

Army Regulation 415-16

Construction

Army Facilities Components System

**Headquarters
Department of the Army
Washington, DC
17 March 1989**

UNCLASSIFIED

SUMMARY of CHANGE

AR 415-16

Army Facilities Components System

This revision--

- o Amplifies the policy governing the used of the Army Facilities Components System (AFCS)(throughout).
- o Updates guidance for the use of the AFCS in planning for and buiding of temporary facilities in support of a contingency operation (throughout).

Effective 10 April 1989

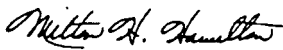
Construction

Army Facilities Components System

By Order of the Secretary of the Army:

CARL E. VUONO
General, United States Army
Chief of Staff

Official:



MILTON H. HAMILTON
Administrative Assistant to the
Secretary of the Army

History. This UPDATE printing publishes a revision of this publication. Because the publication has been extensively revised, the changed portions have not been highlighted.

Summary. This regulation, governs policies, management, and use of the Army Facilities Components System (AFCS). It explains the purpose, objectives, and uses of AFCS, lists the supporting AFCS manuals, defines

AFCS terminology, and delineates the responsibilities of the Army Staff agencies and major Army commands in support of AFCS.

Applicability. This regulation applies to the Active Army, Army National Guard (ARNG), and U.S. Army Reserve (USAR) units in support of outside continental United States contingencies requiring the construction of temporary facilities. It also applies to AFCS design drawings, construction specifications, supporting logistics data, and associated military engineering planning data.

Impact on New Manning System. This regulation does not contain information that affects the New Manning System.

Army management control process. This regulation is subject to the requirements of AR 11-2. It contains internal control provisions but does not contain checklists for conducting internal control reviews. These checklists are contained in the DA Circular 11-series.

Supplementation. Supplementation of this regulation and the establishment of forms

other than DA Forms are prohibited without prior approval from HQDA (DAEN-ZCM), WASH DC 20310-2600.

Interim changes. Interim changes to this regulation are not official unless they are authenticated by the Administrative Assistant to the Secretary of the Army. Users will destroy interim changes on their expiration dates unless sooner superseded or rescinded.

Suggested improvements. The proponent agency of this regulation is the Office of the Chief of Engineers. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to HQDA (DAEN-ZCM), WASH DC 23010-2600.

Distribution. Active Army: B, C, and D; ARNG: D; and USAR: C and D.

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*This regulation supersedes AR 415-16, 8 August 1975.

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Chapter 1 Introduction

1-1. Purpose

This regulation establishes policy and procedures for the development, maintenance, and use of the Army Facilities Components System (AFCS) in support of overseas contingency construction.

1-2. References

Required and related publications are listed in appendix A.

1-3. Explanation of abbreviations and terms

Abbreviations and special terms used in this regulation are explained in the glossary.

1-4. Responsibilities

a. The Chief of Engineers (COE) has Army Staff responsibility for managing the AFCS. The COE will—

(1) Budget for maintenance, management, and modernization of the AFCS to meet established priorities.

(2) Prepare and maintain engineering designs, standard drawings, standard construction specifications, bills of materials (BOMs), and construction planning guides for the various facilities, structures, and utilities.

(3) Prepare and revise technical publications pertinent to the AFCS.

(4) Issue operational criteria and data for use in construction planning, estimating, and guidance for military engineering support.

(5) Coordinate with Headquarters, Department of the Army (HQDA) agencies, major Army commands (MACOMs), and other Services, as appropriate, to—

(*a.*) Confirm user needs, operational doctrine, and priorities.

(*b.*) Adopt new construction materials.

(*c.*) Set military and performance characteristics and specifications.

(*d.*) Identify and classify substitute items.

(*e.*) Help develop operational standards and design data for facilities, structures, and engineering services by other services.

(6) Exploit advances in construction-related technology.

(7) Conduct research to develop new designs and construction methods for facilities to be used in the theater of operations (TOs).

(8) Provide technical advice to AFCS users. This includes special purpose contracts, special computations, and data on proposed revisions or additions.

(9) Provide current AFCS data to the U.S. Army Materiel Command (AMC).

(10) Provide by 31 December, an annual letter to the MACOMs reporting on the status of AFCS. Responses to the previous annual letter will be evaluated and appropriate changes will be implemented.

