

**Draft IRP- and MMRP-related Trainings
Online and In-Person Training**

Program Area (Installation Restoration Program (IRP) or Military Munitions Response Program (MMRP))	Course Title/ID	Date of Course/Location	Sponsor Organization	Weblink	Course Description	Length of Course	Cost	Audience	Test (Y/N)	Certificate (Y/N)
MMRP	Innovative Technologies for Detecting Underwater Buried Targets	July 25, 2024/Webinar	SERDP and ESTCP	Innovative Technologies for Detecting Underwater Buried Targets (serdp-estcp.mil)	Innovative technologies for detecting underwater buried targets.	One and a half hours	No tuition	Registered Guests	N	N
MMRP	Unmanned Electromagnetic Systems for Advanced Geophysical Classification of UXO in Underwater Environments	November 7, 2024/Webinar	SERDP and ESTCP	Unmanned Electromagnetic Systems for Advanced Geophysical Classification of UXO in Underwater Environments (serdp-estcp.mil)	Electromagnetic technologies to optimize the utility of digital geophysical mapping and advanced geophysical classification.	One and a half hours	No tuition	Registered Guests	N	N

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Archived Training and Webinars**

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MMRP	Advanced Sonar-Based Deep Learning for Underwater UXO Remediation	April 2024/Webinar	SERDP and ESTCP	Advanced Sonar-Based Deep Learning for Underwater UXO Remediation (serdp-estcp.mil)	Development of algorithms using sonar data to detect and classify UXO.	One and a half hours	Registered Guests	N	N
MMRP	ITRC 2024 Annual Meeting	April 2024/Long Beach, CA	ITRC	2024 Annual Meeting - ITRC (itrcweb.org)	ITRC's annual meeting	Four days	Registered Guests	N	N
MMRP	Federal Facilities Online Academy: Military Munitions Policy Overview	April 2024/Webinar	EPA FFRRO	CLU-IN Training & Events > Federal Facilities Online Academy: Military Munitions Policy Overview	Overview of the DoD MMRP, munitions policies, and how the CERCLA is applied to munitions sites	Two hours	Registered Guests	N	N
MMRP	Enhanced Sensing for Detailed Surveys in Very Shallow Water	November 2023/Webinar	SERDP and ESTCP	https://serdp-estcp.org/webinars/details/bdc35714-229f-4fed-aeef-77d1c75ed2ed/11-16-2023	DoD-funded research efforts to identify reliable techniques for detailed survey of unexploded ordnance (UXO) at underwater remediation sites less than five meters deep.	One and a half hour	Registered Guests	N	N
MMRP	Introduction to the HRS	October 2023/Webinar	EPA	CLU-IN Training & Events > Introduction to the Hazard Ranking System (HRS)	Provide an introduction to the HRS by presenting overviews of its role in the Superfund program and site assessment process and its structure, HRS factor categories (likelihood of release/exposure, waste characteristics, targets), and the concepts and processes involved in scoring.	Four and a half hours	Registered Guests	N	Y
MMRP	Updates in Use of Qualified Data in Hazard Ranking System (HRS) Evaluations	September 2023/Webinar	EPA	CLU-IN Training & Events > Updates in Use of Qualified Data in HRS Evaluations	Review updates to EPA's fact sheet <i>Using Qualified Data to Document an Observed Release and Observed Contamination</i> and changes to how certain types of qualified data can be used in HRS evaluations.	One hour	Registered Guests	N	Y

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MMRP	The Best of the SAGEEP/MRM: Lessons Learned, Case Studies, and Emerging Technologies in support of MMRP	June 2023/Webinar	U.S. Army Corps of Engineers (USACE)	CLU-IN Training & Events > The Best of the SAGEEP/MRM: Lessons Learned, Case Studies, and Emerging Technologies in support of MMRP	Information sharing across the munitions response industry.	Three hours	Open to all	N	Y
MMRP	Military Munitions Support Services - Risk Management Method for MMRP	April 2023/Webinar	USACE	CLU-IN Training & Events > Military Munitions Support Services - Risk Management Method for MMRP	Findings from trial use of the USACE Risk Management Method for MMRP sites and results from multiple case studies and programs.	Two hours	Open to all	N	Y
MMRP	One Project, One Team: Lessons Learned in MMRP Contracting and Systematic Planning Process	February 2023/Webinar	USACE and National Association of Ordnance Contractors (NAOC)	CLU-IN Training & Events > One Project, One Team: Lessons Learned in Military Munitions Response Program (MMRP) Contracting and Systematic Planning Process	Lessons learned from the Government, Regulator and Contractor's side throughout the munitions response industry. Learn the best practices and challenges from each perspective, starting with the Systematic Planning Process from pre-proposal, to awarding the contract, and ultimately getting to the finish line.	Three hours	Open to all	N	Y
MMRP	Federal Facilities Online Academy: Military Munitions Policy Overview	April 2022/Webinar	US EPA Federal Facilities Restoration and Reuse Office (FFRRO)	April 13, 2022: Federal Facilities Online Academy: Military Munitions Policy Overview (clu-in.org)	An overview of the Department of Defense's MMRP, munitions policies, and how the CERCLA is applied to munitions sites.	Two hours	Open to all	N	N

