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31 December 2014



US Army Corps
of Engineers®

SAFETY

SAFETY AND HEALTH REQUIREMENTS FOR OPERATIONS AND ACTIVITIES INVOLVING MUNITIONS AND EXPLOSIVES OF CONCERN

ENGINEER REGULATION

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Regulation
No. 385-1-95

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INVOLVING MUNITIONS AND EXPLOSIVES OF CONCERN

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Safety

SAFETY AND HEALTH REQUIREMENTS FOR OPERATIONS AND
ACTIVITIES INVOLVING MUNITIONS AND EXPLOSIVES OF CONCERN

1. Purpose. This regulation identifies safety and health requirements and responsibilities for military munitions (MM) response actions and Munitions and Explosives of Concern (MEC) related operations, including chemical warfare materiel (CWM). The safety and health requirements concerning Hazardous, Toxic, and Radioactive Waste (HTRW) activities are addressed in ER 385-1-92.
2. Applicability.
 - a. This regulation applies to Headquarters, United States Army Corps of Engineers (HQUSACE) elements, regional business centers (RBC), the Environmental and Munitions Center of Expertise (EM CX), MM Design Centers, Project Management (PM) Districts, and USACE contractors performing MM response actions and MEC-related operations, including those involving chemical warfare materiel.
 - b. This regulation applies to all United States Army Corps of Engineers (USACE) personnel performing projects where MEC, including CWM, are known or suspected to be present and when they are encountered. This includes Military Program and Civil Works construction and dredging projects, including International and Interagency Services (IIS) projects, and Environmental munitions response projects such as for Formerly Used Defense Sites (FUDS), Base Realignment and Closure (BRAC), and active service component Military Munitions Response Program (MMRP)).
3. Distribution Statement. Approved for public release. Distribution is unlimited.
4. References. Required and related publications are listed in Appendix A.
5. Explanation of Abbreviations and Terms. Acronyms and terms used in this regulation are explained in the Glossary.

6. Policy.

a. Explosives safety is critical to the success of operations at project sites where explosive hazards are known or suspected to be present.

b. All USACE MM response actions and MEC-related operations shall be planned and conducted in accordance with established Department of Defense (DoD), Department of the Army (DA), and USACE explosives safety requirements contained in DoD 6055.09-M, DA PAM 385-64, EM 385-1-97 and EP 75-1-3.

c. All conventional munitions projects will be executed with the assistance of a designated military munitions design center (MMDC).

d. All USACE CWM projects will be executed by the CWM Design Center, located at the Huntsville Engineering and Support Center.

e. USACE Ordnance and Explosives Safety Specialists (OESS) will be included on all munitions related project delivery teams. They will be trained and qualified in accordance with Department of Defense Explosives Safety Board (DDESB) Technical Paper (TP) 27. DoD policy requires contractor unexploded ordnance (UXO) personnel to be trained and qualified in accordance with TP 18.

f. All USACE CWM project teams will be required to successfully complete a pre-operational survey in accordance with DA PAM 385-61. HQUSACE has delegated this responsibility to the CWM Design Center in Huntsville, AL.

g. During MEC-related operations, access to exclusion zones will be restricted to essential personnel and authorized visitors escorted by UXO personnel. Positive controls [e.g., signs (multilingual, as appropriate), fencing, guards], appropriate to the project, shall be used to prohibit entry of unauthorized personnel. (See EM 385-1-97, Chapter 1)

h. An approved munitions response safety submission or site plan is required before the start of munitions response activities (e.g., field activities) that involve the placement of explosives on a site; the intentional physical contact with MEC or chemical agent (CA) regardless of CA configuration; or the conduct of ground disturbing or other intrusive activities in areas known or suspected to contain MEC or CA. (See EM 385-1-97, Chapter 1)

i. All personnel working at, or visiting, a munitions response project site shall comply with all applicable explosives safety and occupational health and safety requirements.

(1) Abbreviated Accident Prevention Plan. When USACE personnel conduct preliminary project activities of a non-intrusive nature (i.e., initial site visits, pre-work plan visits, and public affairs visits) on sites where MEC is known or suspected to be present an abbreviated accident prevention plan shall be developed and approved in accordance with EM 385-1-1 and EM 385-1-97, Chapter 1.