(11) Review materiel requirements reflected in Civil Engineering Support Plans (CESPs) and related operational projects.

(12) Assist in identifying critical facilities and materiel, and coordinate with AMC to identify long lead time items for advanced procurement and stockpiling by appropriate commands.

(13) Assist in developing policies for individual and unit training in the use of the AFCS.

b. The Surgeon General (TSG) will send to HQDA (DAEN-ZCM) all design requirements for field medical facilities.

c. Other Army Staff offices will review and approve standards and planning factors used for facilities within their areas of responsibility.

d. The Commanding General, U.S. Army Training and Doctrine Command (TRADOC), will—

(1) Develop doctrine for the construction requirements of the Army in the theater of operations (TO).

(2) Submit to HQDA (DAEN-ZCM), all user requirements for new or changes to types of installations, facilities, and engineering services required by the Army in the field when these requirements are dictated by the combat development process, doctrinal changes, or operational experience in the field.

(3) Prepare and process required documents and combat development and training input to show quantity and quality of personnel. These data will be used for any new or revised military occupational specialty (MOS) that may be required for field engineering support.

(4) Provide individual training in the use of AFCS. This training is to be included in both engineer officer and senior NCO courses and training literature.

(5) Review AFCS technical manuals (TMs) for training purposes in schools and combat development centers. Send comments and suggestions for AFCS improvement to HQDA (DAEN-ZCM).

(6) Develop, maintain, and issue Army planning factors for construction. This includes factors required to convert operational requirements into facility requirements.

e. The Commanding General, U.S. Army Information Systems Command (USAISC), will—

(1) Send all AFCS design requirements pertaining to USAISC mission to HQDA (DAEN-ZCM).

(2) Analyze the AFCS and recommend improvements. Include items to be added or deleted from facilities and installations listed in AFCS that relate to USAISC's mission.

f. The Commanding General, U.S. Army Materiel Command (AMC) will—

(1) Catalog and standardize AFCS materiel to support procurement by the Army in the field.

(2) Develop and maintain detailed logistics data to program a materiel automated data base. The data base is for use in preparing detailed BOMs. This data include—

(*a.*) Cost, weight, and volume.

(*b.*) National stock numbers (NSNs), nomenclature, and line item number.

(*c.*) Materiel category structure.

(*d.*) Shelf-life and procurement lead time.

(*e.*) Unit of issue and financial inventory accounting code on all individual items of materiel.

(3) Provide keypunched cards or magnetic tapes or printouts containing facilities components data to inventory control points worldwide, to the Defense Logistics Agency, or General Services Administration.

(4) Budget, fund, and administer AMC activities that perform functions in support of the AFCS.

g. The Commanding General, U.S. Forces Command (FORSCOM), will—

(1) Integrate the AFCS in field training exercises.

(2) Review and send to HQDA (DAEN-ZCM) all comments and recommendations of development and use of the AFCS that result from based development plans.

h. MACOM commanders are responsible for—

(1) Employing and supporting the system in command contingency planning.

(2) Evaluating the system continually.

(3) Submitting of new requirements.

(4) Recommending improvements including items to be deleted from facilities and installations listed in the AFCS.

Chapter 2 Purpose of Army Facilities Components System (AFCS)

2-1. Objectives

The objectives of the AFCS are to—

a. Assist major Army commands (MACOM's) in TO facilities support planning to identify—

(1) Standardized, austere installations and facilities requirements to support Army beddown and mission needs.

(2) Construction options such as:

(*a.*) Phased-construction to upgrade facilities and installations.

(*b.*) Building systems (pre-engineered, relocatable, panelized, and stick-built) to fulfill a variety of TO requirements.

(*c.*) Initial and temporary standard facilities and installations.

(d) Building designs with variations which are suitable for four basic climates (temperate, frigid, tropical, and desert).

b. Provide designs which—

(1) Conform to current doctrinal and operational needs of the users.

