERIALS AMMO-L-17

- **PURPOSE:** To provide personnel from all services detailed technical information pertaining to all phases of transportation of hazardous materials by all modes of transportation.
- **SCOPE:** Course content includes emphasis on regulation, planning, packaging, marking, labeling, compatibility requirements, placarding, and documentation of hazardous material shipments by all modes of transportation. Detailed instruction is given on outloading drawings necessary to properly block and brace explosives and other hazardous materials in various modes of transportation. Emphasis is placed on physical security of sensitive conventional arms, ammunition, and explosives during transportation. Course content also includes procedures necessary for preparing DD Form 1387-2, Special Handling Data/Certification, required for shipments of explosives and other hazardous materials by military air; instruction in the International Civil Aviation Organization (ICAO) regulations for safe shipment of hazardous materials by commercial aircraft; and special emphasis on radioactive waste relative to packaging, labeling, placarding, shipping papers, and monitoring requirements. This course meets the requirements for certification of personnel under the provisions specified in AMCR 350-4, TRADOCR 350-3- and FORSCOMR 350-10.
- **PREREQUISITES:** First priority is for those individuals who are enrolled in the QASAS Intern Program as defined in AR 690-250-20. Second priority is for those individuals requiring special certification for job performance. Candidates selected for attendance should be performing work in some phase of transportation of hazardous materials.
- **SPECIAL INFORMATION:** Satisfactory completion of this course meets the requirements of para 1-20b of AFR 71-4/TM 38-250/NAVSUP PUB 505/MCO P 4050.10E/DLAM 4145.3 for certification of DD Form 1387-2 and para 33.7 of AR 66-355/NAVSUPINST 4600.70-2/MCO P 4600.14B/DLAR 4500.3 (1)(b). This course meets the requirements for certification of personnel under the provisions specified in ACMR 350-4, TRADOCR 350-3, and FORSCOMR 350-10. This course can also be presented onsite. (AMMO-L-17-08).
- **SECURITY CLEARANCE:** None
- **LENGTH:** 2 Weeks

Technical Transportation of Hazardous Materials

AMMO-L-17 Course - Length: 2 Weeks

Course Content

Orientation

Related Organizations

**Regulations for Safe Shipment of Explosives and
Other Hazardous Materials**

Duties of Transportation Officer

Definitions of Explosives and Other Hazardous

**Materials General Requirements for Safe Shipment
of Explosives and Other Hazardous Materials in**

**Transportation Shipping Paper Requirements for Safe
Shipments of Explosives and Other Hazardous**

**Materials Marking Requirements for Safe Shipment
of Explosives and Other Hazardous Materials**

**Placard and Labeling Requirements for Safe Shipment
of Explosives and Other Hazardous Materials**

**Compatibility Requirements for Safe Shipment of
Explosives and Other Hazardous Materials**

Technical Transportation of Hazardous Materials
AMMO-L-17 - Continued - Length: 2 Weeks

Course Content

Containers Acceptable for Packaging of Explosives
and Other Hazardous Materials
Procedures for Safe Shipment of Unwanted
Radioactive Waste
DOD Marking and Labeling Requirements
Outloading Drawings - Field Trip
Physical Security of Sensitive Arms, Ammunition,
and Explosives During Transportation
Safe Shipment of Explosives and Other Hazardous
Materials By Rail
Safe Shipment of Explosives and Other Hazardous
Materials by Rail
Safe Shipment of Explosives and Other Hazardous
Materials by Motor Vehicle
Safe Shipment of Explosives and Other Hazardous
Materials by Water
Examinations and Critiques

INTERMODAL DRY CARGO CONTAINER CSC REINSPECTION AMMO-L-10

- **PURPOSE:** This course provides students with information required to reinspect intermodal dry cargo containers IAW the Convention for Safe Containers (CSC) standards.
- **SCOPE:** Course content includes survey of CSC test requirements; detailed analysis of reinspection criteria found in the CSC, U.S. Public Law, and Joint Service Regulations; orientation of container structural members; reporting requirements; and reinspection decal placement.
- **PREREQUISITES:** First priority is for those individuals who are enrolled in the QASAS Intern Program as defined in AR 690-950-20 and the Ammunition Management Intern Program as defined in AR 690-950. Other nominees should occupy, or be expected to occupy, a position which requires a knowledge of container reinspection standards.
- **SPECIAL INFORMATION:** Onsite training in the Intermodal Dry Cargo Container CSC Reinspection Course at various selected geographical locations is possible, provided such arrangements are made and approved through command channels. Personnel successfully completing the course will be certified as U.S. Army CSC Inspectors as required by TB 43-0241.
- **SECURITY CLEARANCE:** None
- **LENGTH:** 3 Days