(2) Accident Prevention Plan/Site Safety and Health Plan. All munitions project activities require the development of an accident prevention plan/site safety and health plan in accordance with EM 385-1-1 and EM 385-1-97. The plan shall address all safety and occupational health hazards associated with MEC-related operations. There are overlapping elements in these plans; elements are not to be duplicated providing they are addressed fully. The Site Safety and Health Plan is an Appendix to the Accident Prevention Plan

j. Department of Defense Explosives Safety Board approved engineering controls may be used to reduce minimum separation distances (MSD) for MEC-related operations. Engineering controls must be addressed in the munitions response safety submission or site plan.

k. Not all MMRP projects and related operations require on-site government safety oversight and those that do, do not always require that presence 100% of the time. This determination is made jointly by the USACE District project manager, project technical manager/lead, and project OESS.

l. Minimum explosives safety oversight requirements are based on the type of munitions present and/or activities being conducted. (See table below.)

Minimum Government Safety Oversight (GSO) Requirements

Activity or Site Type	Continuous GSO Req'd.?	Comments
Involving Improved Conventional Munitions (ICMs) or submunitions.	Yes	Continuous GSO required from beginning of field operations through field operation completion.
Involving Recovered Chemical Warfare Materiel	Yes	Continuous GSO required from beginning of field operations through field operation completion.
Have the potential for UXO or include any demolition operations	No	Typically during first 2 weeks of MEC-related operations and periodically thereafter. Determined by the project team, see paragraph 6.k above.

7. Responsibilities.

a. HQUSACE.

(1) The Chief, Environmental Division, HQUSACE (CEMP-CE) shall be responsible for overall Defense Environmental Restoration Program (DERP) management, policy, and technical direction.

(2) The Chief, Headquarters USACE Safety and Occupational Health Office, (CESO) shall:

(a) Designate a Safety Program Manager to manage and support the USACE explosives safety program.

(b) Develop and approve USACE explosives safety and health policy and procedures.

(c) Provide direction and guidance on explosives safety and health issues.

(d) Coordinate with higher headquarters and elements within the Headquarters, USACE, on explosives safety and health issues.

(e) Resolve conflicts regarding explosives safety issues within USACE, and higher Headquarters and other customers.

(f) Conduct periodic safety reviews to ensure program compliance with established requirements.

(g) Conduct preoperational surveys for CWM projects. The lead for preoperational surveys has been delegated to the U.S. Army Engineering and Support Center, Huntsville, CWM Design Center, with the MM Division of the EM CX providing quality assurance.

(h) Develop/recommend training curriculum requirements to provide advancement and enhance competencies among OESSs.

(3) Chief, Engineering and Construction Division, HQUSACE will serve as the USACE engineer and construction manager, with responsibility for ensuring that explosives safety and health criteria and procedures are incorporated into the design and carried-out during construction on projects where MEC is known or suspected to be present.

b. Regional Business Centers. RBCs will provide safety and health oversight, through the Safety and Occupational Health Office, to ensure operations are in compliance with occupational safety and health administration (OSHA) requirements. RBCs will conduct annual evaluations of the district's safety program, to include explosives safety.

c. Project Management Districts. The project management district is the overall manager for the entire life cycle of assigned projects. A complete list of roles and responsibilities are provided in ER 1110-1-8153 and ER 200-3-1. With regard to safety and health, the PM District:

(1) Determines level of GSO jointly with the project technical manager/lead and OESS;

(2) Assures District safety and occupational health office is actively involved on all health and safety related issues, including review of accident prevention plans and site safety and health plans;

(3) Assures a qualified OESS and industrial hygienist are included on all project delivery teams;

(4) Assures an OESS is actively involved on all explosives safety related issues, including review of munitions response explosives safety submissions and site plans.

d. MM Design Centers. Designated MMDCs provide project planning and execution services to the PM District. Authorized Design Centers and their responsibilities are listed in ER 1110-1-8153 and ER 200-3-1. With regard to safety and health, MM Design Centers are responsible for:

(1) Providing a Technical Lead/Technical Manager responsible for coordinating all munitions and MEC-related aspects of safety and quality.

