Army Regulation 700-48

Logistics

Management of Radiologically Contaminated Equipment Outside the United States

Headquarters
Department of the Army
Washington, DC
12 August 2020

SUMMARY of CHANGE

AR 700-48

Management of Radiologically Contaminated Equipment Outside the United States

This major revision, dated 12 August 2020—

- o Changes the title to more accurately reflect the purpose of this regulation (cover).
- o Adds responsibility for the Commander, Army Materiel Command, to ensure that units possessing Army-owned equipment and vehicles that are to be donated to privately owned museums, monuments, and displays will radiologically survey and decontaminate the items prior to transfer (para 1-4i(15)).
- o Removes policy relating to the Model MC-1 moisture and density tester, which is no longer in the Army inventory (para 2-4).
- o Removes policy relating to the Model AN–PDR–27 radiation detection, indication, and computation meter, which is no longer in the Army inventory (para 2–4).
- o Revises and clarifies disposal guidance and requires Army commands, Army service component commands, and direct reporting unit commanders to follow DoDI 4715.27 (para 2-4e(2)).
- o Expands upon and clarifies medical surveillance procedures for exposed Service members to conduct decontamination prior to admittance into medical treatment facilities (para 2–5).
- o Adds an internal control evaluation process (app B).
- Removes all references to the U.S. Army Radiological Control Team, in accordance with a Deputy Chief of Staff, G–3/5/7, 2006 memorandum (throughout).

Effective 12 September 2020

Logistics

Management of Radiologically Contaminated Equipment Outside the United States

By Order of the Secretary of the Army:

JAMES C. MCCONVILLE General, United States Army Chief of Staff

Official:

KATHLEEN S. MILLER
Administrative Assistant
to the Secretary of the Army

History. This publication is a major revision.

Summary. This regulation prescribes policy and procedures for the management of equipment contaminated with radioactive materials for operations outside the United States. Handling procedures for radiologically contaminated equipment are prescribed in DA Pam 700–48.

Applicability. This regulation applies to the Regular Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve, unless otherwise stated. It also applies to Department of the Army Civilian employees. During mobilization, the proponent may modify chapters and policies contained in this regulation.

Proponent and exception authority.

The proponent of this regulation is the Deputy Chief of Staff, G-4. The proponent has the authority to approve exceptions or waivers to this regulation that are consistent with controlling law and regulations. The proponent may delegate this approval authority, in writing, to a division chief within the proponent agency or its direct reporting unit or field operating agency in the grade of colonel or the civilian equivalent. Activities may request a waiver to this regulation by providing justification that includes a full analysis of the expected benefits and must include formal review by the activity's senior legal officer. All waiver requests will be endorsed by the commander or senior leader of the requesting activity and forwarded through higher headquarters to the policy proponent. Refer to AR 25–30 for specific guidance.

Army internal control process. This regulation contains internal control provisions in accordance with AR 11–2 and identifies key internal controls that must be evaluated (see appendix B).

Supplementation. Supplementation of this regulation and establishment of command or local forms are prohibited without prior approval from the Deputy Chief of Staff, G–4 at usarmy.pentagon.hqda-dcs-g-4.mbx.publications@mail.mil, or at: Deputy Chief of Staff, G–4

(DALO–MNI), 500 Army Pentagon, Washington, DC 20310–0500.

Suggested improvements. Users are invited to send comments and suggested improvements to this regulation on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to usarmy.pentagon.hqda-dcs-g-4.mbx.publications@mail.mil, or to: Deputy Chief of Staff, G–4 (DALO–MNI), 500 Army Pentagon, Washington, DC 20310–0500.

Committee management. AR 15-1 requires the proponent to justify establishing/continuing committee(s), coordinate draft publications, and coordinate changes in committee status with the Office of the Administrative Assistant to the Secretary of the Army, Department of the Army Management Committee (AARP-ZA), 9301 Chapek Road, Building 1458, Fort Belvoir, VA 22060-5527. Further, if it is determined that an established "group" identified within this regulation later takes on the characteristics of a committee, as found in AR 15-1, then the proponent will follow all AR 15-1 requirements for establishing and continuing the group as a committee.

Distribution. This publication is available in electronic media only and is intended for the Regular Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve.

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^{*}This regulation supersedes AR 700-48, dated 16 September 2002.

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Glossary

Chapter 1 Introduction

1-1. Purpose

This regulation establishes the policies, responsibilities, and procedures for the proper management of radiologically contaminated equipment (RCE) located outside of the United States. Such equipment may contain radioactive materials (RAMs) or may be contaminated by RAM and includes equipment damaged or contaminated by munitions that contain depleted uranium (DU) or damage to DU armor. It also provides commanders guidance on how these procedures may be modified consistent with operational risk and risk management principles, per Army Techniques Publication (ATP) 5–19.