(2) Employ state-of-the-art technology in construction designs, materials, and techniques directed towards conserving resources.

c. Assist in achieving complete and responsive logistic support.

d. Standardize essential facilities, materiel, and construction techniques which are climate unique and adaptable to local conditions.

e. Set up a common basis for optimum use of the system to plan and develop military bases. This includes a related training program.

f. Operate and maintain an automated system, known as the Theater Army Construction Automated Planning System (TACAPS), for real time access to the AFCS logistics and planning data bases.

g. Provide the theater constructor with the means to employ alternative resources to accomplish the construction mission including—

(1) Simplified facility designs which require only some skilled work for assembly. Thus engineer taskings can be expanded by supplementation with nonengineer troops or indigenous labor.

(2) Theater Oriented Guide Specifications (TOGS) which when combined with AFCS design drawings provides the basic documents for construction contracting in the TO.

2-2. Utilization

a. AFCS is provided to military engineers to facilitate TO based development planning, facility construction, and construction material acquisition. AFCS designs are based on general conditions and requirements anticipated in the TO and are intended for construction by engineer troops with materials furnished through the Army supply system. Civilian contractors may be used to construct TO facilities by supplementing AFCS designs with TOGS. The AFCS designs allow for site adaptation and the substitution of locally available materials.

b. AFCS is not restricted to use in the TO. AFCS designs may provide suitable structures to fulfill other requirements or missions. Note that the AFCS provides austere designs for military use in the TO and therefore does not intentionally comply with any building codes.

c. Tents are usually the preferred method of bedding down troops for short-term deployments. However, in some climates the life span of tents is measured in months while under other conditions tents are unsuitable. Because of economics or climatological requirements, AFCS facilities may be the minimum acceptable alternative for short-term deployments. The facility designs/systems in AFCS use conventional (commercially available) construction materials and building systems. By the very nature of materials intended to support a combination of live and dead loads, most facilities will actually have a longer useful life than that required to meet the temporary construction standard. Commanders must take care to recognize that most nonengineer observers will equate temporary standard facilities with an intent to remain deployed indefinitely and should therefore be prepared to fully explain the rationale for selecting the standard of construction and type of materials selected for the base camp.

Chapter 3

AFCS Description and Review

3-1. Composition

The AFCS is composed of—

a. Planning guidance (TM 5-301 series).

b. Designs (TM 5-302 series).

c. Bills of materials (TM 5-303 series).

d. User guide (TM 5-304 series).

e. Theater Army Construction Automated Planning System.

f. Theater Oriented Guide Specifications.

3-2. Function of manuals

AFCS TMs include planning, logistics, and construction data to—

a. Prepare and support CESP.

b. Prepare construction material requirements for CESP, operational projects, and exercises.

c. Estimate materials, costs, manpower, and shipping data for military engineering support of military operations.

d. Guide construction elements on—

(1) Basic installation layout.

(2) Minimum real estate requirements.

(3) Construction and erection.

(4) BOMs and equipment.

(5) Construction scheduling.

e. Tailor facility designs for—

(1) Various degrees of operational responsiveness.

(2) Construction standards and methods suited for either phased development or improved operational facilities.

(3) Initial construction standards adaptable to available construction materiel, manpower, and equipment.

(4) Climatic options in facility designs suited for temperate, tropical, desert, and frigid environments.

f. Initiate requisitions.

3-3. Automation of AFCS

The Theater Army Construction Automated Planning System (TACAPS) is an automated tool developed for use by AFCS for AFCS users. It is an interactive, unclassified system which allows planners to roll-up facilities, bills of materials, and construction man-hours for each construction mission. The TACAPS can be used to ease the selection of AFCS facilities and installations considering theater priorities, standards of construction, resource constraints, and climate. Facility requirements can be generated on a unit basis or by an operational requirement.

3-4. AFCS review

Annually, the Chief of Engineers will send a letter to the MACOMs and senior Army organizations responsible for the execution of theater construction projects using AFCS. This letter will apprise the AFCS community of the status of the AFCS program and invite comments on the current program, and recommendations for the future program. Specifically, the letter will contain the following:

a. A summary of the AFCS program and the major AFCS initiatives.

b. A list and brief description of AFCS projects for the previous year, active AFCS projects, AFCS new starts for the current year, and proposed projects for the out years.

c. The field's review comments/recommendations in response to the previous annual letter and the AFCS management's intended actions/answers.

d. A description of the major AFCS programs and activities.