(2) Maintaining qualified technical and safety resources in accordance with ER 1110-1-8153.

e. CWM Design Center. Located at the U.S Army Engineering and Support Center, Huntsville, this is the only USACE entity authorized to design and execute CWM projects. Role and responsibilities are contained in ER 1110-1-8153 and ER 200-3-1 with procedural guidance contained in EP 75-1-3 and current Army guidance.

f. The USACE Engineer Research and Development Center. The Engineer Research and Development Center will comply with RBC's responsibilities, develop standing operating procedures for the research and development work, work plans, munitions response safety submissions and site plans, accident prevention plan/site safety and health plan, for the required MEC research and development work, as applicable, and submit the documents requiring approval from U.S. Army Technical Center for Explosives Safety (USATCES) through the EM CX MM Division for Direct Reporting Unit (DRU) review and approval.

g. EM CX, Military Munitions Division. This group will do the following:

(1) Review and transmit Certificate of Compelling Reasons or Deviation and Risk Acceptance Documents, and munitions response safety submissions/site plans to USATCES for approval, as required.

(2) Provide DRU approval for all FUDS munitions response safety submissions and site plans.

(3) Process, review and/or provide written concurrence regarding the technical adequacy of munitions response safety submissions and site plans based on customer requests for projects other than FUDS.

(4) Provide technical safety and health support (e.g., guidance documents, incident investigation, committee participation) as requested by CESO.

(5) Develop explosives safety awareness training as needed to support USACE mission needs, and provide instructors as required.

(6) Conduct explosives safety audits for compliance with approved safety submissions and ensure OESS training is in accordance with DDESB TP-27. Results and recommendations will be provided to the CESO Explosives Safety Program Manager.

(7) Issue "Safety Alerts and Advisories," notifying OESS and UXO contractors of problems or potential problems concerning safety and health.

(8) Provide quality assurance for all preoperational surveys conducted for all USACE CWM projects by performing independent technical review (ITR) of pre-operational survey reports.

h. Ordnance and Explosives Safety Specialists.

(1) Identify fuzing and fuze condition.

(2) Recognize AE types by function, determines hazards, and makes risk assessments.

(3) Apply explosives safety principles in various environments and/or media, including land and water.

(4) Conduct reviews of project documents for proper application of explosives safety requirements (policy, regulations, guidance and standard operating procedures).

(5) Conduct quality assurance inspections of contractor field operations with regard to applicable explosives and occupational health and safety requirements, and other assigned contract surveillance activities.

(6) Assist with coordination of Explosives Ordnance Disposal (EOD) and Chemical, Biological, Radioactive, Nuclear and Explosives Analytical and Remediation Activity (formerly known as Technical Escort Unit responses with the contractor operations, as required).

(7) Serve as a project delivery team member, at a minimum, representing explosives safety functional areas to the project delivery team, regulators, stakeholders, and the public.

(8) Advise and provide training for various stakeholders regarding explosives safety issues.

(9) Ensure accidents are reported.

(10) Participate in accident investigations.

8. Explosives and Chemical Agent Contaminated Media.

a. General.

(1) A munitions response safety submission or site plan may be required if the explosives contaminated media is of a high enough concentration to be explosive. No work involving handling or disposing of contaminated media will begin without an approved safety submission or site plan (if required). For HTRW related safety guidance see ER 385-1-92.

(2) Support will be provided by UXO personnel, who meet the qualifications specified in DDESB TP 18, during sampling at any location where the potential for MEC exists. Refer to EM 385-1-97, Chapter 1 for requirements for UXO support during HTRW and construction activities. DoD 6055.09M-V7, Paragraph V7.E4.4. is the source for the following paragraphs b. through e.

b. Primary Explosives. Soil containing 2% or more by weight of any primary explosive or mixture of primary explosives presents an explosive hazard and shall be treated as hazard class/division (HD) 1.1. Media containing less than 2% by weight of any primary explosive does not present an explosive hazard, will be considered non-explosive munitions constituents (MC) and the requirements of this ER do not apply. (See ER 385-1-92 for HTRW safety concerns)

c. Secondary Explosives. Secondary explosives are much less sensitive than primary explosives. Soil containing 10% or more by weight of any secondary explosive or a mixture of secondary explosives presents an explosive hazard and shall be treated as HD 1.1. Soil containing less than 10% by weight of any secondary explosive or a mixture of secondary explosives does not present an explosive hazard, will be considered non-explosive MC and the provisions of this ER do not apply. (See ER 385-1-92 for HTRW safety concerns.)

