



**DEPARTMENT OF THE NAVY**  
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MCO 3550.12A  
TECOM (C 465)  
6 MAY 2021

MARINE CORPS ORDER 3550.12A

From: Commandant of the Marine Corps  
To: Distribution List

Subj: OPERATIONAL RANGE CLEARANCE (ORC) PROGRAM

Ref: See Enclosure (1)

Encl: (1) References  
(2) Marine Corps Operational Range Clearance Program Evaluation Board Process  
(3) ORC and Radium Low Level Radiation Waste (LLRW)

1. Situation

a. Range and Training Areas (RTA) must be managed and operated to ensure the long-term viability and utility needed to meet the national defense mission. Range clearance is the destruction, removal, and proper disposition of military munitions (i.e. Unexploded Ordnance (UXO) and munitions debris). This also includes other range-related debris, target debris, military munitions packaging, and crating material in order to maintain and enhance operational range safety as well as preventing the accumulation of such material from impairing or preventing continued operational range use.

b. Military munitions are 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 (DoD), the Coast Guard, the Department of Energy, the National Guard, and foreign military services operating on Marine Corps ranges. The term includes:

- (1) Confined gaseous, liquid, and solid propellants.
- (2) Explosives (including bulk explosives).
- (3) Pyrotechnics.
- (4) Chemical and riot control agents.
- (5) Smoke and incendiaries.
- (6) Rockets.
- (7) Guided and ballistic missiles.
- (8) Bombs.

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- (9) Warheads, cluster munitions and dispensers.
- (10) Mortar rounds, small arms ammunition, and grenades.
- (11) Artillery ammunition.
- (12) Mines, torpedoes, and depth charges.
- (13) Demolition charges.
- (14) Any devices or components of any item listed above.

c. Range clearance does not include treatment or remediation of chemical residues, munitions constituents from environmental media, actions to address buried or discarded military munitions (e.g., burial pits), nor management programs to prevent the migration of munition constituents off operational ranges. These actions constitute environmental mitigation and are commonly referred to as "cleanup" actions. These actions have a separate funding source, and are addressed in reference (a).

d. The establishment and administration of the Operational Range Clearance (ORC) Program is to promote the safe, sustainable use of operational ranges for their intended purpose. This Order directs the ORC program for the Marine Corps.

2. Cancellation. MCO 3550.12

3. Mission. Commanders of bases and stations with operational ranges will establish and execute ORC programs per this Order and references (a) through (n) in order to ensure safe and sustainable ranges for their intended purpose. Regional commanders will establish ORC programs for their respective regions as outlined in the Range Complex Management Plan (RCMP).

4. Execution

a. Commander's Intent and Concept of Operations

(1) Commanding General's Intent. This Order establishes responsibilities and prescribes policies concerning the management of the Marine Corps ORC Program.

(2) Concept of Operations

(a) Reference (b) provides DoD policy, assigns responsibilities, and prescribes procedures for conducting range clearance. Reference (c) establishes the Commanding General, Training and Education Command (CG TECOM) (C 465) as the executive agent and resource sponsor for RTA management programs, and proponent for all range safety matters. Reference (d) directs that the CG TECOM (C 465) and base / station Commanders establish procedures for range clearance operations to permit the safe, sustainable use of ranges.

(b) Per reference (d), Marine Corps Explosive Ordnance Disposal does not have the mission for range clearance operations. For safety purposes, they may be assigned as escorts during clearance operations or conduct Explosive Ordnance Disposal training operations when scheduled.

(c) Marine Corps Order 3550.12, ORC Program, was instituted in 2008 with the goal of ensuring all live-fire ranges are maintained at an operationally viable status. This centrally funded and locally executed program has allowed the installations the ability to ensure ranges are safe and sustainable. This order has given the Marine Corps the opportunity to gain back training land and / or ranges that had been lost due to the inability to sustain them through other funding means.

(d) For range clearance activities, munitions expenditure information will be analyzed using the Range Clearance Tool (RCT) within the Range Managers Tool Kit (RMTK), in conjunction with the results of visual assessments of the range. The RCT provides, and will be used to, access / display tabular summaries of munitions shot on ranges from the Range Facility Management Support System, with individual metal accumulations on specific ranges (i.e., range loading). Thus, giving the Range Manager additional predictive capabilities as to when range clearance may be needed. Also included in these assessments are historical uses with Archive Search Reports to determine when an unsafe or detrimental loading condition exists. The RCT will provide key areas to review as a portion of the ORC assessment, see reference (b), conducted by the installation commander and provided to the range clearance contractors prior to initiating ORC actions on an operational range. The RMTK and RCT are contained in the Marine Corps Range and Training Area Management System (MCRTAMS) website located at <https://rtam.tecom.usmc.mil>.