Appendix A References

Section I Required Publications

TM 5-301-1

Army Facilities Components System—Planning (Temperate). (Cited in para 3-1a.)

TM 5-301-2

Army Facilities Components System—Planning (Tropical). (Cited in para 3-1a.)

TM 5-301-3

Army Facilities Components System—Planning (Frigid). (Cited in para 3-1a.)

TM 5-301-4

Army Facilities Components System—Planning (Desert). (Cited in para 3-1a.)

TM 5-302

Army Facilities Components System—Designs (vols 1, 2, 3, 4, 5). (Cited in para 3-1b.)

TM 5-303

Army Facilities Components System—Logistics Data and Bills of Materials. (Cited in para 3-1c.)

TM 5-304

Army Facilities Components System—User Guide. (Cited in para 3-1d.)

Section II Related Publications

A related publication is merely a source of additional information. The user does not have to read it to understand this regulation.

AR 415-15

Military Construction, Army (MCA) Program Development

AR 415-28

Department of the Army Facility Classes and Construction Categories

AR 415-32

Engineer Troop Unit Construction in Connection with Training Activities

AR 415-35

Minor Construction, Emergency Construction, and Replacement of Facilities Damaged or Destroyed

JCS PUB 3

Joint Logistics Policy and Guidance

Glossary

Section I Abbreviations

AFCS

Army facilities components system

AMC

U.S. Army Materiel Command

BOM

Bills of Materials

CESP

Civil Engineering Support Plan

COE

Chief of Engineers

FORSCOM

U.S. Forces Command

HQDA

Headquarters, Department of the Army

MACOM

major Army command

MOS

military occupational specialty

NSN

national stock number

TACAPS

Theater Army Construction Automated Planning System

TM

Technical Manual

TO

theater of operations

TOE

table(s) of organization and equipment

TOGS

Theater Oriented Guide Specifications

TRADOC

U.S. Army Training and Doctrine Command

TSG

The Surgeon General

USAISC

U.S. Army Information Systems Command

Section II Terms

Facility

A physical plant (i.e., real estate and improvements, including a separate building or piece of equipment) that supports a function. A facility is also any piece of equipment which, as an operating entity, contributes or can contribute to a function by providing some specific type of physical support. Facilities are the next lower order AFCS building

block and are identified by a seven-character alphanumeric code (e.g., 72520AC; tent floors and frames, squad, 16' × 32'). AFCS facility numbers are based on the facility class and construction category codes listed in AR 415-28.

Installation

This is the highest order building in AFCS. An installation is composed of a group of facilities, located in the same vicinity, which support a military function or provide a specific service. Where installations are located contiguously or on the same reservation, the combined property is designed as one installation and the separate functions as activities of that installation. An installation is also real estate (under the control of, and established by order of HQDA) on which services or functions of the Army are performed. Installation designs are identified by a six-character alphanumeric code (e.g., NT 1131; 250-man troop camp, temperate climate, temporary standard, wood frame, with motor pool).

Item

This is the lowest order AFCS building block composed of one or more pieces of recognizable construction material or related installation equipment. All items are identified by national stock numbers (e.g., NSN 5610-00-250-4676, a 94-pound bag of Portland cement).

Standards of Construction

Standards that establish levels of quality of facilities that materially influence the level and amount of construction to be done. The standards provide construction criteria which minimize engineer and logistic effort, while providing facilities of a quality consistent with the mission requirements, personnel health and safety, and the expected availability of construction resources (described in detail in the appendix to Sec. II, chap. 6, JCS Pub (3)). Initial standard facilities are designed to support operations up to 6 months. These minimum austere facilities require minimal engineer construction effort and provide immediate operational support to theater units. Temporary standard facilities are designed to support operations up to 24 months. These austere facilities are intended for sustained operations and may either replace the initial standard facilities or be used from the start of the operations. *Note:* Long-term facilities having a duration exceeding 24 months are not currently authorized by JCS Pub 3. However, many facilities in AFCS can sustain operations in excess of 24 months by virtue of the inherent durability of most construction materials. Reference may be made to these facility designs in the event the user desires information on facilities with a useful life exceeding that currently authorized for TO planning purposes.

There are no special terms.

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