



PERSONNEL AND  
READINESS

OFFICE OF THE UNDER SECRETARY OF DEFENSE  
4000 DEFENSE PENTAGON  
WASHINGTON, D.C. 20301-4000

December 27, 2019

Incorporating Change 1, Effective December 29, 2020

MEMORANDUM FOR CHIEF MANAGEMENT OFFICER OF THE DEPARTMENT OF  
DEFENSE

SECRETARIES OF THE MILITARY DEPARTMENTS  
CHAIRMAN OF THE JOINT CHIEFS OF STAFF  
UNDER SECRETARIES OF DEFENSE  
CHIEF OF THE NATIONAL GUARD BUREAU  
GENERAL COUNSEL OF THE DEPARTMENT OF DEFENSE  
DIRECTOR OF COST ASSESSMENT AND PROGRAM  
EVALUATION  
INSPECTOR GENERAL OF THE DEPARTMENT OF DEFENSE  
DIRECTOR OF OPERATIONAL TEST AND EVALUATION  
CHIEF INFORMATION OFFICER OF THE DEPARTMENT OF  
DEFENSE  
ASSISTANT SECRETARY OF DEFENSE FOR LEGISLATIVE  
AFFAIRS  
ASSISTANT TO THE SECRETARY OF DEFENSE FOR PUBLIC  
AFFAIRS  
DIRECTOR OF NET ASSESSMENT  
DIRECTORS OF DEFENSE AGENCIES  
DIRECTORS OF DOD FIELD ACTIVITIES

SUBJECT: Directive-type Memorandum (DTM)-19-013 – “Managing Risk from  
Electromagnetic Field Radiation Emitters and Lasers”

References: See Attachment 1.

Purpose. In accordance with the authority in DoD Directive 5124.02 and the authority  
and guidance in DoD Instructions (DoDIs) 5000.02, 5000.69, 6055.11, and 6055.15, this DTM:

- Establishes policy, assigns responsibility, and provides procedures for managing the risk to DoD personnel and the public from operating DoD electromagnetic field radiation (EMFR)-emitting devices and lasers as part of military testing, training, or operations.
- Amends current policy by providing a risk management approach to the standards in DoDIs 6055.11 and 6055.15 when these standards cannot be met due to operational and military-unique requirements.

- Is effective December 27, 2019; it must be incorporated into the revisions of DoDIs 6055.11 and 6055.15. This DTM will expire effective December 27, 2021.

Applicability. This DTM:

- Applies to OSD, the Military Departments, the Office of the Chairman of the Joint Chiefs of Staff and the Joint Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities within the DoD (referred to collectively in this DTM as the “DoD Components”).
- Does not apply to patients exposed to EMFR or laser radiation generated as part of diagnostic or therapeutic medical or dental treatment.
- Does not apply to the human effects of non-lethal weapons as described in DoDI 3200.19.

Definitions. See Glossary.

Policy. In accordance with DoDI 6055.01, with regard to EMFR or laser radiation, it is DoD policy to:

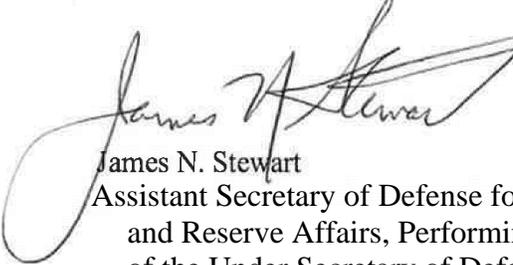
- Protect DoD personnel from accidental death, injury, and occupational illness.
- Protect the public from risk of death, injury, illness, or property damage because of DoD activities.
- Safeguard defense systems, infrastructure, environment, and property from accidental destruction or damage while acting in the interest of national security.
- Apply risk management strategies to minimize occupational injury or illness and loss of mission capability and resources.

Responsibilities. See Attachment 2.

Summary of Change 1. This change extends the expiration date for the DTM to December 27, 2021.

Procedures. See Attachment 3.

Releasability. Cleared for public release. Available on the Directives Division Website at <https://www.esd.whs.mil/DD/>.

A handwritten signature in black ink, appearing to read "James N. Stewart". The signature is fluid and cursive, with a large loop at the beginning and a long, sweeping tail.

