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**Engineering and Design  
U.S. Army Corps of Engineers Missile Defense  
Mandatory Center of Expertise and Standardization**

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FOR THE COMMANDER:

DAMON A. DELAROSA  
COL, EN  
Chief of Staff

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**Purpose.** This engineer regulation sets forth the authority, policy, roles, and responsibilities of the U.S. Army Corps of Engineers Missile Defense Mandatory Center of Expertise. It also provides guidance and procedures by which the U.S. Army Corps of Engineers Command and other Department of Defense and government agencies obtain these services.

**Applicability.** This regulation applies to all U.S. Army Corps of Engineers commands, the Department of Defense, and other federal agencies worldwide required to or electing to use Missile Defense Mandatory Center of Expertise services. This includes the Headquarters, U.S. Army Corps of Engineers, major subordinate commands, geographic districts, and field operating activities.

**Distribution statement.** Approved for public release; distribution is unlimited.

**Proponent and exception authority.** The proponent of this regulation is the Headquarters, U.S. Army Corps of Engineers, Engineering and Construction Division. The proponent has the authority to approve exceptions or waivers to this regulation that are consistent with controlling law and regulations. Only the proponent of a publication or form may modify it by officially revising or rescinding it.

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\*This regulation supersedes ER 1110-2-8163, dated 30 September 2016.

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## **1. Purpose**

This engineer regulation sets forth the authority, policy, roles, and responsibilities of the U.S. Army Corps of Engineers (USACE) Missile Defense Mandatory Center of Expertise (MCX). It also provides guidance and procedures by which the USACE Command and other Department of Defense (DoD) and government agencies obtain these services.

## **2. Distribution statement**

Approved for public release; distribution is unlimited.

## **3. References**

See Appendix A.

## **4. Records management (recordkeeping) requirements**

The records management requirement for all record numbers, associated forms, and reports required by this publication are addressed in the Army Records Retention Schedule. Detailed information for all related record numbers is located on the USACE Records Management Site <https://usace.dps.mil/sites/INTRA-CIOG6/SitePages/Records-Management.aspx>. If any record numbers, forms, and reports are not current, addressed, and/or published correctly, see DA Pam 25-403 for guidance.

## **5. Associated publications**

This section contains no entries.

## **6. Mission**

a. The Missile Defense MCX provides worldwide technical expertise to deliver the highest quality missile defense facilities and infrastructure for the DoD and other federal agencies and foreign governments, in partnership with other USACE Commands. The Missile Defense MCX is the enterprise mandatory center of expertise and standardization for the Missile Defense System's (MDS) operational, testing, and expeditionary projects, including, but not limited to, the following:

- (1) Mission control facilities.
- (2) Radar facilities and radar support facilities.
- (3) Launch facilities.
- (4) Launch control facilities.
- (5) Mission support facilities.

(6) Power plants, including shielded power plants and shielded backup power generators.

(7) Missile assembly facilities.

(8) Communication facilities.

(9) In-flight interceptor communication system data terminal facilities.

(10) Building system work.

(11) Ground-based, mid-course defense infrastructure and facilities.

(12) Missile range facilities.

*b.* It also provides continuity, standardization, and technical excellence within USACE and provides MDS-unique technical support to USACE activities, the Army, other DoD agencies, and other federal agencies worldwide.

*c.* The Missile Defense MCX maintains state-of-the art expertise in all areas of MDS facilities and infrastructure-unique technical disciplines, including, but not limited to the following:

(1) Project management support.

(2) Structural engineering.

(3) Mechanical engineering.

(4) Electrical engineering.

(5) Architecture.

(6) Civil engineering.

(7) Facility explosive safety engineering.

(8) Fire protection engineering.

(9) High-altitude, electromagnetic pulse engineering.

(10) MDS cybersecurity specialists.

(11) Building information systems.

(12) Specialized missile defense facilities.

(13) MDS facilities commissioning.

(14) Risk management associated with facilities impacts to mission delivery.

