

UNIFIED FACILITIES CRITERIA (UFC)

DoD BUILDING CODE (GENERAL BUILDING REQUIREMENTS)



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U.S. ARMY CORPS OF ENGINEERS

NAVAL FACILITIES ENGINEERING COMMAND (Preparing Activity)

AIR FORCE CIVIL ENGINEER CENTER

Record of Changes (changes are indicated by \1\ ... /1/)

Change No.	Date	Location
1	01 Feb 2018	Revised sections 3-3.1 (new Core UFC), 3-6.5, and Appendix A to include cybersecurity requirements. Miscellaneous ccrs. Added sentence to 2-18, 2.2 to clarify entrance elevations.
2	01 Nov 2018	Added Environmental Severity Classification and humidity design requirements and provided corrosion prevention requirements in 3-6.6 (and sub-sections) and Appendix B.

This UFC supersedes UFC 1-200-01, dated 1 July 2013, including change 3, implemented 1 August 2015.

FOREWORD

The Unified Facilities Criteria (UFC) system is prescribed by MIL-STD 3007 and provides planning, design, construction, sustainment, restoration, and modernization criteria, and applies to the Military Departments, the Defense Agencies, and the DoD Field Activities in accordance with [USD \(AT&L\) Memorandum](#) dated 29 May 2002. UFC will be used for all DoD projects and work for other customers where appropriate. All construction outside of the United States is also governed by Status of Forces Agreements (SOFA), Host Nation Funded Construction Agreements (HNFA), and in some instances, Bilateral Infrastructure Agreements (BIA.) Therefore, the acquisition team must ensure compliance with the most stringent of the UFC, the SOFA, the HNFA, and the BIA, as applicable.

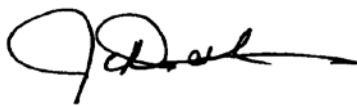
UFC are living documents and will be periodically reviewed, updated, and made available to users as part of the Services' responsibility for providing technical criteria for military construction. Headquarters, U.S. Army Corps of Engineers (HQUSACE), Naval Facilities Engineering Command (NAVFAC), and Air Force Civil Engineer Center (AFCEC) are responsible for administration of the UFC system. Defense agencies should contact the preparing service for document interpretation and improvements. Technical content of UFC is the responsibility of the cognizant DoD working group. Recommended changes with supporting rationale should be sent to the respective service proponent office by the following electronic form: [Criteria Change Request](#). The form is also accessible from the Internet sites listed below.

UFC are effective upon issuance and are distributed only in electronic media from the following source:

- Whole Building Design Guide web site <http://dod.wbdg.org/>.

Hard copies of UFC printed from electronic media should be checked against the current electronic version prior to use to ensure that they are current.

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**UNIFIED FACILITIES CRITERIA (UFC)
SUMMARY SHEET**

Document: UFC 1-200-01, *DoD BUILDING CODE (GENERAL BUILDING REQUIREMENTS)*, dated 1 April 2016.

Superseding: UFC 1-200-01, GENERAL BUILDING REQUIREMENTS, dated 1 July 2013 with Change 3 dated 1 August 2015.

Description: This update to UFC 1-200-01 represents the Tri-Services effort to bring uniformity to the military use of non-government model building codes. Technical representatives of each of the three Services developed requirements in this document to implement the use of the 2015 International Building Code (IBC) consistent with the scope of current military requirements and procedures. This revision of UFC 1-200-01 contains modifications in the following areas:

- DoD criteria guidance approved as late as 6 October 2015 has been cited.

Reasons for Document: The existing guidance was inadequate for the following reasons:

- This document replaces the 2012 IBC with the use of the 2015 IBC revised and replaced in 2015 by the International Code Council.

Impact: The following direct benefits will result from the update of UFC 1-200-01:

- Creation of a single source reference for the latest building code.
- This document reduces interpretation and ambiguity that could lead to design and construction conflicts.
- Cost of DoD facilities are not expected to increase as a result of this revision.

Non-Unified Items: This document contains no non-unified items.

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CHAPTER 1 INTRODUCTION

1-1 PURPOSE AND SCOPE.

This UFC provides general building requirements, establishes the use of consensus building codes and standards, identifies key core UFC, and identifies unique military criteria.

1-2 APPLICABILITY.

This UFC applies to the design and construction of new and renovated Government-owned facilities for the Department of Defense (DoD). It is applicable to all methods of project delivery and levels of construction as defined below. For facilities supporting military operations refer to Paragraph 1-7 of this UFC.

1-3 LEVELS OF CONSTRUCTION.

1-3.1 Permanent Construction.

Buildings and facilities designed and constructed to serve a life expectancy of more than 25 years.

1-3.2 Semi-permanent Construction.

Buildings and facilities designed and constructed to serve a life expectancy of more than 5 years, but less than 25 years. This construction level is typically only used for support of military operations. Expediency of construction and material availability may be a factor. Facilities are intended to have a more enduring presence with operational characteristics and functional performance similar to permanent construction. Maintainability of finishes and systems must be commensurate with facility life expectancy and available maintenance capabilities. A moderate level of energy and water efficiency must be considered.

1-3.3 Temporary Construction.

Buildings and facilities designed and constructed to serve a life expectancy of five years or less using low cost construction. Temporary construction typically cannot be economically converted to a higher level of construction. Temporary facilities have limited flexibility for conversion and re-use.

1-4 BUILDING CODES AND MILITARY MODIFICATIONS.

1-4.1 Building Codes.

Use the 2015 International Building Code (IBC) and the 2015 International Existing Building Code (IEBC) as follows:

- Use the IBC, including all published errata, as the building code for the Department of Defense, except as modified by this UFC. Where a paragraph in any chapter of the IBC references a paragraph in a different chapter, the referenced chapter shall be modified as described in Chapter 2 of this UFC.
- Use the IEBC, including all published errata, except as modified by this UFC. Where a paragraph in any chapter of the IEBC references a paragraph in a different chapter, the referenced chapter shall be modified as described in Chapter 4 of this UFC.

The IBC and IEBC have been modified in Chapters 2, 3, and 4 of this UFC through reference to core UFC, other UFC as identified in Appendix A, *References*, and other listed military criteria. Core UFC provide the unique military building criteria that parallel the building code and apply to building systems found in most DoD facilities. In conflicts between the IBC and military criteria, or between the IEBC and military criteria, use the military criteria.

1-4.2 Referenced Codes and Substitutions.

References in this code to other codes must be treated as follows:

- All references to the International Fuel Gas Code (IFGC) must be considered to be references to NFPA 54 (ANSI Z223.1) and NFPA 58.
- All references to the International Mechanical Code (IMC) must be considered to be references to UFC 3-410-01, which cites the IMC
- All references to the International Plumbing Code (IPC) must be considered to be references to UFC 3-420-01, which cites the IPC.
- The International Property Maintenance Code (IPMC) is not adopted.
- All references to the International Fire Code (IFC) must be considered to be references to UFC 3-600-01, which cites NFPA 1.
- All references to the International Energy Conservation Code (IECC) must be considered to be references to UFC 1-200-02, which cites ASHRAE 90.1 and ASHRAE189.1.
- All references to NFPA 70 must be considered to be references to UFC 3-501-01, which cites NFPA 70.
- All references to the International Residential Code (IRC) must be considered to be references to UFC 3-600-01, which cites the IRC, with

the exception of citing NFPA 101 for egress and fire protection requirements.

1-5 IMPLEMENTATION, ADMINISTRATION, AND ENFORCEMENT.

UFC are effective upon issuance for projects as follows:

- Design-Bid-Build projects that have not proceeded beyond 35% design completion.
- Design-Build projects that have not proceeded beyond date of RFP issuance. When an RFP is issued in multiple phases or steps, use the date of the last phase of the RFP issuance.
- Projects that have a delay, either planned or unintentional, of more than 18 months between design completion and the solicitation of offers for construction, must be re-evaluated to determine if any design revision is necessary due to changes in criteria (including codes and standards) or site infrastructure (e.g., water supply for fire department vehicle access). Note: The evaluation must also include retroactive requirements that have been included in the new editions of the criteria.

The terms “Building Official”, “Code Official”, and “Authority Having Jurisdiction” (AHJ) as used in the codes and standards referenced in this UFC mean the component office of responsibility, i.e., U.S. Army, HQ USACE/CECW-CE; U.S. Navy, NAVFACENCOM HQ Code CHE; U.S. Marine Corps, HQMC Code LFF-1; and U.S. Air Force, AFCEC. The enforcement of the codes and standards as they pertain to facility projects can be delegated to the local Components Office’s Chief Engineer’s Technical Representative at the discretion of the components aforementioned office.

1-6 UFC HIERARCHY.

UFC 1-200-01 is the overarching document for buildings and facilities used by DoD. UFC 1-200-01 directs the use of the IBC, the IEBC, Core UFC, other UFC as applicable to the building, facility, structure, or system being designed, and FCs as they pertain to the applicable DoD Component.

- If conflict occurs between UFC 1-200-01 and UFC 3-600-01, the requirements of UFC 3-600-01 take precedence.

The UFC 3- Series provides discipline specific requirements for the various engineering disciplines.

- If conflict occurs between a UFC 3- Series and UFC 3-600-01, the requirements of UFC 3-600-01 take precedence.
- If conflict occurs between two UFC within the UFC 3- Series, the requirements of the UFC that is more detailed pertaining to that specific building, facility, structure, or system take precedence.

The UFC 4- Series and FC 4- Series (simply referred to as UFC 4- Series) provide specific requirements for a particular building, facility, structure, or system.

- If conflict occurs between a UFC 4- Series and UFC 3-600-01, the requirements of UFC 4- Series take precedence.
- If conflict occurs between a UFC 4- Series and a UFC 3- Series, the requirements of the UFC 4- Series take precedence.

1-7 FACILITIES IN SUPPORT OF MILITARY OPERATIONS.

The following UFC are primarily intended for use outside of the United States and its territories and possessions. Also, Joint Publication 3.0, *Joint Operations*, provides typical examples of military operations where uses of these UFC are appropriate.

1-7.1 UFC 1-201-01.

Use UFC 1-201-01 for design of non-permanent facilities constructed for use by DoD personnel in support of military operations.

1-7.2 UFC 1-201-02.

Use UFC 1-201-02 to assess existing facilities for life safety and habitability for use by DoD personnel in support of military operations.

1-7.3 UFC 1-202-01.

Use UFC 1-202-01 for design of host nation facilities that support military operations.

1-8 REFERENCES AND DATES OF PUBLICATION.

Appendix A contains a list of references used in this document. The publication date of the code or standard is not included in this document, except for the International family of codes as referenced within the document and in Appendix A. In general, the latest available issuance of the reference is used.