(e) Subsurface clearance shall be considered only when needed to mitigate risk for a specific area (proximity to roadways, movement to / from targets, target construction and training device installation sites, etc.).

(f) Installations will ensure targets are free of any low level radioactive waste (LLRW), such as may be found with some instrument dials and warning signs. ORC contracts for ranges with suspected radioactive material will require the prime contractor to have, on staff, the appropriate Nuclear Regulatory Commission license and staff qualified to work with the Installation Radiation Safety Officer / Installation Radiation Safety Manager (IRSO / IRSM) for disposal of the radioactive material, including proper detection, tracking, and disposal capability. All ORC work plans for ranges with suspected radioactive material shall contain a section that articulates the approach to the identification and management of suspected radioactive material. If any radioactive material is discovered during ORC, then close coordination between range management, the IRSO / IRSM, and the contractor will be conducted with explicit custody documentation. For detailed information see the Radioactive Material Movement Form, found on MCRTAMS.

b. Roles and Responsibilities

(1) Commanding General, Training and Education Command  
(CG TECOM (C 465))

(a) Promulgate the ORC program policy and guidance as part of the overall Marine Corps Range Safety Program. Ensure policy and guidance is published on MCRTAMS.

(b) Provide institutional-level coordination and prioritization of funding for range clearance operations for Program Objective Memorandum consideration. The funding will be coordinated by the Head, Range and Training Area Management Branch (RTAM), Range and Training Programs Division,

TECOM (C 465). Additional coordination for range clearance operations will take place with Marine Corps Installations Command (MCICOM) regional commanders.

(c) Coordinate and provide ORC funding in support of target replacement efforts.

(d) Chair the annual Marine Corps ORC Program Prioritization Board to determine prioritization of funding for range clearance operations.

(e) Coordinate with the appropriate Naval Facilities Command regional office and installations to determine desired timing and rough order of magnitude Independent Government Cost Estimate for range clearance operations for the installations.

(f) Coordinate with Deputy Commandant, Installations and Logistics (DC I&L) to realize efficiencies, and enhance economy of management within the ORC Program.

(g) Coordinate with the installation and RTAM ORC Manager to align target replacement with planned ORC requirements.

(h) Maintain the ORC Module located on MCRTAMS.

(i) Maintain the RMTK RCT.

(j) Maintain a repository of ORC projects, Geographic Information Systems information showing past ORC actions on MCRTAMS.

(2) Deputy Commandant, Installations and Logistics (DC I&L)

(a) Provide representation to the Marine Corps ORC Program Prioritization Board enabling planned ORC activity on Marine Corps installations.

(b) Coordinate with CG TECOM (C 465) to identify efficiencies and enhance economy of management within environmental programs such as Range Environmental Vulnerability Assessment (REVA) and the ORC Program.

(3) Commanding Generals, Marine Corps Installations (MCI) Regions

(a) Develop and integrate regional ORC programs to improve efficiency and achieve economies of scale. Although clearance activities may not be required every year, the program will be reviewed and updated in conjunction with the regional RCMP.

(b) Validate and prioritize base / station ORC programs for submission to the Marine Corps ORC program Prioritization Board.

(c) Assist base / station commanders in the management of installation range clearance requirements and long-term planning, enabling access to training ranges.

(d) Participate as members of the Marine Corps ORC Program Prioritization Board.

(4) Commanders, Marine Corps Bases and Stations

(a) Incorporate concepts during range design, which improve the efficiency and effectiveness of range clearance such as target location and composition. REVA studies should be evaluated to assist with the design process. Per reference (c), these designs must be coordinated by facility planners and engineers with operational force planners to ensure that established training standards can be met.

(b) Develop and execute a base / station ORC program to ensure range clearance of UXO, used military munitions, munitions debris, and other range-related debris that may impair or inhibit the safe, sustainable use of installation ranges.

(c) Schedule clearance activities in such a way to minimize the disruption of operational range requirements, but with sufficient lead-time to ensure the range clearance actions are completed to ensure the intended purposes of the range are safe and sustainable.

(d) Determine, in coordination with MCICOM and the Marine Corps Installation regional headquarters staff, the degree and frequency of range clearance operations to support safe and sustainable ranges.

(e) Establish procedures to safeguard personnel from clearance activity and associated hazards. Information on ammunition and explosives safety for DoD contractors is contained in reference (e).