d. Nitroglycerine, Nitrocellulose, or Nitro-guanidine. Soil containing 10% or more by weight of nitroglycerine, nitrocellulose, or nitro-guanidine presents an explosive hazard and shall be treated as HD 1.1. Soil containing less than 10% by weight nitroglycerine, nitrocellulose, and nitro-guanidine, does not present an explosive hazard,

will be considered non-explosive MC and the provisions of this ER do not apply. (See ER 385-1-92 for HTRW safety concerns.) Care must be taken when applying this threshold rule to nitroglycerine in less permeable soils, such as clay, that may cause nitroglycerine to pond, rather than be absorbed.

e. Other Energetic Mixtures. The potential explosive hazard of such mixtures in soil may be unknown and may require testing. If the hazard is unknown, manage soil mixtures containing only propellants as secondary explosives, and all other soil mixtures containing energetics (e.g., liquid propellants) as primary explosives.

f. Chemical Agent Contaminated Media. Chemical agent contaminated media is addressed in EP 75-1-3 and in the project Environmental Media Sampling and Analysis Plan.

g. Explosives/Chemical Contaminated Buildings and Structures. Military munitions operating buildings (e.g., munitions production or demilitarization facilities) and any installed equipment may contain residual explosives that present an explosive hazard. To the extent such buildings or installed equipment is believed to present an explosive or CA hazard, USACE must submit the required safety submission or site plans for DRU approval. (See EM 385-1-97 Chapter 1)

9. Accident/Incident Reporting.

a. All explosives accidents/incidents shall be investigated per ER 385-1-99 to determine the cause and controls shall be developed to prevent recurrence.

b. For conventional munitions notification and reporting of explosives accidents/incidents shall be in accordance with ER 385-1-99, AR 385-10 and DA Pam 385-40. Notification of DDESB for Explosives and Chemical Agent Mishaps will be in accordance with DoD 6055.09-M. Accidents on MEC project locations shall be reported immediately to the Government Designated Authority (GDA) at the District Safety Office with an information copy to the EM CX MM Division.

c. Chemical event reports shall be submitted in accordance with Department of the Army (DASA ESOH) Memorandum, dated 1 April 2009, SUBJ: Interim Guidance for Chemical Warfare Material (CWM) Responses and submitted through the CEHNC CWM DC or the EM CX utilizing the Chemical, Biological Event Reporting System (CBERS) guidance found at the DAC web site (<https://www3.dac.army.mil/>) These reports will normally be submitted by the on-site management team with the assistance of the CWM DC for HQUSACE. Additional reporting requirements are identified in the CBERS program Manual.

10. Waivers. The Army no longer uses waivers for explosives type operations, now a Certificate of Compelling Reason (CCR) or Deviation Approval and Risk Acceptance Document (DARAD) is required. Current waivers will not be renewed, but replaced with

DARADs if the condition for which the waiver was approved has not been corrected. CCRs and DARADs shall be processed in accordance with DA PAM 385-30 and CESO-E, 25 March 2003 memorandum, subject: HQUSACE Delegation of Authority.

a. Deviation Approval and Risk Acceptance Document. A DARAD is utilized when explosives safety requirements cannot be met, and the Commander has conducted an assessment of risk and is willing to accept a temporary increase in risk to accomplish the mission. See DA Pam 385-30, Mishap Risk Management.

b. Certificate of Compelling Reason.

(1) New construction. When building or performing a major modification on a structure (greater than 15 percent of current value) that violates or will violate the provisions of this regulation or DA Pam 385-64, the commander must certify such projects are essential due to operational necessity or other compelling reasons and obtain written authority. (See AR 385-10, paragraph 5-5.a)

(2) Existing facilities. When an existing facility violates the provisions of this regulation or DA PAM 385-64, CCRs will be executed. The risk will be accepted at the appropriate level of command.

c. Deviation Approval and Risk Acceptance Document replaces DA Form 7632 (Certificate of Risk Acceptance). The new form is only required for violations of explosives and chemical safety standards. However, it is highly recommended for use in accepting risk for biological hazards and for industrial-based operation hazards.

d. If the certificate or DARAD is for a period greater than sixty-calendar days copies of the certificates will be provided to USATCES and those for greater than one year will be provided through USATCES to the Office of the Director of Army Safety.