1-2. References and forms

See appendix A.

1-3. Explanation of abbreviations and terms

See the glossary.

1-4. Responsibilities

- a. Assistant Secretary of the Army (Installations, Energy, and Environment). The ASA (IE&E) will establish the environmental, safety, and occupational health policy for supporting industrial facilities and installations.
- b. Assistant Secretary of the Army (Manpower and Reserve Affairs). The ASA (M&RA) will establish the overall policy for medical concerns.
- c. Director of Army Safety. The DASAF will establish Army radiation safety policy and oversee the Army Radiation Safety Program.
 - d. Deputy Chief of Staff, G-3/5/7. The DCS, G-3/5/7 will promulgate operational procedures for processing RCE.
- *e.* Deputy Chief of Staff, G-4. The DCS, G-4 will promulgate Department of the Army (DA) policy for processing RCE.
 - (1) Through the commanders of corps, Joint task forces, and divisions, will—
- (a) Appoint a radiation safety officer (RSO) to provide guidance to commanders on RAM, DU, and RCE-related matters. A radiation safety staff officer (RSSO) and/or RSO may be a nuclear medical science officer, with area of concentration (AOC) 72A on the surgeon's staff, a trained chemical corps officer (AOC 74A) on the commander's staff, or a general schedule (GS) position number 1306 trained health physicist (HP) civilian employee, GS position number 0018 safety and occupational health specialist, or GS position number 069 industrial hygienist trained in accordance with DA Pam 385–24. The RSO will coordinate with the chemical, biological, radiological, and nuclear (CBRN) staff in the chain of command.
- (b) Process RCE per this regulation, Technical Bulletin (TB) 9–1300–278, DA Pam 700–48, and operational exposure guidance (OEG), if applicable.
- (c) Ensure the general staff logistics officer (G-4) notifies the Nuclear Regulatory Commission (NRC) licensee RSO and/or Army radiation authorization (ARA) RSO.
 - (2) Through the Commander, Theater Sustainment Command (TSC), will—
- (a) Ensure the RSO provides guidance to commanders on matters concerning RAM, DU, RCE, and radioactive commodity (RC). An RSSO and/or RSO may be a nuclear medical science officer (AOC 72A) on the surgeon's staff, a trained chemical corps officer (AOC 74A) on the commander's staff, or a GS position number 1306 trained health physicist civilian employee, GS position number 0018 safety and occupational health specialist, or GS position number 069 industrial hygienist trained in accordance with DA Pam 385–24. The RSO will coordinate with the CBRN staff in the chain of command.
- (b) Establish separate collection and storage points located in theater, for damaged RAM and RCE awaiting assessment, cleanup, or evacuation.
- (c) Transport RCE from the local collection points to the theater-operated collection points, per command provided guidance.
- (d) Ensure the general staff logistics officer (G-4) notifies the Nuclear Regulatory Commission (NRC) licensee and/or ARA holder of inventory and transport procedures initiated, which is required for accountability and auditability aspects in support to the item.