(f) Ensure that all range military munition expenditures (air and ground) are accurately accounted for through use of the Range Facility Management Support System.

(g) Review and update the base / station ORC program every year. Although clearance activities may not be required every year, base / station commanders are encouraged to plan their future clearance activities for no less than two fiscal years in advance. The program will be reviewed and updated in conjunction with the RCMP.

(h) Material potentially presenting an explosives hazard (MPPEH) not processed on the range may only be processed at a location that has been formally sited by the DoD Explosives Safety Board (DDESB) in accordance with reference (k). Ensure that management, storage, handling, processing, transportation, and disposition of MPPEH complies with DDESB criteria in references (i) through (l). In general, MPPEH is material that is not known, with certainty, to present an explosion hazard, but may contain hidden or minor amounts of explosive material. MPPEH must be assumed to present an explosive hazard until it is visually inspected by a DDESB approved technical method, and certified safe by competent authority.

(i) Ensure close coordination between base / station range management and environmental departments for range clearance and munitions constituent mitigation projects. For example, information in the most recent REVA, available from the environmental department, may be used to assist range managers in the prioritization of range clearance. Similarly, munitions constituent mitigation efforts by the environmental department involving potential constituent migration may be planned with regard to range clearance in those areas.

(j) Ensure all ORC actions are in compliance with applicable Federal, State, and Local environmental regulations or host nation agreements.

(k) Enter into use agreements with non-DoD users of operational ranges per reference (b), except in cases where it is determined to be unnecessary or detrimental to DoD interests.

(l) Submit prioritized range clearance projects via the MCRTAMS web site (<https://rtam.tecom.usmc.mil>) for prioritization and funding consideration.

(m) Utilize RMTK RCT to provide loading for each range.

(n) Maintain ORC Summary and After Action Reports for the life of the range(s).

(o) Consult / reference range archive search reports and current Installation range regulations to determine the need for an explosives safety submission, per reference (i), when planning construction on an operational range which includes ground intrusive activities not associated with ORC.

c. Coordinating Instructions

(1) Enclosure (2) contains the schedule for the Marine Corps ORC Program Evaluation Board process.

(2) Enclosure (3) contains information relative to the discovery and processing of suspected LLRW (e.g., radium dials).

5. Administration and Logistics

a. Recommendations. Recommendations concerning the content of this Order may be forwarded to Training and Education Command, C 465.

b. Records Management. Records created as a result of this directive shall be managed according to National Archives and Records Administration (NARA)-approved dispositions per SECNAV M-5210.1 CH-1 to ensure proper maintenance, use, accessibility and preservation, regardless of format or medium. Records disposition schedules are located on the Department of the Navy/Assistant for Administration (DON/AA), Directives and Records Management Division (DRMD) portal page at: <https://portal.secnav.navy.mil/orgs/DUSNM/DONAA/DRM/Records-and-Information-Management/Approved%20Record%20Schedules/Forms/AllItems.aspx> Refer to MCO 5210.11F for Marine Corps records management policy and procedures.

c. Privacy Act. Any misuse or unauthorized disclosure of Personally Identifiable Information (PII) may result in both civil and criminal penalties. The Department of the Navy (DON) recognizes that the privacy of an individual is a personal and fundamental right that shall be respected and protected. The DON's need to collect, use, maintain, or disseminate PII about individuals for purposes of discharging its statutory responsibilities shall be balanced against the individuals' right to be protected against unwarranted invasion of privacy. All collection, use, maintenance, or dissemination of PII shall be in accordance with the Privacy Act of 1974, as amended (5 U.S.C. 552a) and implemented per SECNAVINST 5211.5F.

a. CG TECOM (C 465) will administer the requirements and ensure the accuracy of this Order.

b. Compliance with the provisions of this Order will be subject to inspection by the Inspector General of the Marine Corps under the Command Inspection Program, RTA Management functional area.

6. Command and Signal

a. Command. This Order is applicable to the Total Force.

b. Signal. This Order is effective the date signed.