11. Training.

a. All personnel (supervisory and non-supervisory) who produce, handle, transport, store, inspect, test, maintain, use, demilitarize, dispose of explosives and design/construct explosives type facilities or place facilities in the arc of a potential explosion site shall complete explosives safety training, appropriate for their job requirements, to enable them to perform these activities in a safe manner.

b. Periodic refresher training will be completed as necessary to ensure knowledge of and competency in explosives safety.

c. USACE OESS training requirements are specified in Appendix F of TP 27 which can be found on the DDESB web page and are shown below:

(1) OESSs, CP 12, GS-0018, are individuals appointed by the USACE to support the execution of the MMRP and other work including clearance of operational ranges for

maintenance purposes and to support new construction. Work may be performed in the continental United States and outside the continental United States. USACE OESSs are former military personnel graduated from the Naval EOD School.

(2) The table below outlines the training, certification and education requirements for USACE OESS personnel. Personnel at the GS-11/12 level are generally those conducting project level activities, while GS-13 personnel are team leaders or supervisors. Regardless of grade, all new hires must complete mandated training. Other courses may also be identified and considered to enhance personnel skills and abilities.

USACE OESS Training and Education Plan¹

Course	GS-11/12	GS-13	Duration	Source
EOD Technician ²	Mandated	Mandated	-	Naval EOD School
HAZWOPER ³	Mandated	Mandated	40	Resident (Vendor - refresher according to certificate)
USACE EM 385-1-97, "Explosives - Safety and Health Requirements Manual" ⁴	Mandated	Mandated	32	Resident (Environmental and Munitions Center of Expertise) http://www.hnc.usace.army.mil/Missions/environmentalandMunitions.aspx
AMMO 68 - Military Munitions Rule ⁴	Mandated	Mandated	Self Paced	http://www.dactces.org Updates when Rule changes.
Proponent Sponsored Engineer Corps Training (PROSPECT) Course #356 - CERCLA/RCRA Process	Recommended	Recommended	24	Resident (PROSPECT) http://ulc.usace.army.mil/
PROSPECT Course #215 Construction Safety ⁴	Mandated	Mandated	30	Resident (PROSPECT) http://ulc.usace.army.mil/
First Aid and CPR ⁴	Mandated	Mandated		Resident (Vendor – refresher according to certificate)
AMMO 62 - Technical Transportation of Hazardous Materials	Recommended	Recommended	80	http://www.dactces.org
AMMO 37-DL General Transportation of Hazardous Materials – Refresher	Recommended	Recommended	40	http://www.dactces.org

Course	GS-11/12	GS-13	Duration	Source
AMMO 20 - Chemical Agent Safety	Recommended	Recommended	32	http://www.dactces.org
AMMO 27 - Conventional Ammunition Radiation Hazards	Recommended	Recommended	24	http://www.dactces.org
AMMO 45 – Introduction to Ammunition ⁵	Mandated	Mandated	8-DL	http://www.dactces.org
AMMO 63 – Explosives Safety Familiarization ⁵	Mandated	Mandated	12-DL	http://www.dactces.org
AMMO 78 – Ammunition Publications ⁵	Mandated	Mandated	6-DL	http://www.dactces.org
AMMO 107 – ESM for Safety Professionals ⁵	Mandated	Mandated	18-DL	http://www.dactces.org
PROSPECT Course #175-Dive Safety Administrator ⁶	Mandated	Mandated	88	Resident (PROSPECT) http://ulc.usace.army.mil/
PROSPECT Course #397-Dive Safety Administrator Refresher ⁶	Mandated	Mandated	40	Resident (PROSPECT) http://ulc.usace.army.mil/ Every 4-yrs, after completing PROSPECT course #175
<p>¹ This plan may be modified after the Army completes the CP-12 Explosives Safety Competency Model. For Core competency, see Note 5. The Army Explosives Safety Training Working Group is currently developing advanced- level training requirements.</p> <p>² USACE Pre-Requisite for appointment to OESSs.</p> <p>³ Mandated prior to assignment to hazardous waste/MMRP operations.</p> <p>⁴ To be scheduled within 6 months of initial employment or placement.</p> <p>⁵ Mandated Core Competency, Level I (introductory-level training) courses mandated by Director of Army Safety, see Table B.2. Courses are to be completed for current employees by December 2013 and for those hired after December 2013, within 6 months of hiring.</p> <p>⁶ Only for those OESSs involved in the oversight of under-water contractor MMRP work.</p> <p><i>This table is an extract from DDESB TP 27.</i></p>				

FOR THE COMMANDER:

Appendix A, References
GlossaryWILLIAM H. GRAHAM
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APPENDIX A
References

A-1. Required Publications.