- (3) Through the Commander, Army Sustainment Command (ASC) will perform command and control functions for all transportation units (movement control battalions and movement control teams) to coordinate and control all movements of RCE. The Commander, ASC, will ensure RCE is handled within the guidelines of the "special movement policy and procedures" and appropriate publications and will monitor such movements to ensure arrival at the final destination.
- (4) Through the commanders of support battalions and maintenance companies that maintain RC or process RCE, will—
 - (a) Establish unit-level RCE collection points.
 - (b) Accept on request, RCE from other units.
- (c) Retain damaged RCE or equipment that is potentially radiologically contaminated in the RCE collection point. Coordination of RC, RCE, and damaged RC disposition needs to go through the item managers and NRC licensee RSO and/or ARA RSO to ensure accountability and awareness.
 - (d) Report the RCE inventory to the Commander, TSC.
 - (e) Promulgate operational exposure guidance for peacetime and wartime conditions when required.
- (f) Coordinate with the TSC RSO and, if possible, with the NRC licensee RSO and/or ARA RSO for the retrograde of the RCE.
- (g) Ensure that personnel handling RC receive recurring training in the proper methods for handling RCE. Also, have appropriate materials for wipe or leak testing and personal protective equipment.
 - (h) Ensure the proper final disposition of all RCE per applicable Army policies and procedures.
 - f. The Surgeon General. TSG will—
- (1) Formulate medical exposure and surveillance policies with regard to personnel exposures to RAM and/or RCE (for example, in accordance with Army Regulation (AR) 40-5).
- (2) Provide guidance to DA staff and commanders of Army commands (ACOMs), Army service component commands (ASCCs), and direct reporting units (DRUs) regarding emergency medical care procedures, exposure assessments, treatment protocols, medical surveillance (dose records), and the medical management of personnel who have been exposed to RAM and/or RCE.
- (3) Provide nuclear medical science officers (AOC 72A), preventive medicine specialist (military occupational specialty (MOS) 68S), and other personnel as needed to provide field support to monitor health risks and perform other duties consistent with performing health risk assessments, personnel and equipment monitoring, and the Army Medical Department's medical treatment missions.
 - (4) Through the Commander, U.S. Army Medical Command—
- (a) Provide, as required, radiological hygiene services that include bioassay, medical surveillance, health risk assessment, and medical treatment to the commanders, using standard form (SF) 600 (Chronological Record of Medical Care).
- (b) When required, use the U.S. Army Radiological Advisory Medical Team (RAMT) (see DA Pamphlet (Pam) 700–48) to assist in medical monitoring of personnel engaged in retrograde of RCE.
- g. The commanders, Army commands, Army service component commands, and direct reporting units. These commanders will—
- (1) Ensure the RSSO at the ACOM, ASCC, and DRU level, and/or RSO below the headquarters level, provides guidance to commanders on matters concerning RAM, DU, RCE, and radioactive commodities (RCs). An RSSO and/or RSO may be a nuclear medical science officer (AOC 72A) on the surgeon's staff, a trained chemical corps officer (AOC 74A) on the commander's staff, or a GS position number 1306 trained health physicist civilian employee, GS position number 0018 safety and occupational health specialist, or GS position number 069 industrial hygienist, trained in accordance with DA Pam 385–24. The RSSO and/or RSO will coordinate with the CBRN staff in the chain of command.
- (2) Provide adequate resources to identify, procure, use, transport, handle, store, maintain, repair, decontaminate, and dispose of RCE in a safe and compliant manner.
- (3) Ensure personnel who are engaged in processing RCE receive appropriate RCE radiation hazard awareness training and appropriate personal protective equipment for the handling of the RCE or damaged RC. Additionally, selected personnel involved in retrograde operations will be trained in battle damage assessment, repair, recovery, and retrograde, and/or operational planning, training, and implementation procedures that the U.S. Army Training and Doctrine Command (TRADOC) prepared and disseminated.
- (4) Request explosive ordnance disposal (EOD) personnel, when required, to address combat equipment known or suspected to be radiologically contaminated by DU munitions or by RCs damaged as a result of combat action.

- (5) Request, when required, EOD and radiological personnel to survey systems arriving from outside the continental United States, or verify that required surveys are performed to ensure such systems do not pose an explosive or radiological hazard.
- (6) Ensure radiation, detection, indication, and computation (RADIAC) systems are properly calibrated to the active standard for health and safety, per Technical Bulletin (TB) 750–25.
- h. Commander, U.S. Army Training and Doctrine Command. The Commander, TRADOC, will develop and update RCE hazard awareness training. Such training will cover the characteristics, risks, and proper handling of RCE and include:
- (1) A general awareness program for all Soldiers in the U.S. Army that are in MOS's that are not typically involved with processing RCE.
- (2) Specific training for students with MOS or AOC in the following TRADOC schools that may involve RCE: armor, chemical, engineer, infantry, ordnance (including battle damage assessment and repair), quartermaster, signal, transportation, and medical. The above list is not all inclusive. The intent is for all students who may operate, maintain, and/or recover RCE to be trained to the degree necessary for safe operations and compliance with this regulation.
- (3) Detailed hazard awareness training and instructions on the procedures described in DA Pam 700–48 for Soldiers who possess, store, or use licensed commodity materials as part of their MOS or AOC.
 - i. Commander, Army Materiel Command. The Commander, Army Materiel Command (AMC) will—
 - (1) Be the Army lead for RCE that is standard or nonstandard Army equipment.
 - (2) Assist ACOMs, ASCCs, and DRUs to identify, classify, and provide disposition of RCE.
- (3) Disseminate NRC license and/or ARA information, including: general license and exempt items, TBs, manuals, policies, and maintenance procedures, through AMC major subordinate commands concerning characteristics, risks, and proper handling of RCE. Provide commodity fielding plans, to include system manuals and logistics assistance operations.
- (4) Train and appoint RSOs to implement the requirements, and the requirement for the RSO will also be at the ACOM level and other levels (DA Pam 385–24). The RSO is responsible for providing onsite assistance to units as needed.
 - (5) Ensure that adequate RADIAC systems are developed and fielded to identify potential RCE hazards.
- (6) Establish policies regarding transportation and handling, maintenance, use, retrograde, decontamination, demilitarization, and disposal for RCE.
 - (7) Provide guidance for the proper storage and handling of RCE at storage and staging areas located in theater.
- (8) Establish and operate a designated facility to collect excess RAM and decontaminate equipment—when feasible—and retrograde waste materials for disposal in the continental United States.
- (9) Ensure that Center for Military History coordinates with theater representatives from Department of Transportation, Department of Commerce, and Department of Agriculture to ensure evacuated captured material does not contain any hazardous material, insects, or pests that may contaminate continental United States environment and transportations system before it is evacuated via DCS, G-4 or Joint Chiefs of Staff's Logistics Directorate (J4) channels.
 - (10) Prioritize reclamation and repair of RCE held at a designated reclamation point.
- (11) Ensure the proper storage and handling of RCE at AMC storage and staging areas located throughout the retrograde process.
 - (12) Coordinate all efforts with the applicable NRC license RSO and/or ARA RSO of the RAM.
- (13) Ensure DA, Defense Logistics Agency, and DA contractor personnel are properly monitored when handling RCE when only a realistic potential of intake or external exposure to radiation exists.
- (14) Provide direction and requirements for monuments, displays, and privately owned museums, through the Army Donations Program, in accordance with AR 700–131.
- (15) Establish that units in possession of Army-owned equipment or vehicles intended for monuments, displays, and privately owned museums are responsible for ensuring that such items are radiologically surveyed and decontaminated before transfer.
- *j. Commander, Surface Deployment and Distribution Command.* The Commander, Surface Deployment and Distribution Command will ship materiel (RAM and RCE) subject to this regulation per applicable DA, Department of Defense (DoD), Federal, State, and international transportation standards, as well as NRC license requirements.