CHAPTER 2 MODIFICATIONS TO THE INTERNATIONAL BUILDING CODE (IBC)

2-1 CHAPTER 1 – SCOPE AND ADMINISTRATION.

Use IBC Chapter 1, Sections **101 GENERAL**, **102 APPLICABILITY**, **110 INSPECTIONS**, and **112 SERVICE UTILITIES** as modified below. Do not use other sections in IBC Chapter 1. Modify IBC Chapter 1 as follows:

- Delete IBC Section **101.1 Title**, and replace with the following:
- **101.1 Title.** These regulations shall be known as the DoD Building Code, hereinafter referred to as “this code”.
- Delete IBC Section **101.4.4 Property maintenance**.
- Delete IBC Section **102.1 General**, and replace with the following:
 - **102.1 General.** Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable. Where, in any specific case, different sections of this code specify different materials, methods of construction or other requirements, the most restrictive shall govern. Refer to Paragraph 1-6 of this UFC for hierarchy of UFC.

2-2 CHAPTER 2 – DEFINITIONS.

Use IBC Chapter 2. Definitions in IBC Chapter 2 apply to terms used in the model code and are not intended to replace definitions and terms in military documents. It is essential that the code defined meaning be known to understand the intent and correctly interpret the code.

2-3 CHAPTER 3 – USE AND OCCUPANCY CLASSIFICATION.

Use IBC Chapter 3 and UFC 3-600-01.

2-4 CHAPTER 4 – SPECIAL DETAILED REQUIREMENTS BASED ON USE AND OCCUPANCY.

Use UFC 3-600-01 in lieu of IBC Chapter 4.

2-5 CHAPTER 5 – GENERAL BUILDING HEIGHTS AND AREAS.

Use IBC Chapter 5 and UFC 3-600-01. UFC 3-600-01 gives direction concerning the requirements for fire-rated partitions. Note that the building area for funding and planning purposes is calculated differently than the method defined in IBC Chapter 5 for code compliance calculation

2-6 CHAPTER 6 – TYPES OF CONSTRUCTION.

Use IBC Chapter 6 and UFC 3-600-01.

2-7 CHAPTER 7 – FIRE AND SMOKE PROTECTION FEATURES.

Use IBC Chapter 7 and UFC 3-600-01. UFC 3-600-01 gives direction concerning the requirements for fire-rated partitions.

2-8 CHAPTER 8 – INTERIOR FINISHES.

Do not use IBC Chapter 8. Use UFC 3-600-01 in lieu of IBC Chapter 8 in conjunction and coordination with UFC 3-120-10.

2-9 CHAPTER 9 – FIRE PROTECTION SYSTEMS.

Do not use IBC Chapter 9. Use UFC 3-600-01 in lieu of IBC Chapter 9.

2-10 CHAPTER 10 – MEANS OF EGRESS.

Do not use IBC Chapter 10, except when referenced by US Access Board, *Architectural Barriers Act (ABA) Standards*. Use UFC 3-600-01 in lieu of IBC Chapter 10. Where the *ABA Standards* reference the previous versions of the IBC, the applicable requirements of the 2015 IBC are acceptable.

2-11 CHAPTER 11 – ACCESSIBILITY.

Do not use IBC Chapter 11. Use the *ABA Standards* and the special provisions of the Department of Defense Deputy Secretary of Defense Memorandum *Subject: Access for People with Disabilities*, October 31, 2008. Refer to Appendix A for a link to the *ABA Standards* and the DoD policy memorandum. Where the *ABA Standards* reference the previous versions of the IBC, the applicable requirements of the 2015 IBC are acceptable.

2-12 CHAPTER 12 – INTERIOR ENVIRONMENT.

Use IBC Chapter 12 as modified below. IBC Chapter 12 provides the minimum standards for the interior environment of a building by addressing minimum space sizes, and temperature, light, and ventilation levels for occupancy. It also addresses minimum sound transfer, addresses ventilation of attics and under floor spaces, and provides for minimum moisture resistance standards for toilets and bathrooms. Modify IBC Chapter 12 as follows:

- Delete IBC Section **1204.1 Equipment and systems**, including the exception, and replace with the following:
 - **1204.1 Equipment and systems.** Use the applicable Unified Facilities Criteria and individual military service standards for temperature control criteria.

- For Navy and Marine Corps Unaccompanied Housing facilities only, delete IBC Sections **1207.2 Air-borne sound**, **1207.3 Structure-borne sound**, **1208.3 Room area**, and **1208.4 Efficiency dwelling units**. Use FC 4-721-10N for air-borne and structure-borne sound transmission criteria, minimum room size criteria, and dwelling unit criteria. Also use UFC 3-101-01 and UFC 3-120-10.

2-13 CHAPTER 13 – ENERGY EFFICIENCY.

Do not use IBC Chapter 13. Use UFC 1-200-02 in lieu of IBC Chapter 13.

2-14 CHAPTER 14 – EXTERIOR WALLS.

Use IBC Chapter 14 as modified below. IBC Chapter 14 addresses requirements for exterior walls of buildings, provides minimum standards for wall covering materials, their installation and their ability to provide weather protection. Modify IBC Chapter 14 as follows:

- Delete IBC Section **1403.5 Vertical and lateral flame propagation**.
- Delete IBC Section **1407.10.4 Full-scale tests**, and replace with the following:
 - **1407.10.4 Full-scale tests.** The MCM system shall be tested in accordance with, and comply with, the acceptance criteria of NFPA 285. Such testing shall be performed on the MCM system with the MCM in the maximum thickness intended for use. Where noncombustible materials or combustible materials permitted by Sections 603, 1406, or UFC 3-600-01 differ from assembly to assembly or within an assembly, multiple tests shall not be required.
 - **Exception:** The MCM system is not required to be tested in accordance with, and comply with, acceptance criteria of NFPA 285 in buildings equipped throughout with an automatic sprinkler system in accordance with UFC 3-600-01.

2-15 CHAPTER 15 – ROOF ASSEMBLIES AND ROOFTOP STRUCTURES.

Use IBC Chapter 15, UFC 3-110-03, and UFC 3-600-01. IBC Chapter 15 provides standards for roof assemblies as well as rooftop structures. It also provides some requirements for fire resistance in roofing.

2-16 CHAPTER 16 – STRUCTURAL DESIGN.

Use IBC Chapter 16 as modified by UFC 3-301-01. Use IBC Chapter 16 and UFC 3-310-04 for the seismic design of buildings. IBC Chapter 16 describes minimal structural loading requirements, minimum design loads (live and dead, snow and wind, rain, flood and earthquake), as well as load combinations, and permitted design methodologies.

2-17 CHAPTER 17 – SPECIAL INSPECTIONS AND TESTS.

Use IBC Chapter 17 as modified by UFC 3-301-01, UFC 3-600-01, and below. The Structural Tests and Special inspections described in IBC Chapter 17 provide a variety of procedures and criteria for testing materials and assemblies, labeling materials and assemblies, and for some special inspection of certain structural assemblies. Some DoD requirements are more stringent and these take precedence as identified in these UFC. Modify IBC Chapter 17 as follows:

- Delete IBC Chapter 17, Section **1704.2 Special inspections and tests**, and replace with the following:
 - **Special inspections and tests.** The contractor must employ one or more *approved agencies* to perform inspections during construction on the types of work listed under Section 1705. These inspections are in addition to the inspections defined in Section 110. The inspecting agency must provide reports of the special inspections directly to the government.

2-18 CHAPTER 18 – SOILS AND FOUNDATIONS.

Use IBC Chapter 18 as modified by UFC 3-220-01, UFC 3-201-01, UFC 3-301-01, and below. Modify IBC Chapter 18 as follows:

- Supplement to IBC Section **1804.4 Site grading**: Ensure that the grading and associated storm water runoff do not adversely affect surrounding sites. Establish finished floor elevations a minimum of 6 inches (150 mm) above finished grade at the perimeter of the building and provide site grading in accordance with UFC 3-201-01. See IBC 1003.5 Elevation change for design of entrances and exits from buildings.
- Delete the exception to IBC Section **1804.4 Site grading**.
- Supplement to IBC Section **1808.7.4 Foundation elevation**: Establish finished floor elevations a minimum of 6 inches (150 mm) above finished grade at the perimeter of the building and provide site grading in accordance with UFC 3-201-01.

2-19 CHAPTER 19 – CONCRETE.

Use IBC Chapter 19 as modified by UFC 3-301-01 and UFC 1-200-02. IBC Chapter 19 provides only minimum accepted practices for the use of plain concrete and reinforced concrete in construction.

2-20 CHAPTER 20 – ALUMINUM.

Use IBC Chapter 20. IBC Chapter 20 contains standards for the use of aluminum; however, only the structural applications of aluminum are addressed. IBC Chapter 20 does not address the use of aluminum in specialty products such as window framing or architectural hardware. For aluminum use in Heating, Ventilation, Air Conditioning (HVAC) systems, use UFC 3-410-01.

2-21 CHAPTER 21 – MASONRY.

Use IBC Chapter 21 as modified by UFC 3-301-01. IBC Chapter 21 addresses comprehensive and practical requirements for masonry, including material specifications, test methods, types of wall construction, and criteria for empirical and engineered designs. Masonry foundations are also addressed in IBC Chapter 18 as modified by Paragraph 2-18 of this UFC.

2-22 CHAPTER 22 – STEEL.

Use IBC Chapter 22 as modified by UFC 3-301-01. IBC Chapter 22 provides the minimum commercial requirements for the design and construction of structural steel, including composite construction, cold-formed steel, steel joists, steel cable structures, and steel storage racks. Steel for structures is generally classified as Type I and Type II construction; however, steel is permitted in all types of construction.

2-23 CHAPTER 23 – WOOD.

Use IBC Chapter 23, UFC 3-301-01, and UFC 3-600-01. IBC Chapter 23 provides minimum requirements for the design of buildings and structures that use wood and wood based products in framing and fabrication. In general, only buildings of Type III, Type IV, or Type V construction may be constructed of wood.

2-24 CHAPTER 24 – GLASS AND GLAZING.

Use IBC Chapter 24 as modified by UFC 4-010-01. IBC Chapter 24 establishes regulations for glass and glazing that when properly installed, are able to meet required resistance to wind, snow, and dead loads. The engineering and design requirements are included in the chapter.

2-25 CHAPTER 25 – GYPSUM BOARD, GYPSUM PANEL PRODUCTS AND PLASTER.

Use IBC Chapter 25. IBC Chapter 25 contains the provisions and referenced standards that regulate the design, construction and quality of gypsum board and plaster. They represent the most common interior and exterior finish materials in the commercial building industry and the DoD. IBC Chapter 25 addresses quality control issues, material specifications, and installation requirements, under the control of industry requirements. However, it is the responsibility of the AHJ to inspect and ensure that the appropriate products are used and properly installed for the intended use and location.