DoD 6055.09-M
DoD Ammunition and Explosives Safety Standards

DDESB TP 18
Minimum Qualifications for Unexploded Ordnance (UXO) Technicians and Personnel

DDESB TP 27
Explosives Safety Training

AR 50-1
Biological Surety

AR 50-6
Chemical Surety

AR 385-10
The Army Safety Program

DA PAM 385-30
Mishap Risk Management

DA PAM 385-40
Army Accident Investigations and Reporting

DA PAM 385-61
Toxic Chemical Agent Safety Standards

DA PAM 385-63
Range Safety

DA PAM 385-64
Ammunition and Explosive Safety Standards

DA Memorandum 2009
DASA ESOH, Interim Guidance for Chemical Warfare Materiel Responses,
1 April 2009

ER 200-3-1
Formerly Used Defense Sites Program Policy

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ER 385-1-92
Safety and Occupational Health Requirements for Hazardous, Toxic, and Radioactive Waste (HTRW) Activities

ER 385-1-99
Accident Investigation and Reporting

ER 1110-1-8153
Military Munitions Support Services

EM 385-1-1
Safety and Health Requirements

EM 385-1-97
Explosives Safety and Health requirements Manual

EP 75-1-3
Recovered Chemical Warfare Materiel Response Process

CESO-E
25 March 2003 memorandum, subject: HQUSACE Delegation of Authority.

A-2. Related Publications.

10 U.S.C. 101(e)(5)
Unexploded Ordnance

10 U.S.C. 2710(e)(2)
Discarded Military Munitions

10 U.S.C. 2710(e)(3)
Munitions Constituents

42 U.S.C. 2011 et seq.
Atomic Energy Act of 1954

40 CFR 266 Subpart M.
Military Munitions

29 CFR 1910
Occupational Safety and Health Standards

29 CFR 1926
Construction Standards

29 CFR 1960
Basic Program Elements for Federal Employee Occupational Safety and Health
Programs and Related Matters; Subpart I for Recordkeeping and Reporting
Requirements

DDESB TP 16
Methodologies for Calculating Primary Fragment Characteristics

AR 385-63
Range Safety

AR 75-14
Interservice Responsibilities for Explosive Ordnance Disposal

DA PAM 40-8
Occupational Health Guidelines for the Evaluation and Control of Occupational
Exposure to Nerve Agent GA, GB, GD, and VX Operations
DA PAM 40-173

Occupational Health Guidelines for the Evaluation and Control of Occupational
Exposure to Mustard Agents H, HD, AND HT

DA PAM 50-6
Chemical Accident or Incident Response and Assistance (CAIRA)

TM 9-1300-214
Military Explosives

EM 200-1-15
Technical Guidance for Military Munitions Response Actions

ER 5-1-11
Program and Project Management

ER 210-3-2
Army Range Programs

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GLOSSARY

Terms and Abbreviations

Section I
Abbreviations

CA	Chemical Agent
CBERS	Chemical, Biological and Explosives Reporting System
CCR	Certificate of Compelling Reason
CESO	Chief, Safety and Occupational Health Office
CWM	Chemical Warfare Materiel
DA PAM	Department of the Army Pamphlet
DARAD	Deviation and Risk Acceptance Document
DASA ESOH	Deputy Assistant Secretary Of Army (Environmental Safety and Occupational Health)
DDESB	Department of Defense Explosives Safety Board
DERP	Defense Environmental Restoration Program
DMM	Discarded Military Munitions
DoD	Department of Defense
DRU	Direct Reporting Unit
EM CX	Environmental and Munitions Center of Expertise
EOD	Explosives Ordnance Disposal
EZ	Exclusion Zone
FUDS	Formerly Used Defense Sites
HQUSACE	Headquarters, United States Army Corps of Engineers
HTRW	Hazardous, Toxic, and Radioactive Waste
MC	Munitions Constituents
MEC	Munitions and Explosives of Concern
MM	Military Munitions
MSD	Minimum Separation Distance
OESS	Ordnance and Explosives Safety Specialist
PM	Project Manager
RBC	Regional Business Center
SOP	Standing Operating Procedure
USACE	U. S. Army Corps of Engineers
USATCES	U.S. Army Technical Center for Explosives Safety
UXO	Unexploded Ordnance

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Section II Terms and Definitions

Accident Prevention Plan/Site Safety and Health Plan
Reference EM 385-1-1 and ER 385-1-92.