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MMRP	Military Munitions Support Services - Life of a Conceptual Site Model (CSM): Concept to Response Complete	March 2022/Webinar	USACE	CLU-IN Training & Events > Military Munitions Support Services - Life of a CSM: Concept to Response Complete	The development and use of the CSM throughout the remedial response process. Special emphasis will be placed on using the CSM as a mechanism for systematic project planning and acquisition from Remedial Investigation through Remedial Action.	Two hours	Open to all	N	Y
MMRP	Military Munitions Support Services - Chemical Warfare Materiel (CWM) Response	September 2019/Webinar	USACE	CLU-IN Training & Events > Military Munitions Support Services - CWM Response	Munitions response for sites with hazards from CWM and chemical agent and the differences between responses at CWM sites and conventional munitions and explosives of concern (MEC) sites, a case study for a CWM site characterization, and a review of technologies for destruction of chemical agents via treatment.	Two hours	Open to all	N	Y
MMRP	Military Munitions Support Services - The Application of Innovative Technologies to MMRP Projects	June 2018/Webinar	USACE	June 14, 2018: Military Munitions Support Services - The Application of Innovative Technologies to MMRP Projects (clu-in.org)	Applications of innovative technologies to MMRP projects including Robotics for Vegetation Clearance, Rapid Chemical Destruction of Bulk and Residual Energetics and Smart Characterization.	Four hours	Open to all	N	Y
MMRP	M2S2 Webinar: Explosives Safety	October 2017/Webinar	USACE	https://clu-in.org/conf/tio/m2s2fy17-3/	Safety developments when dealing with scrapppers, underwater issues and the Three R's.	Three hours	Open to all	N	Y
MMRP	Geophysical Classification for Munitions Response	October 2017/Webinar	ITRC/EPA	https://clu-in.org/conf/itrc/GCMR/	A guide to the ITRC Technical and Regulatory Guidance Document: Munitions Response Historical Record Review (MRHRR).	Two hours	Open to all	N	Y
MMRP	Making Decisions	July 2017/Webinar	USACE	https://clu-in.org/conf/tio/m2s2fy17-2_072017/	Critical elements and concepts of the decision making process used on Munitions Response projects.	Three hours	Open to all	N	Y

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MMRP	Stakeholder Collaboration	June 2017/Webinar	USACE	https://clu-in.org/conf/tio/m2s2fy17-1_061517/	Challenges and successes of interagency collaborative efforts on munitions response projects.	Three hours	Open to all	N	Y
MMRP	Military Munitions Support Services - Stakeholder Collaboration on MMRP Projects	June 2017/Webinar	USACE	CLU-IN Training & Events > Military Munitions Support Services - Stakeholder Collaboration on MMRP Projects	Challenges and successes of interagency collaborative efforts on munitions response projects.	Three hours	Open to all	N	Y
MMRP	Remedial Investigation/Feasibility Study	October 2016/Webinar	USACE	https://clu-in.org/conf/tio/m2s2fy16-4_102716/	Remedial/Removal Actions.	Three hours	Open to all	N	Y
MMRP	Remedial Investigation/Feasibility Study	August 2016/Webinar	USACE	https://clu-in.org/conf/tio/m2s2fy16-3_080416/	Remedial Investigation/Feasibility Study development.	Four hours	Open to all	N	Y
MMRP	Advanced Classification	April 2016/Webinar	USACE	https://clu-in.org/conf/tio/m2s2fy16-2_042116/	Seminar with subject matter experts that discussed advanced classification.	Three hours	Open to all	N	Y
MMRP	Munitions Medley	February 2016/Webinar	USACE	https://clu-in.org/conf/tio/m2s2fy16-1_021116/	Advanced classification, the Buried Explosion Module (BEM), landfill removal action, and beach replenishment.	Four hours	Open to all	N	Y
MMRP	Military Munitions Support Services - Decision Making for a Munitions Project	June 2015/Webinar	USACE	https://clu-in.org/conf/tio/m2s2fy15-4_062315/	Strategies and tools used to enable sound remediation decisions at munitions properties.	Four hours	Open to all	N	Y
MMRP	Military Munitions Support Services - Planning for a Munitions Project	April 2015/Webinar	USACE	https://clu-in.org/conf/tio/m2s2fy15-3_042315/	Planning strategies and tools used to investigate or remediate munitions properties.	Three and a half hours	Open to all	N	Y