2-26 CHAPTER 26 – PLASTIC.

Use IBC Chapter 26 and UFC 3-600-01, as modified below. IBC Chapter 26 addresses the use of plastics in building construction and components for flammable materials such as foam plastic insulation, foam plastics used as exterior and interior trim, and other plastic veneers such as fiberglass reinforced polymers which may be quite flammable and create toxic smoke. The requirements and limitations in UFC 3-600-01 are necessary to control the use of plastic and foam plastic products such that they do not compromise the safety of the building occupants or mission. Modify IBC Chapter 26 as follows:

- Delete IBC Section **2603.5.5 Vertical and lateral fire propagation**, including the exceptions, and replace with the following:
 - **2603.5.5 Vertical and lateral fire propagation.** Exterior wall assemblies shall be tested in accordance with, and comply with, acceptance criteria of NFPA 285. Where noncombustible materials or combustible materials permitted by Sections 603, 1406, or UFC 3-600-01 differ from assembly to assembly or within an assembly, multiple tests shall not be required.
 - **Exceptions:** Exterior wall assemblies are not required to be tested in accordance with, and comply with, acceptance criteria of NFPA 285 where any of the following conditions are met:
 - 1. One-story buildings complying with Section 2603.4.1.4.
 - 2. Wall assemblies where the foam plastic insulation is covered on each face by a minimum of 1-inch (25 mm) thickness of masonry or concrete complying with either of the following:
 - 2.1. There is no air space between the insulation and the concrete or masonry; or
 - 2.2. The insulation has a flame spread index of not more than 25 as determined in accordance with ASTM E 84 or UL 723 and the maximum air space between the insulation and the concrete or masonry is not more than 1 inch (25 mm).
 - 3. Buildings equipped throughout with an automatic sprinkler system in accordance with UFC 3-600-01.

2-27 CHAPTER 27 – ELECTRICAL.

Use IBC Chapter 27 as modified below. The IBC references NFPA 70, National Electrical Code (NEC). In addition, IBC Chapter 27, Section **2702 EMERGENCY AND STANDBY POWER SYSTEMS**, which addresses emergency and standby power

requirements, references the IFC. Instead of the IFC, use UFC 3-600-01, which cites NFPA 1. Modify IBC Chapter 27 as follows:

- Use UFC 3-501-01 for general electrical requirement criteria.
- Use UFC 3-520-01 for interior electrical systems criteria.
- Use UFC 3-530-01 for interior and exterior lighting and controls criteria.
- Use UFC 3-540-01 for engine-driven generator criteria.
- Use UFC 3-550-01 for exterior power distribution systems criteria.
- Use UFC 3-560-01 for electrical safety and electrical Operations and Maintenance (O&M) criteria.
- Use UFC 3-580-01 for building telecommunications criteria.
- Use UFC 3-600-01 for fire protection criteria.
- Use UFC 4-021-01 for mass notification systems criteria.

2-28 CHAPTER 28 – MECHANICAL SYSTEMS.

Use IBC Chapter 28 as modified by UFC 3-401-01. Use UFC 3-600-01 for Fire Protection features for mechanical systems. IBC Chapter 28 provides references to the IMC which has been modified by UFC 3-410-01. However, the International Fuel Gas Code has not been adopted. The DoD uses NFPA 54 (ANSI Z223.1), National Fuel Gas Code, for the design and installation of fuel gas piping systems.

2-29 CHAPTER 29 – PLUMBING SYSTEMS.

Use IBC Chapter 29 as modified by UFC 3-420-01. IBC Chapter 29 regulates the number of plumbing fixtures that must be provided for each type of building and number of occupants, and it regulates gender separations except for certain types of small buildings.

2-30 CHAPTER 30 – ELEVATORS AND CONVEYING SYSTEMS.

Use IBC Chapter 30 and UFC 3-600-01. For Army and Navy projects, also use ITG FY13-0. If conflict occurs between IBC Chapter 30 and ITG FY13-01, the requirements of ITG FY13-01 take precedence. If conflict occurs between UFC 3-600-01 and ITG FY13-01, the requirements of UFC 3-600-01 take precedence.

2-31 CHAPTER 31 – SPECIAL CONSTRUCTION.

Use IBC Chapter 31. IBC Chapter 31 includes criteria for special building construction, including membrane structures, temporary structures, pedestrian walkways and tunnels, awnings and canopies, marquees, signs, towers and antennas, and automatic vehicular gates.

2-32 CHAPTER 32 – ENCROACHMENTS INTO THE PUBLIC RIGHT-OF-WAY.

Use IBC Chapter 32. Buildings and structures from time to time are designed to extend over a property line or into the public right of way. Local regulations outside the building usually set limits to such encroachments, and government criteria may perform the same function in various locations. Such military criteria should always take precedence over provisions of IBC Chapter 32.

2-33 CHAPTER 33 – SAFEGUARDS DURING CONSTRUCTION.

Use IBC Chapter 33 and UFC 3-600-01. IBC Chapter 33 provides safety requirements during construction and demolition of buildings and structures.

2-34 CHAPTER 34 – RESERVED.

Not used.

2-35 CHAPTER 35 – REFERENCED STANDARDS.

Use IBC Chapter 35. IBC Chapter 35 contains numerous references to standards that are used to regulate materials and methods of construction. It contains a comprehensive list of all standards that are referenced in the IBC. Also refer to IBC Section **102.4 Referenced codes and standards**, and Paragraph 1-4.2 of this UFC for a detailed explanation of the applicability of referenced codes and standards.

2-36 APPENDICES.

Do not use IBC Appendices A through Appendix M.

CHAPTER 3 OTHER CRITERIA

3-1 GENERAL.

In addition to the International Building Code as modified in Chapter 2 of this UFC, and the IEBC as modified in Chapter 4 of this UFC, comply with the following criteria in this chapter.

3-2 HIGHER AUTHORITY MANDATES.

Design and Construction must be in compliance with Public Laws (P.L.), Executive Orders (E.O.), Code of Federal Regulations (CFR), Department of Defense Instructions (DoDI), Department of Defense Manuals (DoDM), and Department of Defense Directives (DoDD) or other higher authority documents as applicable, as listed in MIL-STD-3007F, Appendix B.

3-2.1 Vending Facilities for the Blind.

Verify with the using activity the requirement to provide blind-operated vending facilities in compliance with the Randolph-Sheppard Act and DoDI 1125.03. This requirement generally applies in buildings that are over 1,400 SM (15,000 SF) that will contain over 100 employees, but may also apply in other situations at the discretion of the using activity.

3-2.2 Nursing Mothers in Federal Employment.

For facilities that are places of employment, provide a private space for nursing mothers as recommended by OPM Memorandum for Heads of Executive Departments and Agencies, as detailed in the Guide for Establishing a Federal Nursing Mother's Program. This space may not be a bathroom, and must be shielded from view and free from intrusion of others. A nursing mother's space must be functional, with a private space with a place to sit and a flat surface, other than the floor, to place the breast pump and other supplies. Although there are no size or permanency requirements, this space must provide access to electricity for the use of a breast pump, as well as good lighting, a comfortable temperature, and proper ventilation; and be near a source of hot and cold running water. In addition, comply with any command-specific policy applicable to this requirement or applicable to the establishment of a working mothers program within the facility.

3-3 UNIFIED FACILITY CRITERIA (UFC).

Comply with the UFC (latest version, refer to Paragraph 1-5 of this UFC) as noted herein.

3-3.1 Core UFC.

Core UFC are criteria that provide requirements for the majority of traditional building systems that are prevalent on DoD facility construction projects. Core UFC also identify additional criteria such as Antiterrorism, High Performance, and Sustainable Building requirements mandated by law and policy. Comply with the Core UFC listed here, and other UFC identified in Appendix A as they are applicable.

- 1-200-02, High Performance and Sustainable Building Requirements
- 3-101-01, Architecture
- 3-110-03, Roofing
- 3-120-10, Interior Design
- 3-201-01, Civil Engineering
- 3-201-02, Landscape Architecture
- 3-210-10, Low Impact Development
- 3-220-01, Geotechnical Engineering
- 3-230-01, Water Storage and Distribution
- 3-230-03, Water Treatment
- 3-240-01, Wastewater Collection
- 3-301-01, Structural Engineering
- 3-310-04, Seismic Design for Buildings
- 3-401-01, Mechanical Engineering
- 3-410-01, Heating, Ventilating and Air Conditioning
- 3-420-01, Plumbing Systems
- 3-501-01, Electrical Engineering
- 3-520-01, Interior Electrical Systems
- 3-530-01, Interior and Exterior Lighting Systems and Controls
- 3-540-01, Engine-Driven Generator Systems for Backup Power Applications
- 3-550-01, Exterior Electrical Power Distribution
- 3-560-01, Electrical Safety, O&M
- 3-580-01, Telecommunications Building Cabling Systems Planning and Design
- 3-600-01, Fire Protection Engineering for Facilities
- 4-010-01, DoD Minimum Antiterrorism Standards for Buildings

- 4-010-02, DoD Minimum Antiterrorism Standoff Distances for Buildings (FOUO)
- \1\ 4-010-06, Cybersecurity of Facility-Related Control Systems /1/
- 4-021-01, Design and O&M: Mass Notification Systems

3-3.2 Other UFC.

In addition to the “Core UFC”, comply with other UFC as applicable to the system, structure, or facility type defined in the scope of the construction project.

3-4 FACILITY CRITERIA (FC).

The designation, "Facility Criteria (FC)" has been adopted for criteria that are not applicable to all DoD Components. For example: FC 4-721-10N "Navy and Marine Corps Unaccompanied Housing" has a final "N" designation because it is used by the Navy, including its Component, the U.S. Marine Corps. FC provide functional requirements (i.e., defined in more detail by the users and operational needs of a particular facility type). Differences in functional requirements between DoD Components may exist due to differences in their policies and more specific operational needs. FC are applicable only to the DoD Component(s) indicated in the title, and are intended for use with unified technical requirements published in UFC. Comply with the FC for the designated facility type and the DoD Component.

3-5 SPECIFICATION REQUIREMENTS.

Use Unified Facilities Guide Specifications (UFGS) for all projects, including Design-Build submittals, and in accordance with UFC 1-300-02. Download, use, and edit the most current UFGS database available from the Whole Building Design Guide website at http://www.wbdg.org/ccb/browse_cat.php?c=3. Modify and edit the UFGS as necessary to suit the work required by the specific project, including editing for metric or inch-pound and to reflect the latest proven technology, materials, and methods for the project. Follow Order of Precedence requirements for each Government Design Agent on use of Regional, Agency, Unified, and Other guide specifications. Other guide specifications are only allowed as a basis for information when not available in the UFGS. These developed specifications must be provided in UFGS format and modified to meet the requirements of UFC 1-300-02.