1-5. Records management (recordkeeping) requirements

The records management requirements for all record numbers, associated forms, and reports required by this regulation are addressed in the Army Records Retention Schedule—Army (RRS-A). Detailed information for all related record numbers, forms, and reports are located in the Army Records Information Management System

(ARIMS)/RRS-A at https://www.arims.army.mil. If any record numbers, forms, and reports are not current, addressed, and/or published correctly in ARIMS/RRS-A, see DA Pam 25-403 for guidance.

1-6. Policy

- a. It is DA policy to ensure radiation exposures are as low as reasonably achievable (ALARA). In general, commanders at all levels will take prudent measures to keep radiation exposures ALARA consistent with the operational requirements. An integral part of ALARA is consideration of the risk caused by implementing a protective procedure. Personnel protective measures designed for use in a noncombat environment may not be appropriate during military operations. The risk management process (see para 2–2) will be used to formulate proper protective measures during military operations.
- b. Army policies are designed to provide commanders a framework to make the risk-management decisions required to process and use RCE safely in the full spectrum of military operations.

1-7. Scope

- a. This regulation provides requirements and guidelines for operations outside the United States.
- b. This regulation applies to all military operations that involve RCE except as noted in paragraph 1–7c.
- c. This regulation does not apply to equipment contaminated by the following sources:
- (1) Radiation dispersal weapons.
- (2) Fallout from the detonation of a nuclear weapon.
- (3) Nuclear reactor accidents.
- (4) Nuclear weapon accidents.
- (5) Nuclear reactor fuel rods.
- (6) RCE generated at any of the Army deactivated nuclear power plants.

1-8. Deviations

- a. Deviations from applicable Federal and DoD regulations and standards are not authorized.
- b. When authorized by one of the commanders below, deviations to applicable Army standards and procedures are allowed—
 - (1) The commanding general of ACOMs, ASCCs, or DRUs.
 - (2) Unified commanders of U.S. Forces.
 - c. Authority to accept residual risk will be in accordance with ATP 5–19.
- d. Deviations may only be approved for 1 year or less. However, the approval authority may approve renewal of a deviation provided conditions cited in the original deviation remain the same.
- e. Any accident or mishap occurring under an approved deviation will automatically terminate an approved deviation until the respective approval authority completes an investigation and revalidates the approval of the deviation.
- f. When the conditions cited in past requests for deviation remain the same, are expected to remain the same, or are expected to reoccur with regularity, commanders should take action to address these conditions in revisions to the approved Army standards and procedures.

1-9. Release of information

Release of information regarding potentially or allegedly contaminated Army equipment and personnel must be coordinated with the Chief of Public Affairs prior to release.