Authorized Visitors

DoD, DA, USACE, or other personnel (MM CX, Department of Defense Explosives Safety Board, HQ Safety, etc.) conducting project or mission related functions, e.g., Quality Assurance Representatives, safety and quality inspectors (including geophysicists, chemists, etc. performing quality assurance functions), and project management. Authorized visitors must be escorted while in the EZ and be approved for entry into the EZ in accordance with procedures in EM 385-1-97. No more than 2 authorized visitors will be permitted in the EZ at any given time.

Chemical Agent

A chemical compound (to include experimental compounds) that, through its chemical properties, produces lethal or other damaging effects on human beings, is intended for use in military operations to kill, seriously injure, or incapacitate persons through its physiological effects. Excluded are research, development, testing, and evaluation solutions; riot control agents; chemical defoliants and herbicides; smoke and other obscuration materials; flame and incendiary materials; and industrial chemicals.

Chemical Event Report

A report that documents chemical accidents, incidents, and other circumstances where there is a confirmed or likely release to the environment, exposure of personnel, threat to the security of chemical agent materiel, or any incident of concern to the local commander (AR 50-6). Additional notification procedures for USACE RCWM projects are identified in CEMP-CE Memorandum Interim Guidance - Notification Procedures for Discovery of Recovered Chemical Warfare Materiel (RCWM) During USACE Projects.

Chemical Warfare Materiel

Items generally configured as a munition containing a chemical compound that is intended to kill, seriously injure, or incapacitate a person through its physiological effects. CWM includes V- and G-series nerve agents or H-series (mustard) and L-series (lewisite) blister agents in other than munition configurations; and certain industrial chemicals (e.g., hydrogen cyanide [AC], cyanogen chloride [CK], or carbonyl dichloride [called phosgene or CG]) configured as a military munition. Due to their hazards, prevalence, and military-unique application, only chemical agent identification sets (CAIS) that contain neat agent or dilute nerve agent are considered CWM. K951/952 are managed as CWM but for storage treatment and disposal are handled as hazardous waste in accordance with DASA ESOH 23 April 2007 memo: Treatment of chemical agent identification set (CAIS) as Hazardous Waste. CWM does not include: riot control devices; chemical defoliants and herbicides; industrial chemicals (e.g., AC, CK, CG) not configured as a munition; smoke and other obscuration producing items;

flame and incendiary producing items; or soil, water, debris or other media contaminated with low concentrations of chemical agents where no chemical agent hazards exist. Soil, water, debris, or other media contaminated with dispersed V- and G- series nerve agent, H- and HN-series blister agent, or L will be considered and managed in accordance with 40 CFR 266 Subpart M. (DASA ESOH) Interim Guidance for Chemical Warfare Materiel (CWM) Responses, April 1, 2009)

CWM Preoperational Survey

An exercise by the DRU or designee performed at the beginning of chemical cleanup operations to determine the readiness of personnel to start those operations, and ensure compliance with all provisions of the site plan and safety submission and Army regulations.

Discarded Military Munitions

Military munitions that have been abandoned without proper disposal or removed from storage in a military magazine or other storage area for the purpose of disposal. The term does not include unexploded ordnance, military munitions that are being held for future use or planned disposal, or military munitions that have been properly disposed of, consistent with applicable environmental laws and regulations. (10 U.S.C. 2710(e)(2))

Engineering Controls

Any process or device designed to mitigate explosion effects (e.g., blast overpressure, fragmentation, fire) or to contain vapor releases from RCWM.

Essential Personnel

USACE and contractor project personnel necessary for the safe and efficient completion of field operations conducted in an EZ.

Exclusion Zone

A safety zone established around a MEC-related operation work area. Only essential project personnel and authorized, escorted visitors are allowed within the exclusion zone. Examples of EZs are safety zones around MEC intrusive activities and safety zones where MEC is intentionally contacted or detonated. For RCWM project sites, it is the area within the No Significant Effects (NOSE) zone.