3-6 OTHER MILITARY CRITERIA.

Military criteria other than those listed in this UFC may be applicable to specific types of structures, building systems, or building occupancies. Such structures, systems, or buildings must meet the additional requirements of applicable military criteria.

3-6.1 Explosive Safety.

This document does not contain requirements for explosives safety. Facilities that involve DoD Ammunition and Explosives (AE) storage, handling, maintenance, manufacture or disposal, as well as facilities within the explosives safety quantity distance (ESQD) arcs of AE facilities, must comply with the requirements found in DoD 6055.09-M, as well as implementing Service criteria found in DA PAM 385-64 (Army), NAVSEA OP 5 (Navy and Marine Corps), and AFMAN 91-201 (Air Force). DoD facilities exposed to potential explosion effects from AE belonging to other nations are also required to meet DoD and Service explosives safety criteria.

- It is essential that the planning and design of new facilities, and occupation and renovation of existing AE-related facilities, or other facilities within ESQD arcs be accomplished in close coordination with knowledgeable explosives safety professionals in theater, or with the Services' Explosives Safety Centers. This coordination should occur as early as possible in the planning and design process to avoid issues or problems and to ensure compliance.
- Facility construction or use within ESQD arcs requires review for compliance with explosives safety criteria, and must have either an approved explosives safety site plan or an approved explosives safety deviation. Refer to the DoD Service documents mentioned above for further applicable guidance.

3-6.2 Facility Systems Safety.

Safety is an important component of maintaining and operating DoD facilities, and must be considered during design. Incorporate a hazards review into the regular design review process to ensure systems safety has been considered at the earliest phases of project development to reduce and mitigate unintentional maintenance and operational hazards. Army projects will incorporate the safety engineering practices delineated under the Facilities Systems Safety (FASS) program as prescribed under AR PAM 385-16 *System Safety Management Guide* to the extent practicable and feasible. Air Force projects will incorporate the safety engineering practices delineated in Air Force Instruction (AFI) 91-203, *Air Force Consolidated Occupational Safety Instruction*, to the extent practicable and feasible.

3-6.3 Antiterrorism.

Antiterrorism is defined as defensive measures used to reduce the vulnerability of individuals and property to terrorist acts. UFC 4-010-01 sets the minimum requirements for DoD buildings, and the Geographic Combatant Commander Antiterrorism Construction Standards address unique requirements specific to their area of responsibility. Refer to UFC 4-010-01 and the Geographic Combatant Commander Antiterrorism Construction Standards for the minimum antiterrorism requirements.

3-6.4 Physical Security.

Physical security is defined as that part of security concerned with physical measures designed and placed to safeguard personnel; to prevent unauthorized access to installations, equipment, material and documents, to safeguard them against espionage, sabotage, damage, and theft. Many buildings require some level of physical security. When required, integrate physical measures into the site, building, room(s), or area(s) as applicable. The DoD documents the requirements for physical security related to specific assets in DoD publications, directives, manuals, and instructions. The Services have related documents that implement the DoD policy for the Services. The main DoD documents that contain the physical security requirements for the protection of specific DoD assets are shown in Table 3-1. This does not include the policy documents associated with the protection of nuclear and chemical assets.

Table 3-1 Policy Related to Physical Security

Asset	Policy and Documents
Classified Information	DoDM 5200.01-R, <i>DoD Information Security Program</i> ; http://www.dtic.mil/whs/directives/corres/pub1.html
Sensitive Compartmented Information (SCI)	DoDM 5105.21-Volume 1, <i>Sensitive Compartmented Information (SCI) Administrative Security Manual: Administration of Information and Information Systems Security</i> ; http://www.dtic.mil/whs/directives/corres/pub1.html DoDM 5105.21-Volume 2, <i>Sensitive Compartmented Information (SCI) Administrative Security Manual: Administration of Physical Security, Visitor Control, and Technical Security</i> ; http://www.dtic.mil/whs/directives/corres/pub1.html UFC 4-010-05, <i>Sensitive Compartmented Information Facilities Planning, Design, and Construction</i> . https://www.wbdg.org/ccb/DOD/UFC/ufc_4_010_05.pdf
Special Access Program (SAP) Information	DoDM 5205.07 Volume 3, <i>DoD Special Access Program (SAP) Security Manual: Physical Security</i> ; http://www.dtic.mil/whs/directives/corres/pub1.html
Arms, Ammunition and Explosives	DoDM 5100.76-M, <i>Physical Security of Sensitive Conventional Arms, Ammunition and Explosives (AA&E)</i> ; http://www.dtic.mil/whs/directives/corres/pub1.html
Weapons Systems and Platforms	DoD 5200.08-R, <i>Physical Security Program</i> ; http://www.dtic.mil/whs/directives/corres/pub1.html
Bulk Petroleum Products	
Communications Systems	
Controlled Inventory Items	

3-6.5 Cybersecurity.

\1\ All control systems (including systems separate from a utility monitoring and control system) must be planned, designed, acquired, executed, and maintained in accordance with UFC 4-010-06 and as required by individual Service Implementation Policy.

Cybersecurity is implemented to mitigate vulnerabilities to all DoD real property facility-related control systems to a level that is acceptable to the System Owner and Authorizing Official. UFC 4-010-06 provides requirements for integrating cybersecurity into the design and construction of control systems. It defines a process based on the Risk Management Framework (RMF) suitable for control systems of any impact rating and provides specific guidance suitable for control systems assigned either LOW (limited adverse effect) or MODERATE (serious adverse effect) impact level.

The relevant System Owner service (e.g. Army, Navy, Air Force, Marine Corps), determines the impact level of a system. Determination of Confidentiality, Integrity and Availability (C-I-A) impact ratings is required by the System Owner and Authorized Official, with assistance from the control system designer, if necessary. The decision of whether a level of risk is acceptable is made by the assigned government Authorizing Official. Design of MODERATE or HIGH (severe or catastrophic adverse effect) impact systems will typically require additional customized requirements which should be coordinated with the point of contact of the relevant System Owner service. /1/ \2\

3-6.6 Corrosion Prevention and Control Requirements.

Provide design detailing, and use materials, systems, components, and coatings that are durable and minimize the need for preventative and corrective maintenance over the life-cycle of a facility. Initial investments in corrosion prevention are typically more cost-effective over the life cycle of a facility than maintenance, repair, and replacement of prematurely degraded components. Use the requirements in this section in conjunction with other UFC requirements to design for durability and provide for a comprehensive corrosion prevention and control strategy.

Many UFGS specifications include more durable materials, coatings, or protective measures for corrosive environments. However, even in benign environments, where options are stated in UFCs and UFGSs, use the more corrosion-resistant option whenever possible. Considerations include life-cycle maintenance costs and potential for corrosive microenvironments (for example, deicing salt effect on steel doors). General guidance and training on corrosion prevention and control issues is available at the Corrosion Prevention and Control (CPC) Source webpage at <https://www.wbdg.org/ffc/dod/cpc-source> .

3-6.6.1 Definition of Corrosion.

10 USC, Subtitle A, Part IV, Chapter 131, para. 2228 defines corrosion as “The deterioration of a material or its properties due to a reaction of that material with its chemical environment.” While traditionally thought of only as deterioration of metal (for example, rusting of steel), some nontraditional examples include rotting of wood, degradation of concrete (carbonation, alkali-silica reaction phenomena), and degradation of composite materials due to reaction with the environment.

3-6.6.2 Identification of Project Environmental Severity Classification.

Identify and use the Environmental Severity Classification (ESC) in Appendix B, Table B-1 or Table B-2, as the basis for project design requirements. The ESC for each military location is based on ISO 9223, *Corrosivity of Atmospheres — Classification, determination and estimation*. Also use the ESC factor and descriptions provided in ISO 9223 to classify and design for interior, environmentally severe conditions.

Categories C1 and C2 are mildly corrosive while categories C3 through C5 require added corrosion protection. Note that a project site may have a different ESC than the installation (especially in locations near the coast). Any project site within 1 mile (1.61 km) of seawater is ESC C5. Any project site within 1-6 miles (1.61-9.66 km) of seawater is ESC C4, unless the installation ESC as stated in Appendix B is higher. If the calculated ESC of the project site is different than the ESC of the Installation, use and design to the higher of the two ESC values. A resource to determine the ESC on a site-specific basis is the ISO Corrosivity Category Estimation Tool (ICCET); it can be found at the following location: <https://www.wbdg.org/additional-resources/tools/corrosion-toolbox>.

3-6.6.3 Corrosion Prone Locations.

Corrosion prone locations are locations with one or more of the following characteristics:

- Exterior exposed metallic elements at a location with an ESC of C3 through C5. Includes areas open to the exterior (for example, mechanical rooms and hangars), and spaces that are not conditioned by design or may not be conditioned during prolonged periods due to deployment or occupancy.
- Exterior exposed non-metallic elements at a location with an ESC of C4 or C5
- Locations where microenvironmental factors (for example, prevailing winds, ventilation, waterfront environments, industrial emissions, deicing salt application, possible chemical splash/spillage, adverse weather events such as flooding or wind-driven rain, and penetrations of the building envelope) may create a locally corrosive environment regardless of ESC
- Humid locations identified in ASHRAE 90.1 as climate zones 0A, 1A, 2A, 3A, 3C, 4C and 5C.
- High humidity interior areas (for example, bathrooms, locker rooms, laundry rooms, pools, trainers)

3-6.6.4 Requirements for Corrosion Prone Locations.

For corrosion prone locations defined in the previous section, provide added corrosion protection to the design such as, but not limited to the following:

- Where material options are provided in a UFGS, use the most durable options
- Provide higher level of corrosion protection as defined in the appropriate corresponding UFGS
- Do not use unprotected ferrous metal unless there are no alternatives.
- Coat galvanized steel with an industrial coating.
- Use Type 316L stainless steel or duplex stainless steels where stainless steels are used.
- Coat aluminum with an industrial protective coating or a heavy duty anodized coating.
- Isolate dissimilar metals, (for example, aluminum and steel, stainless steel and carbon steel, zinc-coated steel and uncoated steel) by appropriate means to avoid the creation of galvanic cells which occur when dissimilar metals come in contact.

3-6.6.5 Design Geometries.

Detail designs to prevent accelerated deterioration of facility components. Design geometries that prevent collection of debris, allow water to readily drain in all situations, incorporate sealed joints between components, are protected from mechanical coating damage, and keep dissimilar material combinations clean and dry. Slope surfaces such as windows and pavements to drain away from the structure.