Intermodal Dry Cargo Container CSC Reinspection

AMMO-L-10 - Length: 3 Days

Course Content

Orientation

Overview of Containerization

Structure of Containers

Inspection Criteria

ARMY EXPLOSIVE SAFETY

U.S. ARMY EXPLOSIVE SAFETY AMMO-C-22

- **PURPOSE:** To provide U.S. Army safety specialist with training in ammunition explosive safety.
- **SCOPE:** Training includes review of publications, drawings, and other sources of information from which explosive safety technical data may be extracted; recognition of the characteristics of explosives, propellants, and chemicals and their impact upon safe operating procedures; identification of explosive hazard classes and item compatibility groups for safe storage and transport; application of explosive safety standards in determining explosive limits and computation of quantity distance requirements; evaluation of site plans and preparation of waivers and exemption requests; review of malfunction investigative procedures, explosive accident investigation and implementation of proper range procedures and safety; and identification of environmental requirements and hazard analysis procedures and their effects on explosive safety related areas.
- **PREREQUISITES:** Attendees will be U.S. Army Safety Interns and/or GS-09 and above safety specialists and engineers currently assigned to locations where explosive operations are ongoing.
- **SPECIAL INFORMATION:** This course can also be presented onsite.
- **SECURITY CLEARANCE:** NONE
- **LENGTH:** 2 Weeks, 3 Days

U.S. Army Explosive Safety
AMMO-C-22 - Length: 2 Weeks, 3 Days

Course Content

Orientation

Characteristics of Explosives and Propellants

Explosive Hazard Classification and Compatibility

U.S. and NATO Explosive Safety Standards

Site Plans, Waivers, and Exemptions

Handling and Operational Safety

Storage and Transportation Safety

Building Standards and Structure Inspection

Explosives Accident Prevention

**Risk Assessment, Hazard Analysis and
Risk Management**

NEW PLANT COMMANDERS SAFETY AND ORIENTATION AMMO-C-19

- **PURPOSE:** This course will provide general ammunition, safety, and logistics training for new plant commanders.
- **SCOPE:** The training will introduce the different classes of ammunition and explosives, stressing safe handling and explosive safety requirements. Items discussed in class will be material being produced at the installation student will be assigned to.
- **PREREQUISITES:** Students attending shall be Lieutenant Colonels coming into an assignment at an Army Ammunition Plant (AAP). Actual subcourses taught will be contingent on upcoming assignment of officers.
- **SPECIAL INFORMATION:** This course is presented resident only.
- **SECURITY CLEARANCE:** None.
- **LENGTH:** 1 Week

New Plant Commanders Safety and Orientation
AMMO-C-19 - Length: 1 Week

Course Content

Orientation

Explosives, Propellants, and Chemical Agents

Packing and Marking

**Small Caliber & Artillery Ammunition (Including
Mortars and Rockets)**

Grenades, 40mm, and Pyrotechniques

Mines and Firing Devices

Bombs

Storage and Transportation

Operational Safety for Disposal Operations

Explosive Safety Standards

Standing Operating Procedures

Environmental Requirements

General Safety

Accident Investigation and Reporting

Critique, USADACS Tour, and Closeout

NAVY EXPLOSIVE SAFETY

NAVAL MOTOR VEHICLE AND RAILCAR INSPECTION (HM)
S-000-0022 (Formerly ES-250)