*d.* The Missile Defense MCX represents the Headquarters, USACE (HQUSACE) Engineering and Construction (E&C) Directorate on DoD committees, discipline working groups, and, in compliance with USACE ethics program guidance, with professional societies that impact missile defense facility and infrastructure design.

*e.* The Missile Defense MCX serves as the USACE point of contact for the MDS-unique technical support aspects of the design and construction of missile defense facilities. The term “MDS unique” refers to facilities and infrastructure that directly support the delivery and quality of missile defense systems and subsystem’s operability. These roles and responsibilities include, but are not limited to, the following:

(1) Function as USACE subject matter expert for the design and construction of MDS facilities as stated in paragraph 6 of this regulation.

(2) Provide technical expertise for military construction, minor construction, and repair projects. Provide technical expertise for other federal agencies’ missile defense projects as requested based on Interagency Agreements (IAA) and/or USACE Enterprise Program Management Plans (EPgMP).

(3) Provide input to DoD Unified Facilities Criteria (UFC) Discipline Working Group for UFC 3-301-01 and UFC 3-301-02 related to MDS-unique aspects of design and construction.

(4) Research the latest advancements in MDS delivery related to design and construction in coordination with the project sponsor, academia, industry, professional societies, etc. and apply this knowledge to missile defense projects.

(5) Develop and manage training and workshops per USACE policy and guidance.

(6) Provide lessons learned and best practices through the appropriate enterprise central repository and make available to USACE geographic districts (GD).

(7) Provide input to the GD technical lead in developing the project’s Quality Management Plan (QMP). This should include Quality Assurance (QA) reviews of design and construction submittals, technical evaluation of proposed changes, and commissioning service requirements for compliance with governing MDS criteria.

*f.* The Chief, Missile Defense MCX, represents HQUSACE on committee(s), discipline working groups, and, in compliance with USACE ethics program guidance, with professional societies that impact missile defense facility and infrastructure design.

## **7. Authorities**

*a.* Verifies to the Chief of Engineering function at the executing GD that the final design conforms with applicable codes and standards specific to missile defense systems or subsystems.

b. Identifies on behalf of the GD design or construction issues that can jeopardize or negatively impact mission operations for immediate action, to include, but not limited to, suspension of activities.

c. Interprets and enforces compliance with UFCs that materially impact missile defense systems or subsystems for USACE. This authority does not waive, or exempt requirements specially provided for in the criteria, which remains with the Engineering Senior Executive Panel signature authority per Military Standard (MIL-STD)-3007G.

## **8. Mandatory services provided by the Missile Defense Mandatory Centers of Expertise**

These mandatory services apply to features and processes materially impacting missile defense systems or subsystems. GDs are required to use the following mandatory services:

a. *Design phase services for missile defense systems facilities.*

(1) Provide technical expertise for MDS-unique components of design that support the executing District to ensure project inclusion or verification of MDS-unique design criteria and compliance with UFC and all other applicable MDS-unique guidance.

(2) Provide verification to the Chief of Engineering function at the executing GD prior to advertisement and at final design that the project has been reviewed for inclusion of all MDS-unique technical requirements.

(3) Provide a technical review and coordinate with the project resource sponsor regarding requests for waivers and exemptions to UFC. Provide a recommendation to HQUSACE E&C Directorate regarding approval of the request for a waiver or exemption.

(4) Provide project-specific services that apply to features and processes materially impacting missile defense systems or subsystems to the GD as a required attachment to the architect-engineer (A-E) statement of work and request for proposal.

(5) Provide a technical review of missile defense minor construction and repair projects with an estimated design and construction cost greater than \$1.0 million. The GDs and major subordinate commands (MSCs) are required to conduct a project risk assessment according to USACE policy to determine the level of MDS-unique risk for each project. A waiver for this mandatory review requirement can be considered with an explanation and request as follows:

(a) Low-risk projects: Approved by the E&C Chief at the assigned GD.