Avoid designs that tend to direct corrosive elements to any specific area of a structure. Minimize the flow of water, airborne contaminants (for example, salts, pollutants), and humid air over susceptible materials when designing facility components, systems and assemblies.

3-6.6.6 Environmental Severity Factors.

Design based on the Environmental Severity Factors present in the project location and application, including the following.

3-6.6.6.1 Elevated Temperatures.

Design projects to prevent corrosion in applications where elevated temperatures are present. Elevated temperatures have adverse effects on building materials such as paints, woods, and many asphalt-based products. High temperatures combined with high humidity cause severe deterioration.

3-6.6.6.2 Ultra-Violet Radiation.

Use materials which are resistant to or protected from ultraviolet radiation. High ultraviolet exposure results in rapid deterioration of most non-metallic roofing materials, paints, sealants, elastomeric coatings, and wood.

3-6.6.6.3 Humidity Resistance.

Use materials that can withstand high humidity or incorporate efforts to eliminate humidity in humid locations. High relative humidity creates ideal conditions for mold and mildew that promote wood decay. It also accelerates corrosion of various metals and intensifies galvanic action in many metals. Many paints and other materials experience accelerated degradation in high humidity conditions.

Ensure vapor barrier locations prevent moisture buildup. Do not use building materials that exhibit hygroscopic properties and may lose their structural and functional properties when exposed to sustained humidity.

3-6.6.6.4 Biological Corrosivity.

When selecting materials such as wood, design for the environmental conditions such as temperature, humidity, and the presence of insects, fungi, and marine borers as applicable to the location.

3-6.6.7 System, Component, and Material Design Requirements.

3-6.6.7.1 Piping and System Corrosion.

Protect water and wastewater systems, fire water systems, and other piping from internal and external corrosion. Design factors include water quality and composition (pH, alkalinity, dissolved oxygen), ferric scale, flow conditions, biological activity, and the presence of disinfectants and corrosion inhibitors. Provide corrosion control treatment in accordance with UFC 3-230-01, UFC 3-230-03, UFC 3-240-01 and UFC 3-240-02.

3-6.6.7.2 Structural Members.

Use galvanized steel or stainless steel for structural members embedded in concrete, and exterior railing, handrails, fences, guardrails, and anchor bolts.

Design systems that can be maintained over the life of the project. Avoid concealed and inaccessible members.

3-6.6.7.3 Hardware and Fasteners.

Specify galvanized ferrous metals, stainless steel, brass, bronze, copper, aluminum, or other corrosion resistant metals for hardware and fasteners. Do not use ferrous metal as finishing strips or as components of other securement systems, even if a protective coating is to be provided.

3-6.6.7.4 Dissimilar Metals in Close Contact.

Protect against galvanic corrosion when dissimilar metals are used in close contact. Metals such as magnesium, steel, zinc, and aluminum (anodes) tend to corrode when in contact with copper, stainless steel, and nickel (cathodes). When necessary that relatively incompatible metals must be assembled in the design, apply the following methods to minimize or prevent galvanic corrosion.

- Design metal couples where the surface area of the cathode is smaller than the surface area of the anode metal. For example, use bolts or screws of stainless steel for fastening aluminum sheet, but not the reverse.
- Interpose a non-absorbing, inert gasketing material or washer between the dissimilar materials prior to connecting them. This is applicable to couples that are not to serve as electrical conductors.
- Seal faying edges to preclude the entrance of liquids.
- Apply corrosion-inhibiting pastes or compounds under the heads of screws or bolts inserted into dissimilar metal surfaces, whether or not the fasteners had been previously plated or otherwise treated, in addition to applying an organic coating to the faying surfaces prior to assembly. In situations where large faying surfaces are involved it may be feasible to insert a thicker barrier such as dried adhesive or sealant material. This applies to joints which are not required to be electrically conductive.
- Where practicable or where it will not interfere with the proposed use of the assembly, coat the joint externally with an effective paint system or sealant.
- Coat welded or brazed dissimilar metal assemblies with a paint system or other suitable protective coatings to at least 0.4-inch (1 centimeter) beyond the heat affected zone.

3-6.6.7.5 Protective Coatings.

Use UFC 3-190-06 for protective coatings and paints requirements. Factory applied coatings are more life-cycle cost effective than field painting procedures (most of the time). The cost to maintain protective coating systems often includes significant fixed costs (for example, scaffolding and rigging, environmental protection, disposal of debris). This usually means that the system with the highest attainable life is the best choice. Avoid concealed and inaccessible members.

Provide coating systems durable enough to withstand mechanical damage in service. This may include gouging or chipping during normal activities that may be carried out in a facility. In environments such as "Desert Climates," blowing sand can accelerate deterioration of surface coatings and lead to corrosion of materials earlier in the life cycle process.

3-6.6.7.6 Buried or Submerged Structures and Systems.

Include a combination of cathodic protection (CP) systems, protective coatings, proper material selection, encasement, or other methods for overall corrosion protection system of buried or submerged structures or systems. For buried structures or systems, design for the corrosivity of the soil, including soil pH, resistivity, moisture content, and presence of chlorides, sulfides, and bacteria. Design for differences in soil composition, stray electrical currents, and effects of connections of new to existing structures. Use UFC 3-570-01 to determine where CP is required.

For immersed structures, consider the corrosivity of the water (primarily influenced by salinity, but also affected by pH, dissolved oxygen, temperature, current, and microbiological activity). Tidal and splash zones will experience higher corrosion than continuously immersed or atmospherically exposed zones. For submerged or partially submerged structures, account for differences in corrosion potential associated with each zone (atmospheric, splash, tidal, submerged, and subsoil).

3-6.6.7.7 Waterfront and Coastal Structures and Systems.

For structures proximate or at the waterfront, in addition to atmospheric corrosion, design for the presence of hydrostatic forces, wind, salt spray, currents, tides, waves, ice, marine borers, insects, and pollution from waterfront operations. Some common grades of stainless alloy such as Type 304 or 316 are susceptible to corrosion when immersed in salt or brackish water. /2/

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CHAPTER 4 MODIFICATIONS TO THE INTERNATIONAL EXISTING BUILDING CODE (IEBC)

4-1 GENERAL.

For existing structures, use IEBC as modified below. Provisions in IEBC Chapter 14 deal with alternative methods of compliance requirements when dealing with existing building constraints. This IEBC chapter allows for a controlled departure from full compliance with the technical codes, without compromising the minimum standards of life safety and fire prevention of the rehabilitated building as required in UFC 3-600-01. An example may be concerning fire escape requirements that differ in UFC 3-600-01. Modify IEBC Chapters 4 and 14 as follows:

- Use IEBC Chapter 4 with UFC 3-310-04 for seismic evaluation and seismic rehabilitation of existing buildings. If conflict occurs between IEBC Chapter 4 and UFC 3-310-04, the requirements of UFC 3-310-04 take precedence.
- Add a third paragraph to the end of IEBC Section **404.5 Flood hazard areas**, stating the following:
 - In addition to other requirements of this code, for renovations and alterations costing more than \$7.5 million to facilities already located within the 100-year flood plain, assess the vulnerability of mechanical and electrical subsystems to flood hazards and take necessary measures within the project to mitigate those vulnerabilities. Comply with OUSD Memorandum, Floodplain Management on Department of Defense Installations, 11 February, 2014. This policy applies only to permanent installations.
- Use IEBC Chapter 14 with UFC 3-600-01. If conflict occurs between IEBC Chapter 14 and UFC 3-600-01, the requirements of UFC 3-600-01 take precedence.
- Delete IEBC Section **1401.2 Applicability**, and replace with the following:
 - **1401.2 Applicability.** Structures existing prior to 1 April 2016, in which there is work involving additions, alterations or changes of occupancy shall be made to conform to the requirements of this chapter or the provisions of Chapter 4. The provisions of Sections 1401.2.1 through 1401.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, I-2, M, R and S. These provisions shall not apply to buildings with occupancies in Group H or I-1, I-3 or I-4.

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APPENDIX A REFERENCES

AS\ AMERICAN SOCIETY OF HEATING, REFRIGERATING AND AIR-CONDITIONING ENGINEERS

<http://www.ashrae.org>

ANSI/ASHRAE/IESNA Standard 90.1, Energy Standards for Buildings Except Low Rise Residential Buildings /2/

INTERNATIONAL CODE COUNCIL

<http://www.iccsafe.org>

IBC, International Building Code, 2015

ICC 300-12, Standard for Bleachers, Folding and Telescopic Seating, and Grandstands

IEBC, International Existing Building Code, 2015

IECC, International Energy Conservation Code, 2015

IMC, International Mechanical Code, 2015

IPC, International Plumbing Code, 2015

IRC, International Residential Code, 2015

AS\ INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

<http://www.iso.org>

ISO 9223, Corrosion of Metals and Alloys – Corrosivity of Atmospheres – Classification, Determination and Estimation /2/

NATIONAL FIRE PROTECTION ASSOCIATION

<http://www.nfpa.org>

NFPA 1, Fire Code

NFPA 54 (ANSI Z223.1), National Fuel Gas Code

NFPA 58, Liquefied Petroleum Code

NFPA 70, National Electrical Code

NFPA 101, Life Safety Code

NFPA 285, Standard Fire Test Method for Evaluation of Fire Propagation Characteristics of Exterior Non-Load-Bearing Wall Assemblies Containing Combustible Components

UNITED STATES ACCESS BOARD

Architectural Barriers Act (ABA) Standards,
<http://www.access-board.gov/attachments/article/1029/ABASTandards.pdf>

UNITED STATES AIR FORCE

<http://www.e-publishing.af.mil>

AFMAN 91-201, Explosives Safety Standards

AFI 91-203, Air Force Consolidated Occupational Safety Instruction

UNITED STATES ARMY

DA PAM 385-64, Ammunition and Explosives Standards,
http://www.apd.army.mil/pdf/p385_64.pdf

AR PAM 385-16, System Safety Management Guide,
http://www.apd.army.mil/pdf/p385_16.pdf

UNITED STATES DEPARTMENT OF DEFENSE

Deputy Secretary of Defense Memorandum for Secretaries of the Military Departments, Chairman of the Joint Chiefs of Staff, Undersecretaries of Defense, Assistant Secretaries of Defense... Subject: Access for People with Disabilities October 31, 2008,
<http://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-aba-standards/background/dod-memorandum>

DoD 5200.08-R, Physical Security Program,
<http://www.dtic.mil/whs/directives/corres/pub1.html>

DoD 6055.09-M, DoD Ammunition and Explosives Safety Standards,
<http://www.dtic.mil/whs/directives/corres/pub1.html>