Formerly Used Defense Sites

A facility or project (property) that was under the jurisdiction of the Secretary of Defense and owned by, leased to, or otherwise possessed by the United States at the time of actions leading to contamination by hazardous substances. By the Defense Environmental Restoration Program policy, the FUDS program is limited to those properties that were transferred from DoD control prior to 17 Oct 1986. FUDS properties can be located within the 50 States, District of Columbia, Territories, Commonwealths and possessions of the US.

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Hazardous, Toxic, and Radioactive Waste Activities
See definition in ER 385-1-92.

Intrusive Activity

An activity, which involves, or results in, the penetration of the ground surface at an area known or suspected to contain MEC or CWM in other than munitions (OTM) configurations. Intrusive activities can be of an investigative or removal action nature.

Minimum Separation Distance

MSD is the distance at which personnel in the open must be from an intentional or unintentional detonation.

Munitions Constituents

Any materials originating from unexploded ordnance, discarded military munitions, or other military munitions, including explosive and non-explosive materials, and emission, degradation, or breakdown elements of such ordnance or munitions. (10 U.S.C. 2710(e)(3)).

MEC-Related Operations

Any operations conducted by UXO Technicians/Qualified personnel with the purpose of intentional physical contact with MEC.

Munitions and Explosives of Concern

This term, which distinguishes specific categories of military munitions that may pose unique explosives safety risks means: (A) Unexploded ordnance (UXO), as defined in 10 U.S.C. 101(e)(5)(A) through (C); (B) Discarded military munitions (DMM), as defined in 10 U.S.C. 2710(e)(2); or (C) Munitions constituents (e.g., TNT, RDX), as defined in 10 U.S.C. 2710(e)(3), present in high enough concentrations to pose an explosive hazard.

Military Munitions

Military munitions means all ammunition products and components produced for or used by the armed forces for national defense and security, including ammunition products or components under the control of the Department of Defense, the Coast Guard, the Department of Energy, and the National Guard. The term includes confined gaseous, liquid, and solid propellants, explosives, pyrotechnics, chemical and riot control agents, smokes, and incendiaries, including bulk explosives and chemical warfare agents, chemical munitions, rockets, guided and ballistic missiles, bombs, warheads, mortar rounds, artillery ammunition, small arms ammunition, grenades, mines, torpedoes, depth charges, cluster munitions and dispensers, demolition charges, and devices and components thereof. The term does not include wholly inert items, improvised explosive devices, and nuclear weapons, nuclear devices, and nuclear components, except that the term does include non-nuclear components of nuclear devices that are managed under the nuclear weapons program of the Department of

Energy after all required sanitization operations under the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.) have been completed. (10 U.S.C. 101(e)(4)(A) through (C)).

Ordnance and Explosives Safety Specialist

A USACE employee who is qualified through experience and completion of the U.S. Army Bomb Disposal School, Aberdeen Proving Ground, Maryland, or U.S. Naval EOD School, Indian Head, Maryland, or Eglin AFB, Florida, and is classified in the GS-0018 job series (CP-12 career series). Performs safety and occupational health support and oversight of projects involving MEC/CWM.

Primary Explosives

Primary explosives are highly sensitive compounds that are typically used in detonators and primers. A reaction is easily triggered by heat, spark, impact or friction. Examples of primary explosives are lead azide and mercury fulminate.

Response Action

A CERCLA-authorized action involving either a short-term removal action or a long-term remedial response. This may include, but is not limited to, removing hazardous materials, containing or treating the waste on-site, and identifying and removing the sources of ground water contamination and halting further migration of contaminants.

Secondary Explosives

Secondary explosives are generally less sensitive to initiation than primary explosives and are typically used in booster and main charge applications. A severe shock is usually required to trigger a reaction. Examples are TNT, cyclo-1,3,5-trimethylene-2,4,6-trinitramine (RDX or cyclonite), HMX, and tetryl.

Unexploded Ordnance

Military munitions that have been primed, fuzed, armed, or otherwise prepared for action, and have been fired, dropped, launched, projected or placed in such a manner as to constitute a hazard to operations, installation, properties (FUDS sites), personnel, or material and remain unexploded either by malfunction, design, or any other cause (10 U.S.C. 101(e)(5)(A) through (C)).

UXO and UXO-Related Operations/Activities/Procedures

See MEC-related operations.

SECTION III

Special Abbreviations and Terms

This section contains no entries.

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