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MMRP	Military Munitions Response Program Advanced Geophysical Classification Office of the Secretary of Defense Perspective	February 2015/Webinar	OASD(EI&E)) (ESOH)	M2S2-Adv-Class-Morefield.pdf (clu-in.org)	Scope of the MMRP and Program Status from 2015.	N/A	Open to all	N	Y
MMRP	Military Munitions Support Services - Advanced Classification	February, 2015/Webinar	USACE	https://clu-in.org/conf/tio/m2s2fy15-2_022615/	Developments in advanced geophysics classification at munitions properties.	Three and a half hours	Open to all	N	Y
MMRP	Explosives Safety	August 2014/Webinar	USACE	https://clu-in.org/conf/tio/m2s2fy14-6_082114/	Updates on explosives safety policy, processes, best practices, and incident review.	Four hours	Open to all	N	Y
MMRP	MMRP Tools	June 2014/Webinar	USACE	June 24, 2014: Military Munitions Support Services - MMRP Tools (clu-in.org)	Successful uses of MMRP tools such as VSP, UXO Estimator, and advanced classification.	Four hours	Open to all	N	Y
MMRP	MMRP Tools	June 2014/Webinar	USACE	https://clu-in.org/conf/tio/m2s2fy14-5_062414/	Updates on successful use of MMRP tools such as Visual Sample Plan (VSP), Unexploded ordnance (UXO) Estimator, and advanced classification.	Four hours	Open to all	N	Y
MMRP	Munitions Constituents-	April 2014/Webinar	USACE	https://clu-in.org/conf/tio/m2s2fy14-4_042414/	Developments on munitions constituents sampling and analysis.	Four hours	Open to all	N	Y
MMRP	Munitions Classification	February 2014/Webinar	USACE	http://www.clu-in.org/live/archive/	Previously recorded Archive of Military Munitions Support Services (M2S2) Webinars (9 so far).	Four hours	Open to all	N	Y
MMRP	Military Munitions Support Services - MMRP Objectives - Data Quality Objective (DQO)s and Remedial Action Objectives (RAO)s	February2014/Webinar	USACE	http://www.clu-in.org/live/archive/	Development of high quality DQOs and RAOs for munitions projects.	Four hours	Open to all	N	Y

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MMRP	Military Munitions Support Services - Quality	December 2013/Webinar	USACE	http://www.clu-in.org/live/archive/	Tools, perspectives, and case studies regarding the planning and implementation of quality processes during the investigation or remediation of Munitions Response Sites.	Four hours	Open to all	N	Y
MMRP	Site Characterization for Munitions Constituents	October 2012/Webinar	EPA	http://www.clu-in.org/conf/tio/munitions_101012/	Background information on types of military ranges and the munitions and contaminants associated with them; describes sample preparation issues specific to energetic compounds and associated with metals; and illustrates the above sampling and sample management information with four case studies.	Two hours	Federal, state and private consultants, site cleanup managers.	N	Y
MMRP	Survey of Munitions Response Technologies	July 2009/Webinar	ITRC hosts with support of EPA	http://www.clu-in.org/conf/itrc/uxost_071609/	An introduction to Survey of Munitions Response Technologies (UXO-4, 2006).	Two hours	Intended for intermediate to advanced audience and assumes an understanding of technologies and phases of munitions response.	N	Y
MMRP	Site Investigation and Remediation for Munitions Response Projects	January 2007/PowerPoint	ITRC hosts with support of EPA	Microsoft PowerPoint - ITRC UXO-SISR_010807ibtppt.ppt (clu-in.org)	Training on the site investigation and site remediation process for munitions response sites on other than operational ranges.	N/A	Open to all	N	Y
MMRP	ITRC: Site Investigation and Remediation for Munitions Response Projects	January 2007/Webinar	ITRC hosts with support of EPA	https://clu-in.org/conf/itrc/uxosisr_013007/	An introduction and overview of the processes, tools, and techniques used in investigation and remediation for munitions response sites on other than operational ranges	Two hours	Project managers and industry (in order to benefit from a greater understanding of state regulator expectations.	N	Y
MMRP	Munitions Response Historical Record Review	June 2004/Webinar	ITRC hosts with support of EPA	http://www.clu-in.org/conf/itrc/mrhr_062204/	An introduction to the Technical and Regulatory Guidance Document: Munitions Response Historical Record Review (MRHRR).	Two hours	State regulators, environmental consultants, site owners, and community stakeholders.	N	Y