DoDI 1125.03, Vending Facility Program for the Blind on DoD-Controlled Federal Property,
<http://www.dtic.mil/whs/directives/corres/pdf/112503p.pdf>

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DoDM 5100.76-M, Physical Security of Sensitive Conventional Arms, Ammunition and Explosives (AA&E),
<http://www.dtic.mil/whs/directives/corres/pub1.html>

DoDM 5200.01, DoD Information Security Program,
<http://www.dtic.mil/whs/directives/corres/pub1.html>

DoDM 5205.07 Volume 3, DoD Special Access Program (SAP) Security Manual:
Physical Security,
<http://www.dtic.mil/whs/directives/corres/pub1.html>

MIL-STD-3007F, Standard Practice for Unified Facilities Criteria and Unified Facilities
Guide Specifications, 13 December 2006,
<http://www.wbdg.org/ccb/FEDMIL/std3007f.pdf>

OUSD Memorandum for Assistant Secretary(s) of the Army (IE&E), Navy (EI&E), Air
Force (IE&L), Directors of Defense Agencies, Directors of Defense Activities,
Director, Washington Headquarters Service. Subject: Floodplain Management on
Department of Defense Installations, 11 February 2014. \1\
[http://www.wbdg.org/FFC/DOD/DUSD-
IE_Memo_FloodplainMgmtDoDInstallations.pdf](http://www.wbdg.org/FFC/DOD/DUSD-IE_Memo_FloodplainMgmtDoDInstallations.pdf) /1/

**UNITED STATES DEPARTMENT OF DEFENSE, UNIFIED FACILITIES CRITERIA
(UFC) / FACILITIES CRITERIA (FC)**

<http://dod.wbdg.org/>

UFC 1-200-02, High Performance and Sustainable Building Requirements

UFC 1-201-01, Non-Permanent DoD Facilities in Support of Military Operations

UFC 1-201-02, Assessment of Existing Facilities for Use in Military Operations

UFC 1-202-01, Host Nation Facilities in Support of Military Operations

UFC 1-300-02, Unified Facilities Guide Specifications (UFGS) Format Standard

UFC 3-101-01, Architecture

UFC 3-110-03, Roofing

UFC 3-120-10, Interior Design

\2\ UFC 3-190-06, Protective Coatings and Paints /2/

UFC 3-201-01, Civil Engineering

UFC 3-201-02, Landscape Architecture

UFC 3-210-10, Low Impact Development

UFC 3-220-01, Geotechnical Engineering

UFC 3-230-01, Water Storage and Distribution

UFC 3-230-03, Water Treatment

UFC 3-240-01, Wastewater Collection

\2\ UFC 3-240-02, Domestic Wastewater Treatment /2/

UFC 3-301-01, Structural Engineering

UFC 3-310-04, Seismic Design for Buildings

UFC 3-401-01, Mechanical Engineering

UFC 3-410-01, Heating, Ventilating, and Air Conditioning Systems

UFC 3-420-01, Plumbing Systems

UFC 3-501-01, Electrical Engineering

UFC 3-520-01, Interior Electrical Systems

UFC 3-530-01, Interior and Exterior Lighting Systems and Controls

UFC 3-540-01, Engine-Driven Generator Systems for Backup Power Applications

UFC 3-550-01, Exterior Electrical Power Distribution

UFC 3-560-01, Electrical Safety, O&M

\2\ UFC 3-570-01, Cathodic Protection /2/

UFC 3-580-01, Telecommunications Building Cabling Systems Planning and Design

UFC 3-600-01, Fire Protection Engineering for Facilities

UFC 4-010-01, DoD Minimum Antiterrorism Standards for Buildings

UFC 4-010-02, DoD Minimum Antiterrorism Standoff Distances for Buildings (FOUO)

UFC 4-010-05, Sensitive Compartmented Information Facilities Planning, Design, and Construction

\1\ UFC 4-010-06, Cybersecurity of Facility-Related Control Systems /1/

UFC 4-021-01, Design and O&M: Mass Notification Systems

FC 4-721-10N, Navy and Marine Corps Unaccompanied Housing

UNITED STATES NAVY

ITG FY13-01, NAVFAC Elevator Design,

https://www.wbdg.org/ccb/NAVFAC/INTCRIT/fy13_01.pdf

NAVSEA OP 5, Ammunition and Explosives Safety Ashore,
<https://acc.dau.mil/CommunityBrowser.aspx?id=278680>

UNITED STATES OFFICE OF PERSONNEL MANAGEMENT

Guide for Establishing a Federal Nursing Mother's Program,
www.opm.gov/policy-data-oversight/worklife/reference-materials/nursing-mother-guide.pdf

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**APPENDIX B ENVIRONMENTAL SEVERITY CLASSIFICATIONS (ESC) FOR DOD
LOCATIONS**

Table B-1 ESC for US, Its Territories and Possessions

UNITED STATES, ITS TERRITORIES AND POSSESSIONS		
State/Territories/Possessions	Installation Master Name	ESC*
Alabama	Anniston AR Depot	C3 ¹
	Fort Mcclellan	C3 ¹
	Fort Rucker	C3 ¹
	Maxwell AF Base	C3 ¹
	Redstone Arsenal	C3 ¹
	Alabama National Guard	C3 ¹
	Alabama Reserves	C3 ¹
Alaska	Clear AF Station	C2 ¹
	Eielson AF Base	C2 ¹
	Fort Greely	C2 ¹
	Fort Wainwright	C2 ¹
	Alaska National Guard	C4 ³
	Alaska Reserves	C4 ³
	Joint Base Elmendorf-Richardson	C3 ³
	Naf Adak Ak	C5 ³
	Eareckson AF Station	C4 ³
Arizona	AF PLANT 44 ARMED FORCES PLANT	C2 ¹
	Arizona National Guard	C2 ¹
	Arizona Reserves	C2 ¹
	Davis-Monthan AF Base	C2 ¹
	Fort Huachuca	C2 ¹
	Luke AF Base	C2 ¹
	Mcas Yuma Az	C2 ¹
	Yuma Proving Ground	C2 ¹
Arkansas	Arkansas National Guard	C3 ¹
	Arkansas Reserves	C3 ¹
	Little Rock AF Base	C3 ¹
	Pine Bluff Arsenal	C3 ¹
California	Naf El Centro Ca	C2 ¹
	Mcagcc Twentynine Palms Ca	C2 ¹
	Mclb Barstow Ca	C2 ¹
	National Training Center And Fort Irwin	C2 ¹
	Sierra AR Depot	C2 ¹
	Beale AF Base	C2 ¹

UNITED STATES, ITS TERRITORIES AND POSSESSIONS		
State/Territories/Possessions	Installation Master Name	ESC*
California	Naws China Lake	C2 ¹
	AF PLANT 42 ARMED FORCES PLANT	C2 ¹
	California National Guard	C3 ²
	California Reserves	C3 ²
	Defense Distribution Depot San Joaquin	C2 ¹
	Edwards AF Base	C2 ¹
	Fort Hunter Liggett	C2 ¹
	Los Angeles AF Base	C4 ²
	Mcas El Toro Santa Ana Ca	C3 ¹
	Mcas Tustin Ca	C3 ¹
	Military Ocean Terminal Concord	C3 ²
	Nas Alameda Ca	C5 ³
	Nas Lemoore Ca	C2 ¹
	Nrc Stockton Ca	C2 ¹
	Sacramento AR Depot	C3 ¹
	Travis AF Base	C3 ¹
	Presidio Of Monterey	C5 ³
	Mcas Miramar	C4 ³
	Naval Base Ventura City Pt Mugu Ca	C5 ³
	Fort Ord	C5 ³
	FRC North Island	C4 ³
	Hunters Point Annex	C5 ³
	Mcb Camp Pendleton Ca	C4 ³
	Mcrd San Diego Ca	C4 ³
	Naval Base Point Loma	C4 ³
	Naval Weapons Station Seal Beach	C4 ³
	Navsta San Diego Ca	C4 ³
	Ns Treasure Island Ca	C5 ³
	Nsa Monterey	C5 ³
	Nsy Mare Island Ca	C4 ³
	Pwc San Francisco Ca	C5 ³
	Vandenberg AF Base	C4 ²
Colorado	Buckley AF Base	C2 ¹
	Cheyenne Mountain AF Station	C2 ¹
	Colorado National Guard	C2 ¹
	Colorado Reserves	C2 ¹
	Fort Carson	C2 ¹
	Peterson AF Base	C2 ¹

UNITED STATES, ITS TERRITORIES AND POSSESSIONS		
State/Territories/Possessions	Installation Master Name	ESC*
Colorado	Pueblo Chemical Depot	C2 ¹
	Rocky Mountain Arsenal	C2 ¹
	Schriever AF Base	C2 ¹
	USAF Academy	C2 ¹
Connecticut	Connecticut National Guard	C3 ¹
	Connecticut Reserves	C3 ¹
	Nwirp Bloomfield Ct	C3 ¹
	Stratford AR Engine Plant	C3 ²
Delaware	Subase New London Ct	C4 ³
	Delaware National Guard	C3 ¹
	Delaware Reserves	C3 ²
District of Columbia	Dover AF Base	C3 ²
	Naval Station Washington Navy Yard	C3 ³
	Joint Base Anacostia-Bolling	C3 ¹
	Marbks Washington Dc	C3 ¹
	District Of Columbia National Guard	C3 ¹
Florida	Washington DC Reserves	C3 ¹
	Florida National Guard	C5 ³
	Florida Reserves	C5 ³
	Cecil Field FI Nas	C3 ¹
	Nsa Orlando	C3 ¹
	Orlando FI Ntc	C3 ¹
	Hurlburt Field	C5 ³
	Eglin AF Base	C5 ³
	Macdill AF Base	C5 ³
	Navsta Mayport FI	C4 ³
	Nsa Panama City	C5 ³
	Patrick AF Base	C5 ³
	Tyndall AF Base	C5 ³
	Usag Miami	C4 ²
	Blount Island Command	C4 ³
	Frc Jacksonville	C4 ²
Nas Pensacola FI	C5 ³	
Nas Whiting Fld Milton FI	C3 ¹	
NOMI Pensacola	C5 ³	
Nas Key West FI	C5 ³	