LEWIS A. CRAPAROTTA  
Commanding General  
Training and Education Command  
By direction

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References

- (a) MCO 5090.2
- (b) DoDI 3200.16, Operational Range Clearance, w/ Ch1 December 4, 2017
- (c) MCO 3550.10
- (d) MCO 3570.1C
- (e) DoD 4145.26-M, DoD Contractors' Safety Manual for Ammunition and Explosives, w/ Ch2 August 31, 2018
- (f) MCO 3500.27C
- (g) DoDD 4715.11, Environmental and Explosives Safety Management on Operational Ranges within the United States, w/ Ch1 August 31, 2018
- (h) DoDD 4715.12, Environmental and Explosives Safety Management on Operational Ranges outside the United States, w/ Ch1 August 31, 2018
- (i) MCO 8020.10A
- (j) DoDM 4160.21-M VOL 1, Defense Materiel Disposition Manual, w/ Ch3 October 2, 2019
- (k) Defense Explosives Safety Regulation 6055.09 Edition 1, of January 13, 2019
- (l) DoDI 4140.62, Management and Disposition of Material Potentially Presenting an Explosive Hazard (MPPEH), w/ Ch3 September 9, 2019
- (m) MCO 5104.3C
- (n) Logistics Command Order 5104.1 Radiological Affairs Support Program Order

Marine Corps Operational Range Clearance Program Evaluation Board Process

1. General. The Operational Range Clearance Program Evaluation Board Process functions on an annual cycle, which will be announced by electronic mail and posted on the range clearance program site.

2. Operational Range Clearance Program Evaluation Board Process

a. During February of each year, if installation commanders have range clearance projects for the next fiscal year(FY), they must submit those projects into the range clearance database available at the Range and Training Area Management Division website, <https://rtam.tecom.usmc.mil>. The website operates similar to the existing Ground Range Sustainment Program site. Project submissions will include, at a minimum, description, Range Clearance Tool justification, mission impact and installation priority, and Independent Government Cost Estimate. Instructions are provided on the website for authorized users.

b. Every March, a range clearance prioritization board representing DC I&L; CG TECOM; MCI East, West, Pacific; Program Manager Ammunition; and Program Manager Training Systems will meet to review and prioritize the range clearance project submissions for the next FY.

c. The prioritized list of projects is then submitted to CG TECOM for approval.

d. Approved projects will be funded based on prioritization and funding levels. Installation commanders must confirm that projects will be started within the FY the funds are obligated or the funding will be re-allocated by the Range and Training Area Management Division.

e. Range clearance projects for out-year consideration by the evaluation board may be submitted anytime into the Operational Range Clearance Program website for review, but must be updated annually.

OPERATIONAL RANGE CLEARANCE AND RADIUM / LOW LEVEL RADIATION WASTE

1. All suspected radioactive material (RAM) found during Operational Range Clearance (ORC) operations will involve the Installation Range Control Officer and Installation Radiation Safety Officer / Installation Radiation Safety Manager (IRSO / IRSM), from the point of notification / discovery through disposition of the radioactive object.

2. The IRSO / IRSM shall contact Commandant (CMC) (Safety Division (SD)) via their chain of command for all matters concerning RAMs under their purview per reference (m). In addition to CMC (SD), contact the Commander, Marine Corps Systems Command (PMM-152) for all depleted uranium munitions found during ORC operations. Commanding General, Training and Education Command (C 465) will also be notified via separate correspondence.

3. The contractor's Radiological Technician, under the direction of the work plan and through the installation ORC Project Officer, will coordinate with the IRSO / IRSM for subsequent identification and disposal of RAMs per reference (m).

a. General Guidance

(1) At the institutional level, policy establishment and delineation of responsibilities are directed by CMC (SD) and Range and Training Area Management (C 465). The Senior Marine Corps Health Physicist, in concert with the Marine Corps Ranges Safety Section, ensures that these policies are appropriate and effective to provide safe and sustainable training ranges.

(2) At the installation level, Range Management and the IRSO / IRSM will coordinate the identification, storage, and safe disposal of radioactive materials resulting from ORC, ensuring that the guidance as provided from the institutional level is followed and executed appropriately.

(3) The Contracting Officer's Representative and the contractor will ensure the identification, removal, and processing of the military munitions and range / target debris removed from the ranges, under the scrutiny of and with close cooperation from the Senior Marine Corps Health Physicist for any identified radioactive material. Every ORC work plan for Marine Corps ranges will include radioactive target debris procedures and an evaluation plan for the presence of radioactive material.

b. If RAMs are suspected to be present within the range debris to be removed from a range or training area, a visual inspection and instrument evaluation should be provided. Inspection should use appropriate radiological equipment for suspect objects to confirm whether or not RAM is present.

c. When an object is confirmed as being radioactive, the following procedures will be followed:

(1) Do not disturb until the ORC contractor project manager has notified the Naval Facilities Command regional contract manager, the Range Management Project Manager, and summoned the contractor's Radiological Technician for further evaluation.