- **PURPOSE:** This is the basic training course required by OP 2165 and OP 3681 to provide newly assigned inspection personnel with the up-to-date requirements, techniques, and procedures for inspection of motor vehicle and railcars for ammunition, explosives, and other related hazardous materials.
- **SCOPE:** Course provides students with instruction in DOT hazardous materials identification and communication procedures to include shipping paper preparation, marking, labeling, and placarding requirements; DOT packaging requirements; DOT loading and unloading requirements to include compatibility; DOT, DOD, and Navy transport equipment inspection procedures (hands-on) using DD Form 626, Motor Vehicle Inspection (Transporting Hazardous Material), and NAVSEA Form 802, blocking and bracing procedures; Navy transportation safety requirements; and security of sensitive conventional arms, ammunition and explosives. The requirements for Navy ammunition and explosive shipments are emphasized.
- **PREREQUISITES:** Candidates selected for attendance must be Navy or Marine personnel (military, civilian, and contractors) assigned functions of inspecting motor vehicles and/or railcars used for hazardous materials shipments or closely related positions.
- **SPECIAL INFORMATION:** This course can also be presented onsite (S-000-0022-OS).
- **SECURITY CLEARANCE:** None.
- **LENGTH:** 1 Week, 3 Days

Naval Motor Vehicle and Railcar Inspection (HM)
S-000-0022 (Formerly ES-250) Length 1 Week, 3 Days

Course Content

Orientation

**DOT Requirements for Safe Shipment of Explosives and
Other Hazardous Materials**

DOD Marking and Labeling Requirements

**Regulations and Forms Required to Assure Current
Security Requirements are Correctly Implemented**

**Procedures and Practices Applicable to Loading and
Securing of Hazardous Materials for Transportation
by or to the Navy in Railcars, Trucks, and
Trailers**

**Safe Shipment of Explosives and Other Hazardous
Materials by Rail**

**Safe Shipment of Explosives and Other Hazardous
Materials by Motor Vehicle**

Examination, Critique, Graduation, and Departure

NAVAL MOTOR VEHICLE AND RAILCAR (HM) SHIPMENT REGULATIONS - S-000-0023 (Formerly ES-255)

- **PURPOSE:** This is a refresher course required by OP 2165 and OP 3681 in DOT and Navy regulations concerning the safe transportation of ammunition, explosives, and related hazardous materials and transport vehicle inspection.
- **SCOPE:** This course provides students with refresher training in DOT hazardous materials identification and communication procedures to include shipping papers, marking, labeling, and placarding requirements; DOT packaging requirements; DOT loading and unloading requirements to include compatibility; DOT, DOD, and Navy transport equipment inspection procedures; blocking and bracing procedures; and security of sensitive conventional ammunition and explosives in transportation.
- **PREREQUISITES:** Candidates selected for attendance must be Navy or Marine personnel (military, civilian, contractors) assigned functions of inspecting motor vehicles and/or railcars used for hazardous materials shipments or closely related positions.
- **SPECIAL INFORMATION:** This course can also be provided onsite (S-000-0023-OS0). This course must be successfully completed every two years for recertification.
- **SECURITY CLEARANCE:** None.
- **LENGTH:** 1 Week

Naval Motor Vehicle and Railcar (HM) Shipment Regulations S-000-0023 (Formerly ES-255) - 1 Week

Course Content

Orientation

DOT Requirements for Safe Shipment of Explosives
and Other Hazardous Materials

DOD Marking and Labeling Requirement

Physical Security of Sensitive Conventional Arms,
Ammunition, and Explosives During Transportation

Blocking and Bracing of Ammunition, Explosives, and
Other Hazardous Materials in Railcar and Motor
Vehicles

Safe Shipment of Ammunition, Explosives, and Other
Hazardous Materials by Motor Vehicle and Railcar
Examinations, Critique, and Graduation

EXPLOSIVE SAFETY FOR NAVAL FACILITY PLANNING

S-000-0024 (Formerly ES-305)

- **PURPOSE:** To emphasize the preparation and/or review of Navy site plans submitted for various explosive facilities.
- **SCOPE:** Course includes an in-depth review of DOD quantity distance standards and application of these standards in the form of a Facility Design Problems Workshop.
- **PREREQUISITES:** Attendees should be U.S. Navy/Marine Corps facility planners responsible for explosive facilities at shore installation, safety department personnel responsible for review of facility site plans and individuals who fall within the review chain of a typical Navy/Marine Corps facility site plan.
- **SPECIAL INFORMATION:** This course can also be presented onsite (S-000-0024-OS).
- **SECURITY CLEARANCE:** None.
- **LENGTH:** 4 1/2 Days