UNITED STATES, ITS TERRITORIES AND POSSESSIONS		
State/Territories/Possessions	Installation Master Name	ESC*
Georgia	Nsa Athens	C3 ¹
	Mclb Albany Ga	C3 ¹
	Fort Benning	C3 ¹
	Fort Gordon	C3 ¹
	Fort Mcpherson	C3 ¹
	Fort Stewart	C3 ¹
	Ft Mcpherson Brac/Excess Sites	C3 ¹
	Georgia National Guard	C3 ¹
	Georgia Reserves	C3 ¹
	Moody AF Base	C3 ¹
	Robins AF Base	C3 ¹
	Nas Atlanta Ga	C3 ¹
	Subbase Kings Bay Ga	C4 ³
	Hawaii	Kaena Point Sattelite Tracking Station
NAS Barbers Pt Hi		C4 ³
Fort Shafter		C4 ³
Hawaii National Guard		C4 ³
Hawaii Reserves		C4 ²
Joint Base Pearl Harbor-Hickam		C4 ³
Pacific Missile Range Facility, Hawaii		C4 ³
Schofield Barracks		C4 ²
Wheeler AR Airfield		C4 ²
Mcb Hawaii Kaneohe		C5 ³
Idaho	Idaho National Guard	C2 ¹
	Idaho Reserves	C2 ¹
	Mountain Home AF Base	C2 ¹
Illinois	Illinois National Guard	C3 ¹
	Illinois Reserves	C3 ¹
	Navsta Great Lakes II	C3 ¹
	Rock Island Arsenal	C3 ¹
	Scott AF Base	C3 ¹
Indiana	CRANE AR AMMUNITION ACTIVITY	C3 ¹
	Fort Benjamin Harrison	C3 ¹
	Indiana National Guard	C3 ¹
	Indiana Reserves	C3 ¹
	Newport Chemical Depot	C3 ¹
	Nsa Crane	C3 ¹

UNITED STATES, ITS TERRITORIES AND POSSESSIONS		
State/Territories/Possessions	Installation Master Name	ESC*
Iowa	Iowa AR Ammunition Plant	C3 ¹
	Iowa National Guard	C3 ¹
	Iowa Reserves	C3 ¹
Kansas	Fort Riley	C2 ¹
	McConnell AF Base	C3 ¹
	Fort Leavenworth	C3 ¹
	Kansas National Guard	C2 ¹
	Kansas Reserves	C3 ¹
Kentucky	Blue Grass AR Depot	C3 ¹
	Fort Campbell	C3 ¹
	Fort Knox	C3 ¹
	Kentucky National Guard	C3 ¹
	Kentucky Reserves	C3 ¹
	Louisville Ky Nswc	C3 ¹
Louisiana	Hdqtrs 4Th Maw New Orleans La	C4 ²
	Barksdale AF Base	C3 ¹
	Fort Polk	C3 ¹
	Louisiana AR Ammunition Plant	C3 ¹
	New Orleans Nas Annex	C3 ¹
	Louisiana National Guard	C4 ³
	Louisiana Reserves	C4 ³
	Nsa New Orleans La	C4 ²
Maine	Maine National Guard	C3 ³
	Maine Reserves	C3 ³
	Nas Brunswick Me	C3 ²
Maryland	Aberdeen Proving Ground	C2 ¹
	Fort Detrick	C3 ¹
	Fort George G Meade	C3 ¹
	Joint Base Andrews	C3 ¹
	Maryland National Guard	C3 ¹
	Maryland Reserves	C3 ¹
	Nsa Thurmont	C3 ¹
	Nswc Carderock Md	C3 ¹
	Us AR Research Laboratory Adelphi	C3 ¹
	Walter Reed National Military Medical Center	C3 ¹
Washington DC National Guard	C3 ¹	
Washington Headquarters	C3 ¹	

UNITED STATES, ITS TERRITORIES AND POSSESSIONS		
State/Territories/Possessions	Installation Master Name	ESC*
Maryland	NSA South Potomac	C3 ¹
	NSA Annapolis	C3 ¹
	Nas Patuxent River Md	C3 ¹
Massachusetts	Hanscom AF Base	C3 ¹
	Nwirp Bedford Ma	C3 ¹
	Soldier Systems Center	C3 ¹
	South Weymouth Ma Nas	C3 ¹
	Cape Cod AF Station	C3 ³
	Fort Devens	C2 ¹
	Massachusetts National Guard	C3 ¹
	Massachusetts Reserves	C3 ¹
Michigan	Detroit Arsenal	C2 ¹
	Michigan National Guard	C2 ¹
	Michigan Reserves	C2 ¹
	USAG Selfridge	C2 ¹
Minnesota	Minnesota National Guard	C2 ¹
	Minnesota Reserves	C2 ¹
Mississippi	Columbus AF Base	C3 ¹
	Mississippi National Guard	C3 ¹
	Mississippi Reserves	C3 ¹
	Cbc Gulfport Ms	C5 ³
	Keesler AF Base	C5 ³
	NS Pascagoula MS	C4 ³
Missouri	Lake City AR Ammunition Plant	C3 ¹
	Missouri National Guard	C3 ¹
	Missouri Reserves	C3 ¹
	Whiteman AF Base	C3 ¹
	Fort Leonard Wood	C3 ¹
	Mcsptact Kansas City Mo	C2 ¹
	Nas Meridian Ms	C3 ¹
Montana	Ellsworth AF Base	C2 ¹
	Malmstrom AF Base	C2 ¹
	Montana National Guard	C2 ¹
	Montana Reserves	C2 ¹

UNITED STATES, ITS TERRITORIES AND POSSESSIONS		
State/Territories/Possessions	Installation Master Name	ESC*
Nebraska	Cornhusker AR Ammunition Plant	C2 ¹
	Nebraska National Guard	C2 ¹
	Nebraska Reserves	C2 ¹
	Offutt AF Base	C3 ¹
Nevada	Nellis AF Base	C2 ¹
	Nevada National Guard	C2 ¹
	Nevada Reserves	C2 ¹
	Hawthorne AR Depot	C4 ²
	Nas Fallon Nv	C2 ¹
New Hampshire	New Boston AF Station	C2 ¹
	New Hampshire National Guard	C2 ¹
	New Hampshire Reserves	C2 ¹
	Nsy Portsmouth Nh	C3 ³
New Jersey	Joint Base Mcguire-Dix-Lakehurst	C3 ¹
	New Jersey National Guard	C3 ¹
	New Jersey Reserves	C3 ¹
	Picatinny Arsenal	C3 ¹
	Fort Monmouth	C3 ²
	Naval Weapons Station Earle Nj	C3 ²
New Mexico	Holloman AF Base	C2 ¹
	Kirtland AF Base	C2 ¹
	White Sands Missile Range	C2 ¹
	Cannon AF Base	C2 ¹
	New Mexico National Guard	C2 ¹
	New Mexico Reserves	C2 ¹
New York	Marcorps Dist 1 Garden City Ny	C3 ²
	Navsuppu Saratoga Springs Ny	C2 ¹
	New York National Guard	C2 ¹
	New York Reserves	C2 ¹
	Nwirp Bethpage Ny	C3 ²
	Nwirp Calverton Ny	C3 ²
	Rome Laboratory	C3 ¹
	Seneca AR Depot Activity	C3 ¹
	Usma	C3 ¹
	Watervliet Arsenal	C2 ¹
	Fort Drum	C3 ¹
Fort Hamilton	C3 ³	

UNITED STATES, ITS TERRITORIES AND POSSESSIONS		
State/Territories/Possessions	Installation Master Name	ESC*
North Carolina	Seymour Johnson AF Base	C3 ¹
	Fort Bragg	C3 ¹
	Mcb Camp Lejeune Nc	C4 ³
	Military Ocean Terminal Sunny Point	C5 ³
	North Carolina National Guard	C3 ¹
	North Carolina Reserves	C3 ¹
	Pope AF Base	C3 ¹
	Frc/Mcas Cherry Point	C4 ³
North Dakota	Cavalier AF Station	C2 ¹
	Grand Forks AF Base	C2 ¹
	Minot AF Base	C2 ¹
	North Dakota National Guard	C2 ¹
	North Dakota Reserves	C2 ¹
Ohio	Defense Supply Center Columbus	C3 ¹
	Joint System Manufacturing Center Lima	C3 ¹
	Ohio National Guard	C3 ¹
	Ohio Reserves	C3 ¹
	Wright-Patterson AF Base	C3 ¹
Oklahoma	Altus AF Base	C2 ¹
	Fort Sill	C2 ¹
	Oklahoma National Guard	C3 ¹
	Oklahoma Reserves	C3 ¹
	Tinker AF Base	C3 ¹
	Vance AF Base	C3 ¹
Oregon	Umatilla Chemical Depot	C2 ¹
	Oregon National Guard	C3 ¹
	Oregon Reserves	C3 ²
Pennsylvania	Carlisle Barracks	C3 ¹
	Defense Distribution Depot Susquehanna	C2 ¹
	Defense Supply Center Philadelphia	C3 ¹
	Fort Indiantown Gap	C3 ¹
	Letterkenny AR Depot	C3 ¹
	Nsa Mechanicsburg Pa	C3 ¹
	Ord Research Lab Univ Park Pa	C3 ¹
	Pennsylvania National Guard	C3 ¹
	Pennsylvania Reserves	C3 ¹
Philadelphia Pa Ns	C3 ¹	

UNITED STATES, ITS TERRITORIES AND POSSESSIONS		
State/Territories/Possessions	Installation Master Name	ESC*
Pennsylvania	Scranton AR Ammunition Plant	C2 ¹
	Tobyhanna AR Depot	C2 ¹
	Warminster Pa Nawc-Ad	C3 ¹
Rhode Island	Davisville Ri Cbc	C3 ²
	Rhode Island National Guard	C3 ²
	Rhode Island Reserves	C3 ²
	Navsta Newport Ri	C3 ³
South Carolina	Fort Jackson	C2 ¹
	Shaw AF Base	C3 ¹
	South Carolina National Guard	C3 ¹
	South Carolina Reserves	C3 ¹
	Joint Base Charleston	C4 ³
	Mcas Beaufort Sc	C4 ³
	Mcrd Beaufort Pi Sc	C4 ³
South Dakota	South Dakota National Guard	C2 ¹
	South Dakota Reserves	C2 ¹
Tennessee	Defense Depot Memphis	C3 ¹
	Nsa Midsouth Memphis Tn	C3 ¹
	Arnold AF Base	C3 ¹
	Holston AR Ammunition Plant	C3 ¹
	Milan AR Ammunition Plant	C3 ¹
	Tennessee National Guard	C3 ¹
	Tennessee Reserves	C3 ¹
Texas	Fort Bliss	C2 ¹
	Laughlin AF Base	C3 ¹
	Applied Research Lab Austin Tx	C3 ¹
	Brooks City Base	C3 ¹
	Dyess AF Base	C2 ¹
	Fort Hood	C3 ¹
	Goodfellow AF Base	C2 ¹
	Longhorn AR Ammunition Plant	C3 ²
	Mcalester AR Ammunition Plant	C3 ¹
	Nwirp Dallas Tx	C3 ¹
	Nwirp Mcgregor Tx	C3 ¹
	Red River AR Depot	C3 ¹
	Sheppard AF Base	C2 ¹
Texas National Guard	C3 ¹	