(b) Medium-risk projects: Approved by the HQUSACE E&C Chief. If the project is assigned to a GD, a higher-level review performed by the MSC or Missile Defense MCX is required.

(c) High-risk projects: Approved by the HQUSACE E&C Chief.

*b. Construction phase services for missile defense systems facilities.*

(1) Provide the executing GD with recommended staffing, technical support, construction management, and commissioning support requirements. These requirements will be included in the project-specific Project Management Plan (PMP) or as defined in a USACE EPgMP.

(2) Provide construction submittal reviews according to the project-specific QMP and within established timelines.

(3) Provide a post-construction award assistance team that visits the site at key milestone dates, as coordinated with the executing GD, to ensure oversight of MDS-unique features. These teams will provide written documentation of the visit and any concerns and recommendations for improved quality management.

(4) Participate in the governance process for HQUSACE-designated MDS Mega projects or program (ECB 2023-11). Participate in HQUSACE design and construction evaluations as required.

(5) Participate on change management boards during construction.

## **9. Optional construction support services**

Perform additional periodic site inspections and participate in construction management meetings.

## **10. Support contracts**

*a.* To reduce the time required for selection and award of A-E design contracts, the Huntsville Engineering and Support Center (CEHNC) is authorized to develop and maintain sufficient A-E Indefinite Delivery/Indefinite Quantity contracts with specialized missile defense design experience and expertise to support the execution of the Missile Defense MCX mission and responsibilities on a reimbursable basis. These contracts and task orders are available for use, but not required, by USACE Geographic Districts (GD) to facilitate meeting design schedules and to provide technical support during construction. The USACE GD requiring the task order will develop the task order scope of work, award the task order, and manage the contract.

*b.* CEHNC is authorized to develop and maintain a construction support contract available for use by USACE GDs and the Missile Defense MCX to provide construction service support.

## **11. Training**

Provide training to resident and area office personnel on missile defense systems or subsystems-centered QA processes and inspection of MDS-unique features.

## 12. Responsibilities

a. *HQUSACE Military Programs Integration Division.* Has programmatic authority over the Missile Defense MCX and is responsible for resourcing, reporting funds, activities, and monitoring the effectiveness of the services provided.

b. *HQUSACE Engineering and Construction Directorate.* Is the functional lead over engineering and design. Has technical oversight of the quality of products and services delivered by the Missile Defense MCX. HQUSACE E&C Directorate will assign a Headquarters proponent who will collaborate with HQUSACE Military Programs Integration Division Program Managers on issue resolution and definition of design processes that affect project execution.

c. *USACE Major Subordinate Command.* Each MSC will ensure that the Missile Defense MCX has been engaged by their Districts as required by this regulation and USACE policy. MSCs will review any proposed exceptions to their use prior to submitting to HQUSACE E&C Directorate for approval/disapproval.

d. *USACE Geographic Districts.* For missile defense projects requiring mandatory services from the Missile Defense MCX as stated in paragraph 8 of this regulation, the Districts will:

(1) Include statements in their project documentation, signed by the Chief of Engineering function, certifying that the Missile Defense MCX has been appropriately utilized in the planning, design, and execution of the project, and fully document any approved exceptions to MCX use.

(2) Include specific implementation of the design review requirements and construction support services as required in the PMP and the related QMP. Ensure these plans reflect the effort and funding necessary to support the mandatory requirements stated above.

(3) Ensure all Defense-wide missile defense Military Construction (MILCON) projects are designed and constructed using UFC, MIL-STD, and the Unified Facilities Guide Specifications. This requirement applies regardless of the delivery method used.

(4) Ensure all missile defense projects for other federal agencies are designed and constructed in compliance with applicable codes and governing criteria and standards as required by IAA and/or EPgMP.

e. *Huntsville Engineering and Support Center.* Maintains the Missile Defense MCX at a level in the organization that is appropriate for their roles and responsibilities and supports successful execution of the mission and functions identified in this regulation. No changes to the Missile Defense MCX mission or functions are to be implemented without approval from HQUSACE E&C Directorate, HQUSACE Military Programs Integration Division, and revision to this regulation.