Explosive Safety For Naval Facility Planning
S-0001-0024 (Formerly ES-305) Length: 4 1/2 Days

Course Content

Orientation

Explosives and Propellants

Explosive Safety Standards

Site Planning

Facility Design Problems Workshop

Examination and Critique

BASICS OF NAVAL EXPLOSIVE HAZARD CONTROL S-000-0025 (Formerly ES-310)

- **PURPOSE:** To provide basic introductory information as to safety practices described in OP 5 in a wide range of hazardous situations.
- **SCOPE:** Evaluation, classification, and control of hazards, safety in maintenance, demilitarization, transportation, and various handling operations will be covered. Characteristics of ammunition and explosives, storage compatibility, and quantity distance requirements will be introduced. An explanation of the Navy Safety and Qualification/Certification programs will be given. An examination is given on combined subcourse material.
- **PREREQUISITES:** Those attending must be Navy/Marine Corps personnel, responsible for safety in operations involving ammunition and explosives.
- **SPECIAL INFORMATION:** This course can also be presented onsite (S-000-0025-OS)
- **SECURITY CLEARANCE:** None.
- **LENGTH:** 1 Week

Basics of Naval Explosive Hazard Control
S-000-0025 (Formerly ES-310) - Length: 1 Week

Course Content

Orientation
Navy Explosive Safety Program
Characteristics of Ammunition and Explosives
Explosive Safety Principles
Safety Procedures for Storage and Handling
Operations
Transportation of Ammunition and Explosives
Maintenance and Disposal Operations
Examination and Critique

**EXPENDABLE ORDNANCE MANAGEMENT (EOM) COURSE (NAVY)
S-4E-0001**

- **PURPOSE:** To provide a mid-career course of training in the technical and managerial aspects of ammunition and explosives for Naval Officers O-3 to O-5 and civilian personnel involved in ammunition operations and provide a professional foundation in areas of maintenance, demilitarization, storage, supply, and inventory management of ammunition for personnel assigned to missions of receipt, storage maintenance, demilitarization, and issue of ammunition and related items. Additionally, this course will provide senior level ammunition management training to improve the capability of the ammunition manager, increase effectiveness in management of resources in ammunition operations, improve safety, and produce increased serviceability of assets.
- **SCOPE:** Course content includes specific Navy and Marine Corps item identification and functioning, sources of information available (primarily Navy but also DOD, Army, and Air Force), storage and transportation methods and requirements, and safety regulation requirements pertinent to ammunition operations. Management aspects of Planning, Programming, and Budgeting Systems, requirements determination, procurement and configuration management, and SMCA involvement as well as Systems Command responsibilities are presented.
- **PREREQUISITES:** Prospective attendees should be occupying key ammunition management positions at command locations, field organizations, weapons stations, air stations, or staff positions, or be in receipt of permanent change of station orders which include attendance TEMDUINS.
- **SECURITY CLEARANCE:** Secret.
- **LENGTH:** 6 Weeks

Expendable Ordnance Management (EOM) Course (Navy)
S-4E-0001 - Length: 6 Weeks

Course Content

Orientation

Sources of Information

Ammunition Organizations

Explosives, Propellants, and Non-Surety Chemical Materials

Fundamentals of Conventional Ammunition

U.S. and NATO Explosive Safety Standards (Quantity Distance)

Total Quality Management (TQM)

Ammunition Malfunctions and Investigations

Ammunition Maintenance and SOP Writing

Ammunition Demilitarization

Ammunition Supply

Expendable Ordnance Management (EOM) Course (Navy)
S-4E-0001 - Continued - Length: 6 Weeks

Course Content

Ammunition Inventory

Ammunition Storage

Ammunition Production, Planning and Control

Ammunition Transportation

Navy Explosives Safety Programs

Nuclear Weapons Safety and PRP Programs

Naval Industrial Funding

Environmental Issues

Basic Naval Weapons Station Organization

Ammunition Security

Labor Relations and Union Issues