(2) Identify the model number and serial number of the instrument used for the measurement. Instruments used by the contractor shall be

capable of performing a quantitative assessment of radioactive material, with a minimum detectable activity (MDA) no greater than that specified in Marine Corps Logistics Command Order, 5104.1 Radiological Affairs Support Program Order for Naval Radioactive Materials Permits T1NP, T2NP, and T3NP.

(3) Document the name of the individual who took the radiation / contamination readings and the organization who conducted the range clearance for the targets in question.

(4) Range management will notify the IRSO / IRSM in order to involve the IRSO / IRSM in the radioactive material removal process and coordinate for chain of custody during removal, transport, storage, and disposal of the radioactive material.

(5) Instrumentation to record radiological readings will be employed by a qualified radiological technician, annotated on both the field notes and the RAM Movement Form (See Marine Corps Range and Training Area Management System) to provide chain of custody for each radioactive object identified. Annotations will include type of reading, measurement, detection location, object location, description, and any other identifying features (e.g., serial number) on the suspected target debris. If removed from the range, the IRSO / IRSM will verify and sign for the material as a responsible person for control of the RAM, and hereafter will be the custodian of the item.

(6) Global Positioning System coordinates will be recorded where the target(s) containing RAM was / were discovered, and any subsequent movement locations. No movement of the item shall occur unless the IRSO / IRSM is notified and the Radioactive Movement form is completed.

d. When moved to another location (e.g., out of the impact area to a holding site still on range):

(1) Record Global Positioning System coordinates where the target(s) was discovered, route of transport, and final location while awaiting removal of the radioactive material (if possible), or if relocated to another position on the range, that new location. This may be done to remove a target from an impact area where further destruction could lead to an increased spread of radioactive material.

(2) Document the amount of radioactivity that was present when the item was discovered, preferably in units of Curies or Becquerel (if in counts per minute (cpm), the counting efficiency of the instrument should also be provided, in units of counts per minute per disintegrations per minute (dpm) cpm / dpm). Background radiation levels will also be recorded.

(3) Document applicable dates when items were moved, gauges / items bagged, etc.

e. When moved off the operational range for disposal through the IRSO / IRSM, and in addition to the process specified previously, the following steps / conditions shall also be implemented: The radioactive component will be carefully removed, bagged in clear plastic to allow the IRSO / IRSM to visually inspect the object(s), tagged with location / identifying features / radiac measurement, and placed in a protective, padded container. If too large to bag, then the IRSO / IRSM will determine the appropriate method to contain the object(s) for removal.

(1) The IRSO / IRSM will coordinate with the installation for removal of the radioactive item(s) from the range, which will be tracked via the RAM form (form can be found on Marine Corps Range and Training Area Management System).

(2) Processing and transportation from the installation will be per applicable procedures and policies within reference (m), with Range Management coordinating with Range and Training Area Management and the IRSO / IRSM. The IRSO / IRSM will in turn coordinate with CMC (SD) and Radiological Affairs Support Office to arrange for disposal of the material.

(3) ORC material will be subject to radiological evaluations at three different checkpoints to alleviate suspicion of having radioactive contamination: (1) on the range, (2) as it is processed, and (3) when loaded prior to shipment from the operational range. This last check for the presence of radioactivity before being sent to the smelter shall encompass all sides, over the top, etc., of the transport container such that the entire contents as loaded are completely screened. As an additional administrative control, the Senior Unexploded Ordinance Supervisor is ultimately responsible for ensuring the loaded vehicle is free of energetic and radioactive material prior to transport from the range.

APPENDIX A

Glossary of Acronyms and Abbreviations

CG	Commanding General
CPM	Counts Per Minute
DC I&L	Deputy Commandant, Installations and Logistics
DDESB	DoD Explosives Safety Board
DoD	Department of Defense
DoDD	Department of Defense Directive
DoDI	Department of Defense Instruction
DPM	Disintegrations Per Minute
IRSM	Installation Radiation Safety Manager
IRSO	Installation Radiation Safety Officer
LLRW	Low Level Radiation Waste
MCICOM	Marine Corps Installations Command
MCO	Marine Corps Order
MCRTAMS	Marine Corps Range and Training Area Management System
MPPEH	Material potentially presenting an explosives hazard
ORC	Operational Range Clearance
RCMP	Range Complex Management Plan
RCT	Range Clearance Tool
REVA	Range Environmental Vulnerability Assessment
RMTK	Range Management Tool Kit
RTA	Range and Training Area
RTAM	Range and Training Area Management
TECOM	Training and Education Command
UXO	Unexploded Ordinance