**Draft IRP- and MMRP-related Informational Materials
(Guidance/Manuals/Fact Sheets)**

Program Area (Installation Restoration Program (IRP) or Military Munitions Response Program (MMRP))	Title	Material Type	Date of Publication	Web link	Material Description	Sponsor Organization
MMRP	N/A	Memorandums	Multiple Dates	ASD(EI&E) - Per- and Polyfluoroalkyl Substances (PFAS) (osd.mil)	DoD policies that ensure consistency across the DoD Components and help DoD track its PFAS cleanup progress and investments.	DoD
MMRP	N/A	Position Paper	Multiple Dates	Position Papers – ASTSWMO	Association of State And Territorial Solid Waste Management Officials (ASTSWMO) position papers on topics involving MMRP and IRP.	ASTSWMO
MMRP	Advanced Geophysical Classification Accreditation and Other Tools	Webpage	N/A	http://www.denix.osd.mil/mmrp/advanced-geophysical-classification-accreditation-and-other-tools/	Information on advanced classification and the DoD Advanced Geophysical Classification Accreditation Program (DAGCAP). Additional details for accreditation, including the DAGCAP Quality Systems Requirements, contact information for the Accreditation Bodies, and Standard Operating Procedures for the demonstration site.	DoD
MMRP	Military Munitions Response Program Risk Management Methodology	Technical guidance document	July 2023	4_USA001061-23_TAB A MMRP RMM_PDASD(EIE) Cover Memo.pdf (osd.mil)	A qualitative risk evaluation tool that project teams can use to facilitate discussions about cleanup and build consensus for risk management decisions at MRSs.	DoD
MMRP	Uniform Federal Policy For Quality Assurance Project Plans (UFP-QAPP) Munitions Response QAPP Toolkit	Module 2: Technical guidance document	March 2023	Uniform Federal Policy for Quality Assurance Project Plans (epa.gov)	The MR-QAPP Toolkit is used to assist project teams in planning for the characterization and remediation of buried munitions and explosives of concern (MEC) at DoD installations and formerly used defense sites (FUDS) (collectively referred to as Munitions Response Sites (MRS)).	DoD
MMRP	Uniform Federal Policy For Quality Assurance Project Plans: Munitions Response Quality Assurance Project Plan (MR-QAPP) Toolkit	Module 1: Technical guidance document	April 2020	Uniform Federal Policy for Quality Assurance Project Plans (epa.gov)	The MR-QAPP Toolkit is used to assist project teams in planning for the characterization and remediation of buried munitions and explosives of concern (MEC) at DoD installations and formerly used defense sites (FUDS) (collectively referred to as Munitions Response Sites (MRS)).	DoD
MMRP	Interstate Technology and Regulatory Council (ITRC) Geophysical Classification for Munitions Response Technical	Technical guidance document	August 2015	http://www.itrcweb.org/gcmr-2	Technical and regulatory guidance for the application of geophysical classification using advanced sensors for munitions response projects.	ITRC

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Program Area (Installation Restoration Program (IRP) or Military Munitions Response Program (MMRP))	Title	Material Type	Date of Publication	Web link	Material Description	Sponsor Organization
MMRP	Geophysical Classification for Munitions Response Regulatory Fact Sheets	Fact Sheet	October 2014	http://itcreweb.org/Documents/Team-Resources-GCMR/ITRC-GCMR-Team-Regulatory-Fact-Sheet-Final-10-10-2014.pdf	Provides basic information about geophysical classification for munitions response. Explains what geophysical classification is, benefits and limitations, and the information and data regulators need to monitor and evaluate usages.	ITRC
			June 2013	http://itcreweb.org/Documents/Team-Resources-GCMR/ITRC-MR-technical-fact-sheet-June-2013-FINAL.pdf	An overview of advanced classification technology that identifies which organizations are working on advanced classification and their contact information. Provides details on the geophysical classification technology and process, the types of terrestrial sites where this technology may be applicable, and data quality considerations.	
			October 2012	http://www.itcreweb.org/GuidanceDocuments/GCMR-1.pdf	Provides basic information about geophysical classification for munitions response including background information, existing technology, advances in technology, and ongoing technology demonstrations.	
MMRP	Survey of Munitions Response Technologies	Report	June 2006	http://www.clu-in.org/download/remed/Survey_of_Munitions_Response_Technologies.pdf	An overview of technologies used for munitions response actions that evaluates and quantifies their performance capabilities. Provides project managers and regulators with an understanding of the performance capabilities of available technologies under real-world site conditions. It discusses observations and critical considerations in the application of munitions technologies, with particular emphasis on detection technologies.	ESTCP/ITRC/SE RDP