James N. Stewart  
Assistant Secretary of Defense for Manpower  
and Reserve Affairs, Performing the Duties  
of the Under Secretary of Defense for  
Personnel and Readiness

Attachments:  
As stated

ATTACHMENT 1

REFERENCES

- American National Standards Institute Standard Z136.1, “American National Standard for Safe Use of Lasers,” current edition
- DoD Directive 5124.02, “Under Secretary of Defense for Personnel and Readiness (USD(P&R)),” June 23, 2008
- DoD Instruction 3200.19, “Non-Lethal Weapons (NLW) Human Effects Characterization,” May 17, 2012, as amended
- DoD Instruction 5000.02, “Operation of the Defense Acquisition System,” January 7, 2015, as amended
- DoD Instruction 5000.69, “DoD Joint Services Weapon and Laser System Safety Review Processes,” November 9, 2011, as amended
- DoD Instruction 6055.01, “DoD Safety and Occupational Health (SOH) Program,” October 14, 2014, as amended
- DoD Instruction 6055.11, “Protecting Personnel from Electromagnetic Fields,” August 19, 2009, as amended
- DoD Instruction 6055.15, “DoD Laser Protection Program,” May 4, 2007, as amended
- Institute of Electrical and Electronics Engineers C95.1, “IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz,” current edition
- Institute of Electrical and Electronics Engineers C95.1-2345, “IEEE Standard for Military Workplaces—Force Health Protection Regarding Personnel Exposure to Electric, Magnetic, and Electromagnetic Fields, 0 Hz to 300 GHz,” current edition
- Institute of Electrical and Electronics Engineers C95.6, “IEEE Standard for Safety Levels with Respect to Human Exposure to Electromagnetic Fields, 0-3 kHz,” current edition
- Institute of Electrical and Electronics Engineers C95.7, “IEEE Recommended Practice for Radio Frequency Safety Programs, 3 kHz to 300 GHz,” current edition
- Military Standard MIL-STD-882E, “Department of Defense Standard Practice: System Safety,” May 11, 2012
- Military Standard MIL-STD-1425A, “Department of Defense Design Criteria Standard: Safety Design Requirements for Military Lasers and Associated Support Equipment,” August 30, 1991

ATTACHMENT 2

RESPONSIBILITIES

1. ASSISTANT SECRETARY OF DEFENSE FOR READINESS. Under the authority, direction, and control of the Under Secretary of Defense for Personnel and Readiness, the Assistant Secretary of Defense for Readiness:

- a. Oversees the implementation of this DTM.
- b. Develops and updates DoD EMFR and laser protection policies, procedures, and guidance to continuously improve EMFR and laser safety and health.
- c. Charters the Tri-Service EMF Radiation Protection Working Group and the Laser Systems Safety Working Group as described in DoDIs 6055.11 and 6055.15, respectively, to coordinate risk assessments of, and risk management procedures for, systems in development or used by multiple DoD Components.

2. DOD COMPONENT HEADS. The DoD Component heads:

- a. Implement the requirements and procedures of this DTM by establishing and maintaining EMFR and laser protection programs to manage or eliminate the risks to personnel and equipment from EMFR and laser hazards.
- b. Oversee their component's implementation of this DTM.
- c. Plan, program, and budget for risk assessments and risk mitigation for EMFR and laser systems under their cognizance.

ATTACHMENT 3

PROCEDURES

Use of military lasers and EMFR-emitting devices of increasing power creates challenges for managing the safety and health risks to DoD personnel and the public, in balance with military operational risk.

a. To comply with the maximum permissible exposure (MPE) requirements of DoDIs 6055.11 and 6055.15, DoD Components must:

(1) Limit all human exposure to EMFR at or below MPE levels recommended by the Institute of Electrical and Electronics Engineers Standards C95.1, C95.1-2345, C95.6, and C95.7.

(2) Control all human exposure to lasers at or below MPE levels recommended by the American National Standards Institute Standards Z136.1.

b. When military operational necessity makes it impossible for DoD Components to comply with the MPE limitations in Paragraphs a.(1) and a.(2) of this issuance, they will apply the following risk management procedures.

(1) For systems in research, development, test, and evaluation processes, follow the requirements of DoDI 5000.02, DoDI 5000.69, Military Standard MIL-STD-882E, and Military Standard MIL-STD-1425A as applicable.

(2) For systems used in training, operations, and other activities not under the configuration control of an acquisition program office, follow DoDI 6055.01, Enclosure 3, Paragraph 8.a.(3), for risk management under conditions of military necessity. Re-evaluate risk when the design or operation of the system changes or when a change occurs in the decision making authority.

(3) For systems in development or use by multiple DoD Components, the lead component will coordinate a joint assessment through the Tri-Service Electromagnetic Radiation Protection Working Group for EMFR systems. For laser systems, the lead component will coordinate a joint assessment through the Laser Systems Safety Working Group.

GLOSSARY

ABBREVIATIONS AND ACRONYMS

DoDI	DoD instruction
DTM	directive-type memorandum
EMFR	electromagnetic field radiation
MPE	maximum permissible exposure