Chapter 2

Management of Radiologically Contaminated Equipment

2-1. General

- *a.* The U.S. Army will comply with applicable Federal and host-nation laws (including status of forces agreements), treaties, NRC license, ARA requirements, policies regarding RAM and RCE, and applicable Army regulations.
- b. The commander for a deployment or operation is responsible for risk management, based on the unified combatant commander's risk assessment for the deployment or operation and this regulation's policies and guidance.
- c. Emergency medical considerations outweigh radiological contamination concerns. The health and safety of the individual are primary concerns. The condition of injured personnel will be assessed and stabilized prior to considering any decontamination operations.

d. In general, commanders at all levels will take prudent measures to keep radiation exposures to all personnel ALARA and consistent with operational risks.

2-2. Risk management

Commanders use the ATP 5–19 risk-management process during all military operations and the RCE retrograde process to ensure mission requirements, the safety of personnel, and the proper handling of the RCE are balanced. This will include:

- a. Health risk assessments to the degree applicable to the operational environment.
- b. Safety risk assessments in conjunction with mission, enemy, terrain and weather, troops and support available, time available, and civilian considerations.
 - c. Guidance in this regulation and DA Pam 700–48.

2-3. Training

- *a.* Personnel handling RAM and RCE follow the personal safety measures outlined in Joint Publication (JP) 3–11, AR 385–10, and DA Pam 700–48.
- b. Service member recovery and maintenance personnel will receive training in retrograde procedures for RAM and RCE for all systems that they will recover, repair, or maintain.
 - c. Refresher training will be conducted annually, with additional training conducted when needed.
- d. RSO or RSSO refresher training will be conducted annually, and retraining will occur after a significant regulatory change, or every 5 years.

2-4. Handling of radiologically contaminated equipment

- a. General.
- (1) RCE does not prevent the use of a combat vehicle or equipment for a combat mission.
- (2) During noncombat scenarios or when operations allow, a trained and command-appointed RSO will identify, segregate, isolate, secure, and label all RCE. Procedures to minimize the potential spread of radioactivity will be implemented as soon as possible.
- (3) The command's RSSO or RSO must consider the operational situation, mission, and the level and types of contamination when evaluating a recommendation to use RCE.
- (4) RCE may be reused once the command's RSSO or RSO certifies that the equipment has been decontaminated per established OEG or peacetime regulations.
 - (5) RCE must be decontaminated per peacetime regulations, not OEG, for release for unrestricted use.
- (6) CBRN technical units will ensure radiological decontamination clearance criteria have been achieved, and EOD units will, when appropriate, render RCE safe prior to initiating retrograde operations.
 - b. Use and cannibalization.
- (1) The operation or cannibalization of RCE is prohibited unless the commander has determined that the use or cannibalization of the RCE is for reasons of operational necessity. The operation and cannibalization will be coordinated with the RSSO or RSO.
 - (2) The following items, when damaged, will not be used or cannibalized:
- (a) Commercially procured Model AN/UDM-6 RADIAC Calibrator Set (national stock number 6665-00-767-7497).
 - (b) Tritium fire control devices.
- (3) When the commander has authorized use or cannibalization (see para 2-4b(1)), RCE may be operationally decontaminated and used for a specified mission. However, it will be handled in accordance with peacetime procedures as soon as operational conditions permit.
 - c. Handling.
- (1) The unit, team, or individual responsible for the RCE, at the time of damage or contamination is responsible for complying with this regulation and DA Pam 700–48.
- (2) The ACOM, ASCC, or DRU commander may designate a radioactive waste or commodity processing facility. The RAMT may be deployed to assist in the processing and management supervision of RCE.
- (3) Maintenance forms, warning tags, and other forms of communication will be used to ensure that personnel involved in the reclamation are aware of the contamination status.
- (4) Transport RCE to a designated location for an assessment of the extent of contamination and remediation under controlled conditions.
- (5) The ACOM, ASCC, or DRU commander's RSSO or RSO will monitor the separation of RCE from other equipment. The separation must be maintained throughout the RCE's handling process.

- (6) All equipment, to include captured or combat RCE, will be identified, packaged, retrograded, decontaminated, and released per ATP 3–11.32, TB 9–1300–278, DA Pam 700–48, and other applicable regulations as listed in appendix A, and if released for unrestricted use per 10 Code of Federal Regulations (CFR). Decontamination clearance screening levels for platforms and material are published by the Office of the Under Secretary of Defense in accordance with guidelines established in American National Standards Institute (ANSI) publication ANSI/HPS N13.12–2013.
- (7) RCE will be decontaminated to the maximum extent as soon as possible, per the appropriate regulation, doctrine, or OEG, as appropriate. Under all other conditions, decontamination in-theater will be performed by RAMT. When the RAMT is not deployed to the theater, the guidance will come from the most senior RSSO or RSO, senior CBRN officer, or nuclear medical science officer.
- *d. Personal safety.* Personnel handling RAM and RCE follow the personal safety measures outlined in DA Pam 700–48, AR 40–5, AR 385–10, and DA Pam 385–10.
 - e. Disposal.
- (1) In general, environmental impact must be considered prior to the retrograde. Retrograde operations must minimize the spread of contamination preventing harm to personnel and damage to equipment and the environment.
- (2) The local disposal (for example, burying, dumping, incineration, destruction in place, or abandonment) of RAM, RCE, and radioactive waste on land or in water is prohibited. If local disposal is required for operational concerns, the ACOM, ASCC, or DRU commander requests a waiver from the DoD lead agent, in accordance with Department of Defense Instruction (DoDI) 4715.27.
- (3) Demilitarization of RCE is authorized only as a means to ensure that the equipment will not fall into enemy hands.