### **13. Procedures for Missile Defense Mandatory Center of Expertise Use**

a. Requests for Missile Defense MCX services will be submitted to them by telephone or e-mail. An acceptable scope of work, schedule, and cost estimate are to be developed by the Missile Defense MCX and requesting District or agency before any reimbursable work begins. This will be formalized in a Memorandum of Understanding between the executing GD and the Missile Defense MCX.

b. HQUSACE Engineering and Construction Directorate, with the support of the Missile Defense MCX, ensures that material pertaining to the Missile Defense MCX is kept current and maintained in electronic format on USACE MILCON Requirements, Standardization, and Integration (MRSI) at <https://mrsi.erdcdren.mil/coe/mcx/bmds/>.

### **14. Exceptions**

There are no specific routine waivers to mandatory use of the Missile Defense MCX. Request for waivers must be fully justified and submitted by the MSC to HQUSACE Engineering and Construction Directorate approval/disapproval.

## **Appendix A References**

### **Section I**

#### **Required Publications**

Unless otherwise indicated, Army and USACE publications are available at <https://armypubs.army.mil/> and <https://www.publications.usace.army.mil/>.

#### **EC 2023-11**

USACE Mega Projects – Overall Project Delivery Guidance

#### **Engineering and Construction Bulletin (ECB) 2023-11**

[https://stg.wbdg.org/FFC/ARMYCOE/COEECB/ecb\\_2023\\_11.pdf](https://stg.wbdg.org/FFC/ARMYCOE/COEECB/ecb_2023_11.pdf)

#### **DA Pam 25-403**

Army Guide to Recordkeeping

#### **Military Construction (MILCON) Requirements, Standardization, and Integration (MRSI)**

(Available at <https://mrsi.erdcdren.mil/coe/mcx/bmds/>)

#### **Military Standard (MIL-STD)-3007G**

Department of Defense Standard Practice, Unified Facilities Criteria, Facilities Criteria and Unified Facilities Guide Specifications

(Available at <https://www.wbdg.org/FFC/FEDMIL/milstd3007g.pdf>)

#### **Unified Facilities Criteria (UFC) 3-301-01**

Structural Engineering

(Available at <https://www.wbdg.org/dod/ufc/ufc-3-301-01>)

#### **UFC 3-301-02**

Design of Risk Category V Structures, National Strategic Military Assets

(Available at [https://www.wbdg.org/FFC/DOD/UFC/ufc\\_3\\_301\\_02\\_2023.pdf](https://www.wbdg.org/FFC/DOD/UFC/ufc_3_301_02_2023.pdf))

### **Section II**

#### **Prescribed Forms**

This section contains no entries.

## **Glossary of Terms**

<b><u>Term</u></b>	<b><u>Definition</u></b>
A-E	Architect-Engineer
CEHNC	U.S. Army Engineering and Support Center, Huntsville
DA	Department of the Army
DA Pam	Department of the Army Pamphlet
DoD	Department of Defense
ECB	Engineering and Construction Bulletin
E&C	Engineering and Construction
EPgMP	Enterprise Program Management Plan
ER	Engineer Regulation
GD	Geographic District
HQUSACE	Headquarters, United States Army Corps of Engineers
IAA	Interagency Agreement
MCX	Mandatory Center of Expertise
MDS	Missile Defense System
MILCON	Military Construction
MIL-STD	Military Standard
MRSI	Military Construction Requirements, Standardization, and Integration
MSC	Major Subordinate Command
PMP	Project Management Plan
QA	Quality Assurance
QMP	Quality Management Plan
UFC	Unified Facilities Criteria
USACE	U.S. Army Corps of Engineer

### **Proponent**

The proponent of this regulation is the Headquarters, U.S. Army Corps of Engineers, Engineering and Construction Division.