UNITED STATES, ITS TERRITORIES AND POSSESSIONS		
State/Territories/Possessions	Installation Master Name	ESC*
Texas	Texas Reserves	C3 ¹
	Joint Base San Antonio	C3 ¹
	Nas Kingsville Tx	C3 ¹
	Navsta Ingleside Tx	C5 ³
	Corpus Christi AR Depot	C5 ³
	Nas Corpus Christi Tx	C5 ³
Utah	Dugway Proving Ground	C2 ¹
	Deseret Chemical Depot	C2 ¹
	Utah National Guard	C2 ²
	Utah Reserves	C2 ²
	Hill AF Base	C2 ²
	Tooele AR Depot	C2 ¹
Vermont	Vermont National Guard	C2 ¹
	Vermont Reserves	C2 ¹
Virginia	Arlington National Cemetery	C3 ¹
	Dam Neck Naval Station	C4 ³
	Defense Supply Center Richmond	C3 ¹
	Fort Ap Hill	C3 ¹
	Fort Belvoir	C3 ¹
	Fort Lee	C3 ¹
	Fort Myer	C3 ¹
	Hqbn Hqmc Arlington Va	C3 ¹
	Joint Base Myer-Henderson Hall	C3 ¹
	Mcb Quantico Va	C3 ¹
	Naval Weapons Station Yorktown	C3 ³
	NOSTRA Yorktown	C3 ³
	Radford AR Ammunition Plant	C3 ¹
	Navsta Norfolk Va	C4 ³
	Norfolk Nsy Portsmouth Va	C4 ³
	Nsa Northwest	C3 ¹
	Joint Base Langley–Eustis	C3 ³
	Joint Expeditionary Base Little Creek-Fort Story	C4 ³
	Navmedcen Portsmouth Va	C4 ³
Nas Oceana Va	C3 ²	
Virginia National Guard	C3 ¹	
Virginia Reserves	C3 ¹	

UNITED STATES, ITS TERRITORIES AND POSSESSIONS		
State/Territories/Possessions	Installation Master Name	ESC*
Washington	Fairchild AF Base	C2 ¹
	Joint Base Lewis-Mcchord	C3 ²
	Mcrc Yakima	C2
	Washington National Guard	C3 ²
	Washington Reserves	C3 ²
	Applied Physics Lab Seattle Wa	C4 ³
	Naval Base Kitsap	C4 ³
	Nas Whidbey Island Wa	C5 ³
	Navmag Indian Island Wa	C5 ³
	Navsta Everett Wa	C5 ³
	Ns Puget Sound Wa	C4 ³
	West Virginia	Allegany Ballistics Lab
Nsa Sugar Grove		C3 ¹
West Virginia National Guard		C3 ¹
West Virginia Reserves		C3 ¹
Wisconsin	Badger AR Ammunition Plant	C2 ¹
	Fort Mccoy	C2 ¹
	Wisconsin National Guard	C2 ¹
	Wisconsin Reserves	C2 ¹
Wyoming	Wyoming National Guard	C2 ¹
	Wyoming Reserves	C2 ¹

UNITED STATES, ITS TERRITORIES AND POSSESSIONS		
State/Territories/Possessions	Installation Master Name	ESC*
Mariana Islands	Agana Guam Nas	C5 ³
	Guam National Guard	C4 ²
	Guam Reserves	C4 ²
	Joint Region Marianas	C5 ³
Puerto Rico	Naval Activity Puerto Rico	C5 ³
	Fort Buchanan	C5 ²
	Puerto Rico National Guard	C5 ²
	Puerto Rico Reserves	C5 ³
	Roosevelt Roads NS	C5 ³
United States Virgin Islands	Virgin Islands National Guard	C5 ³
	Virgin Islands Reserves	C5 ²
Cuba	Navsta Guantanamo Bay	C5 ³

*1. ESC value is based on installation location greater than 6.0 miles (9.66 km) from a salt water source. If the project site is less than 6.0 miles (9.66 km) from a saltwater source use next highest ESC or verify category with ICCET. If project site is proximate to a pollution source, use the next highest ESC.

*2. ESC value is based on installation location greater than 1.0 mile (1.61 km) from a salt water source and less than 6 miles (9.66 km). If the project site is less than 1.0 mile (1.6 km) from a saltwater source or near a pollution source, use the next highest ESC.

*3. ESC value is based on installation location less than 1.0 mile (1.61 km) from a salt water source. If project site is proximate to a pollution source, use the next highest ESC if available.

Table B-2 ESC for Outside US, Its Territories and Possessions

OUTSIDE UNITED STATES, ITS TERRITORIES AND POSSESSIONS			
Continent/Region	Country	Installation Master Name	ESC*
Africa	Djibouti	Camp Lemonnier	C4 ²
	Egypt	Navmedrschu Three Cairo Egypt	C3 ²
Asia	Afghanistan	Camp Eggers	C2 ¹
	Afghanistan	Camp Marmal	C2 ¹
	Bahrain	Nsa Bahrain	C3 ¹
	Israel	Attache Israel	C3 ²
	Iraq	Al Taqaddum Army Base	C2 ¹
	Iraq	Camp Fallujah	C2 ¹
	Iraq	Camp Taji	C2 ¹
	Japan	Shariki Communication Site	C3 ¹
	Japan	Camp Zama	C3 ²
	Japan	Comfleact Kadena Okinawa Ja	C5 ¹
	Japan	Comfleact Sasebo Ja	C3 ¹
	Japan	Comfleact Yokosuka Ja	C3 ¹
	Japan	Fort Buckner	C5 ¹
	Japan	Kadena Air Base	C5 ¹
	Japan	Mcas Iwakuni Ja	C4 ³
	Japan	Mcb Camp S D Butler Okinawa Ja	C5 ³
	Japan	Misawa Air Base	C3 ¹
	Japan	Naf Atsugi Ja	C3 ¹
	Japan	Naf Misawa Ja	C3 ¹
	Japan	Sagami Depot	C3 ¹
	Japan	Yokota Air Base	C3 ¹
	Kyrgyzstan	Manas International Airport	C2
	Korea	Area 1, Korea	C3 ¹
Korea	Area 2, Korea	C3 ¹	
Korea	Area 3, Korea	C5 ¹	
Korea	Area 4, Korea	C3 ¹	
Korea	Taegu Air Base	C3 ¹	
Kuwait	Ahmed Al Jaber Air Base	C2 ¹	
Qatar	Al Udeid Air Base	C3 ¹	
Qatar	As Sayliyah Army Base	C2 ¹	
Qatar	Bagram AF Base	C3 ¹	
Singapore	Navregcontrctr Singapore	C5 ³	
Turkey	Incirlik Air Base	C3 ²	
Turkey	Izmir Air Station	C3 ³	
Turkey	Kurecik AF Base	C2 ¹	
United Arab Emirates	Al Dhafra AF Base	C3 ¹	

OUTSIDE UNITED STATES, ITS TERRITORIES AND POSSESSIONS			
Continent/Region	Country	Installation Master Name	ESC*
Europe	Brussels	Usag Benelux	C3 ¹
	Bosnia	Camp Bedrock	C2 ¹
	Germany	Germersheim AR Depot	C3 ¹
	Germany	Landstuhl	C3 ¹
	Germany	Ramstein Air Base	C3 ¹
	Germany	Spangdahlem Air Base	C3 ¹
	Germany	Taylor Barracks	C3 ¹
	Germany	Usag Ansbach	C2 ¹
	Germany	Usag Bamberg	C3 ¹
	Germany	Usag Baumholder	C3 ¹
	Germany	USAG Darmstadt	C3 ¹
	Germany	Usag Franconia	C2 ¹
	Germany	Usag Giessen	C3 ²
	Germany	Usag Grafenwoehr	C2 ¹
	Germany	Usag Heidelberg	C3 ¹
	Germany	Usag Hessen	C3 ¹
	Germany	Usag Hohenfels	C2
	Germany	Usag Kaiserslautern	C3 ¹
	Germany	Usag Mannheim	C3 ¹
	Germany	Usag Schinnen	C3 ¹
	Germany	Usag Schweinfurt	C3 ¹
	Germany	Usag Stuttgart	C3 ¹
	Germany	Usag Wiesbaden	C3 ¹
	Germany	Wuerzburg Tng Areas	C3 ¹
	Greece	Nsa Souda Bay Gr	C3 ¹
	Iceland	Nas Keflavik	C4
	Italy	Aviano Air Base	C3 ¹
	Italy	Nas Sigonella It	C3 ¹
	Italy	Nsa Naples It	C3 ¹
	Italy	Usag Livorno	C3
	Italy	Usag Vicenza	C3
	Kosovo	Camp Bondsteel	C2 ¹
	Kosovo	Camp Monteith	C2 ¹
	Netherlands	Jfc North	C3 ¹
	Portugal	Lajes Field	C5
	Spain	Moron Air Base	C3 ¹
	Spain	Navsta Rota Sp	C4 ³
	United Kingdom	Alconbury Royal Af Station	C3 ¹

OUTSIDE UNITED STATES, ITS TERRITORIES AND POSSESSIONS			
Continent/Region	Country	Installation Master Name	ESC*
Europe	United Kingdom	Croughton Royal Af Station	C3 ¹
	United Kingdom	Fairford Royal Af Station	C3 ¹
	United Kingdom	Lakenheath Royal Af Station	C3 ¹
	United Kingdom	Mildenhall Royal Af Station	C3 ¹
Indian Ocean	British Indian Ocean Territory	Navsuppfac Diego Garcia Io	C5
North America	Greenland	Thule Air Base	C2 ¹
	Honduras	Enrique Soto Cano AF Base	C3 ¹
Oceania	Australia	Navcommsta H E Holt Exmouth As	C3 ¹
	Marshall Islands	Us AR Kwajalein Atoll	C5 ³
South America	Peru	Navmedrschcen Det Lima Peru	C5 ³

*1. ESC value is based on installation location greater than 6.0 miles (9.66 km) from a salt water source. If the project site is less than 6.0 miles (9.66 km) from a saltwater source use next highest ESC or verify category with ICCET. If project site is proximate to a pollution source, use the next highest ESC.

*2. ESC value is based on installation location greater than 1.0 mile (1.61 km) from a salt water source and less than 6 miles (9.66 km). If the project site is less than 1.0 mile (1.61 km) from a saltwater source or near a pollution source, use the next highest ESC.

*3. ESC value is based on installation location less than 1.0 mile (1.61 km) from a salt water source. If project site is proximate to a pollution source, use the next highest ESC if available.

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