2-5. Radiological surveillance

- a. The ACOM, ASCC, or DRU commander, in conjunction with the command's nuclear medical science officer (AOC 72A), health physicist (HP), or competent medical authority, determines the likelihood of radiological exposure from RCE to any individual. Individuals that the command determines may have been contaminated with RAM or RC are notified and decontaminated prior to evacuation to the servicing medical treatment facility, if the on-scene medical authority determines that any concurrent injury is not critical or immediate. If any concurrent injury requires immediate attention, the contamination is contained (wrapped in impermeable uncontaminated material) and the medical treatment facility is informed of possible contamination.
- b. Medical personnel perform required medical monitoring, which may include bioassay. Medical personnel consult with the command's nuclear medical science officer (AOC 72A) or HP to determine if bioassay samples are required. Guidance on bioassay sampling is in DA Pam 385–25 and in consultation with the U.S. Army Public Health Center. Samples are sent to U.S. Army Public Health Center for analysis. Results are provided to the command nuclear medical science officer (AOC 72A) or HP to notify the command and the individual(s) potentially exposed.
- c. Medical documentation is placed in the proper electronic medical record, except bioassay results, as well as the respective deployment health assessment for both post-deployment health assessment and post-deployment health reassessment. Bioassay results are archived at the Army's Central Dosimetry Records Repository, per DA Pam 385–24.
 - d. DA Pam 385–25 has a detailed discussion of bioassay measurements and internal dose assessment.

Appendix A

References

Section I

Required Publications

Unless otherwise stated, publications are available on the Army Publishing Directorate website at https://armypubs.army.mil/.

ANSI/HPS-N13.12 - 2013

Surface and Volume Radioactivity Standards for Clearance (Cited in para 2–4*c*(6).) (Available at https://www.ansi.org/.)

ATP 3-11.32

Multi-Service Tactics, Techniques, and Procedures for Chemical, Biological, Radiological, and Nuclear Planning (Cited in para 2-4c(6).)

Section II

Related Publications

A related publication is a source of additional information. The user does not have to read a related publication to understand this publication. Unless otherwise stated, publications are available on the Army Publishing Directorate website at https://armypubs.army.mil/. DoD publications are available at https://www.esd.whs.mil/. CFRs are available at https://www.govinfo.gov/. JPs are available at https://www.jcs.mil/.

AGO 2020-01

Assignment of Functions and Responsibilities Within Headquarters, Department of The Army

AR 11–2

Managers' Internal Control Program

AR 15-1

Department of the Army Federal Advisory Committee Management Program

AR 25-30

Army Publishing Program

AR 40-5

Army Public Health Programs

AR 385-10

The Army Safety Program

AR 700-131

Loan, Lease, and Donation of Army Materiel

ATP 5-19

Risk Management

DA Pam 25-403

Guide to Recordkeeping in the Army

DA Pam 385-10

Army Safety Program

DA Pam 385-24

The Army Radiation Safety Program

DA Pam 385-25

Occupational Dosimetry and Dose Recording for Exposure to Ionizing Radiation

DA Pam 700-48

Handling Procedures for Equipment Contaminated with Depleted Uranium or Radioactive Commodities

DoDD 4715.01E

Environment, Safety, and Occupational Health (ESOH)

DoDI 4715.05

Environmental Compliance At Installations Outside the United States

DoDI 4715.08

Remediation of Environmental Contamination Outside the United States

DoDI 4715.27

DoD Low-Level Radioactive Waste (LLRW) Program

DoDM 3145.03

DoD Chemical, Biological, and Radiological (CBR) Clearance Guidance for Platforms and Materiel

JP 3-0

Joint Operations

JP 3-11

Operations in Chemical, Biological, Radiological and Nuclear Environments

TR 9_1300_278

Guidelines for Safe Response to Handling, Storage, and Transportation Accidents Involving Army Tank Munitions or Armor Which Contain Depleted Uranium

TB 43-0116

Identification of Radioactive Items in the Army

TB 750-25

Maintenance of Supplies and Equipment: Army Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Repair Support (C&RS) Program

10 CFR

Energy (NRC regulations)

49 CFR

Transportation

Section III

Prescribed Forms

This section contains no entries.

Section IV

Referenced Forms

Unless otherwise indicated, DA forms are available on the Army Publishing Directorate website (https://armypubs.army.mil).

DA Form 11–2

Internal Control Evaluation Certification

DA Form 2028

Recommended Changes to Publications and Blank Forms

SF 600

Chronological Record of Medical Care (Available at https://www.gsa.gov.)

Appendix B

Internal Control Evaluation

B-1. Function

This appendix describes management of equipment contaminated with RAM or commodities.

B-2. Purpose

The purpose of this evaluation is to assist assessable unit managers and internal control administrators in evaluating the key internal controls outlined.

B-3. Instructions

These key internal controls must be formally evaluated at least once every 5 years or whenever the internal control administrator changes. Certification that this evaluation has been conducted must be accomplished on DA Form 11–2 (Internal Control Evaluation Certification). Evaluation test questions are outlined in paragraph B–4 and are intended as a starting point for each applicable level of internal control evaluation. Answers must be based on the actual testing of key internal controls (for example, document analysis, direct observation, sampling, simulation, or other testing). Answers that indicate deficiencies must be explained and corrective action indicated in supporting documentation.

B-4. Test questions

Use the following questions to check for appropriate internal control:

- a. Were key controls to identify, procure, use, transport, handle, store, maintain, repair, decontaminate, and dispose of RCE performed in a safe and compliant manner?
 - b. Was operational exposure guidance established?
- c. Was an RSSO or RSO appointed to provide guidance to commanders on matters concerning RAM, DU, RC, and RCE?
 - d. Were procedures established to ensure radiation exposures are ALARA and consistent with operational risks?

B-5. Supersession

Not applicable.

B-6. Comments

Help make this a better tool for evaluating internal controls. Submit comments to: DCS, G–4 (DALO–M), 500 Army Pentagon, Washington, DC 20310–0500, or usarmy.pentagon.hqda-dcs-g-4.mbx.publications@mail.mil.

Glossary

Section I

Abbreviations

ACOM

Army command

ALARA

as low as reasonably achievable

AMC

Army Materiel Command

ANSI

American National Standards Institute

AOC

area of concentration

AR

Army regulation

ARA

Army radiation authorization

ARIMS

Army Records Information Management System

ASA (IE&E)

Assistant Secretary of the Army (Installations, Energy, and Environment).

ASA (M&RA)

Assistant Secretary of the Army (Manpower and Reserve Affairs)

ASC

Army Sustainment Command

ASCC

Army service component command

ATP

Army techniques publication

CBRN

chemical, biological, radiological, and nuclear

CFR

Code of Federal Regulations

DA

Department of the Army

DASAF

Director of Army Safety

DCS

Deputy Chief of Staff

DoD

Department of Defense

ומים

Department of Defense instruction

DRU

direct reporting unit

$\mathbf{D}\mathbf{U}$

depleted uranium

EOD

explosive ordnance disposal

GS

general schedule

HP

health physicist

JP

joint publication

MOS

military occupational specialty

NR(

Nuclear Regulatory Commission

OEG

operational exposure guidance

Pam

pamphlet

RADIAC

radiation detection, indication, and computation

RAM

radioactive material

RAMT

radiological advisory medical team

RC

radioactive commodity

RCE

radiologically contaminated equipment

RSO

radiation safety officer

RSSO

radiation safety staff officer

SF

standard form

TB

technical bulletin

TRADOC

U.S. Army Training and Doctrine Command

TSC

Theater Sustainment Command

TSG

The Surgeon General

Section II

Terms

As low as reasonably achievable

The principle of making every reasonable effort to maintain exposures to radiation as far below the dose limits in Part 20 of Title 10 of the Code of Federal Regulations as is practical consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to the benefits to the public health and safety, and other societal, socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest.

Defense Reutilization and Marketing Service

See the definition for retrograde.

Depleted uranium

A by-product of the uranium fuel enrichment process. As a result, this by-product or waste stream contains lower concentrations (depleted) of the U-234/U-235 radioisotopes than were contained in the original natural uranium ore.

Foreign items

All-encompassing term for weapon system equipment, apparatus, documents, and supplies of a foreign military force or nonmilitary organization.

Free release

Decontaminated materiel released for unrestricted use by the general public.

Health physics

The science of determining, evaluating, and controlling the health effects of exposure to ionizing radiation.

Host nation

A nation in which representatives or organizations of another state are present because of government invitation and/or international agreement.

Host nation support

Civil and/or military assistance rendered by a nation for foreign forces within its territory during peacetime, crises, or emergencies, or war based on agreements mutually concluded between nations.

Industrial hygiene officer

The individual designated by the commander as chief advisor and responsible party for all matters related to mixed waste within an individual command.

Low-level radioactive waste

Unwanted solid, liquid, or gaseous material that contains radio nuclides regulated under the Atomic Energy Act as amended, falls below the threshold for activity and quantity listed in 10 CFR 62.2, and is of negligible economic value considering the cost of recovery.

Material

Equipment, vehicles, and other commodities, to include supply items.

Mixed waste

Hazardous waste as defined by the U.S. Environmental Protection Agency in combination with low-level radioactive waste.

Operational exposure guidance

Instructions from the commander as to the allowable radiation exposures for Soldiers in a certain operation or situation, with respect to radiation dose levels and/or radioactive contamination. The OEG will be determined in consultation with the command surgeon.

Radiation safety

For the purposes of this regulation, a scientific discipline whose objective is the protection of people and the environment from unnecessary exposure to radiation. Radiation safety is concerned with understanding, evaluating, and controlling the risks from radiation exposure relative to the benefits derived. Same as health physics and radiation protection.

Radiation safety officer

The person that the commander designates, in writing, as the executive officer for the headquarters command's Radiation Safety Program. These individuals have training commensurate with the radiation program they manage. There may be an RSO at garrison, installation, mission, and unit levels.

Radiation safety staff officer

The person that the commander designates, in writing, as the executive officer for the ACOM command's Radiation Safety Program. These individuals have training commensurate with the radiation hazards they manage.

Radioactive commodities

Any item or device composed in whole or in part of RAM that a national stock number, trade, or supply name, commercial-and-government-entity code, or part number has been assigned.

Radioactive material

Any material that is radioactive. A radioactive source that emits radiation or exhibits radioactivity.

Radiologically contaminated equipment

U.S. or foreign modified table(s) of organization and equipment, common table(s) of allowances, table(s) of distribution allowance, or prescribed load list items that were contaminated by DU or RCs damaged as a result of combat action, maintenance activities, or accidents.

Retrograde

The process for the movement of equipment and materiel from a unit location to a reset (replenish, repair, or recapitalization) program or to another directed area of operations to replenish unit stocks, or to satisfy stock requirements. Retrograde cargo consists of serviceable, unserviceable, economically repairable items and weapon systems destined to a source of repair, refurbishment program or Defense Reutilization and Marketing Service.

Risk assessment

The formal or informal process used to determine the total impact of a single or several risks present on a given population for the purpose of determining appropriate actions of preserving personnel health and safety. Assessment of risk must consider the resulting effects on environmental damage. There are health risk assessments and safety risk assessments (ATP 5–19).

Risk decision

The decision to accept or not accept the risk(s) associated with an action made by the individual responsible for performing that action.

Risk management

The process of identifying, assessing, and controlling risks arising from operational factors and making decisions that balance risk cost with mission benefits (see JP 3–0).

Risk management integration

The embedding of risk management principles and practices into Army operations, culture, organizations, systems, and individual behavior.

Risk management process

The process of identifying and controlling hazards to protect the force. It includes five steps that represent a logical thought process from which users develop tools, techniques, and procedures for applying risk management in their areas of responsibility. It is a closed-loop process applicable to any situation and environment. Its five steps are:

- a. Identify hazards: Identify hazards to the force. Consider all aspects of the current and future situations, environment, and known historical problem areas.
- b. Assess hazards: Assess hazards to determine risks. Assess the impact of each hazard in terms of potential loss and
- c. Develop controls and make risk decisions: Develop control measures that eliminate the hazard or reduce its risk. As control measures are developed, reevaluate risks until all risks are reduced to a level where benefits outweigh potential costs.
- d. Implement controls: Put controls in place that reduce the risk.
- e. Supervise and evaluate: Enforce standards and controls. Evaluate the effectiveness of the controls and adjust or update as necessary.

Transportation standards

U.S. Department of Transportation requirements established in 49 CFR.

United States

The several States, the District of Columbia, the Commonwealths of Puerto Rico and the Northern Mariana Islands, American Samoa, Guam, Midway and Wake Islands, the U.S. Virgin Islands, any other territory or possession of the United States, and associated navigable waters, contiguous zones, and ocean waters of which the natural resources are under the exclusive management authority of the United States.

Unrestricted use

Same as free release.

Unwanted radioactive material

RAM that have been damaged or have reached the end of their useful life and have been determined to no longer serve the purpose for which they were intended.

Section III

Special Abbreviations and Terms

This section contains no entries.