

CECW-E

Regulation  
No. 1110-1-8155

10 October 2003

Engineering and Design  
**SPECIFICATIONS**

- 1. Purpose.** This regulation prescribes specifications policy and requirements for both Civil Works and Military Construction, incorporates Total Army Quality principles and the Project Management Business Process, implements MIL-STD-3007, "Standard Practice for Unified Facilities Criteria and Unified Facilities Guide Specifications," and enables Headquarters U.S. Army Corps of Engineers (HQUSACE) elements and U.S. Army Corps of Engineers (USACE) commands to produce quality project specifications.
- 2. Applicability.** This regulation is applicable to all HQUSACE elements and USACE commands having design or construction responsibilities.
- 3. Distribution.** This regulation is approved for public release; distribution is unlimited.
- 4. References.** Required and related publications are listed in Appendix A.
- 5. Definitions.**
  - a. Design Agency.** A HQUSACE element or USACE command having military and/or civil works design responsibilities.
  - b. Specifications Engineer.** An Architect or Engineer within a design agency who is assigned primary responsibility for overseeing the preparation of project specifications and coordination of the specifications with the other construction documents.
  - c. Designer.** An Architect or Engineer within a design agency who has design responsibility for certain features of a project involving one or more engineering and design disciplines, e.g., architectural, structural, mechanical, electrical.
  - d. HQUSACE Specifications Proponent.** The individual within HQUSACE designated to address the needs and concerns of design agencies related to the preparation of quality guide specifications and project specifications.
  - e. MIL-STD-3007, "Standard Practice for Unified Facilities Criteria and Unified Facilities Guide Specifications."** The standard that establishes procedures for the development and maintenance of Unified Facilities Criteria (UFC) and Unified Facilities Guide

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This regulation supercedes ER 1110-1-8155 dated 24 December 1998 and rescinds ER 1110-2-1200, Plans and Specifications for Civil Works Projects, and the reference to ER 1110-2-1200 in ER 1110-2-1150, Engineering and Design for Civil Works Projects, dated 31 August 1999.

Specifications (UFGS) and prescribes their use by the Army, Navy, Marine Corps, Air Force, Department of Defense (DOD) agencies and DOD Field Activities.

**f. USACE Unified Facilities Criteria (UFC) Technical Proponent.** An individual assigned the responsibility for coordinating the unification and maintenance of a criteria document or UFGS in accordance with MIL-STD-3007.

**g. USACE Unified Facilities Criteria (UFC) Technical Representative.** An individual designated to serve as technical expert for a certain guide specification or criteria document where USACE has been designated the Participating Organization for the UFGS specification or criteria document.

**h. Unified Facilities Guide Specifications (UFGS).** A system of master guide specifications that define the qualitative requirements for products, materials, and workmanship for work features that occur in construction projects on a repetitive basis. The UFGS system is established by MIL-STD-3007.

**i. USACE UFGS Database Manager.** The person responsible for maintaining a master database of UFGS sections for which USACE is responsible.

**j. TECHINFO.** An Internet-based construction criteria information system that is managed for HQUSACE by the U.S. Army Engineering and Support Center, Huntsville (CEHNC-ED-ES).

**k. Construction Criteria Base (CCB).** A database developed by the National Institute of Building Sciences and available in CD-ROM and DVD media and on the Internet. The database contains design and construction documents from federal and private organizations, including Unified Facilities Guide Specifications, and National Aeronautics and Space Administration (NASA) guide specifications.

**l. SPECSINTACT.** A software program, copyrighted by the NASA, mandated for use in producing USACE project specifications and maintaining guide specifications. The software provides state-of-the-art specification automation to users and incorporates a wide range of quality control features. The software is a cooperative effort by Army, Navy, and NASA that provides greater uniformity and better transportability of guide specifications between other departments and agencies. SPECSINTACT software is available from the SPECSINTACT web site and CCB.

**m. Construction Specifications Institute (CSI).** A non-profit organization with members from all areas of the construction and engineering industry that establishes and publishes formats and organization standards for use in the preparation of construction specifications and other construction documents.

**n. CSI Manual of Practice (MOP).** An industry-recognized reference manual that contains recommended methods and practices for preparing, organizing, and formatting construction specifications and other construction documents.

**o. Project Specifications.** Specifications (also known as construction specifications but excluding those produced by a construction or design-build contractor) produced using the CSI format under the oversight of a Specifications Engineer that define construction requirements applying to a specific project. For design-build projects, only those specifications that form a part of

the Request for Proposal (RFP) are project specifications.

**p. Standard Specifications for Military Construction.** Specifications that are developed under direction of HQUSACE (CECW-E) as part of a standard design package that provides unique requirements for facilities intended for site adaptation at several locations, e.g., Petroleum, Oil, and Lubricant (POL) Storage Facilities. Standard specifications are based on UFGS format and are developed in sufficient detail to serve as construction documents after site-specific requirements are incorporated. Standard specifications are packaged with the design drawings to which they apply and are available from the U.S. Army Engineering and Support Center, Huntsville (CEHNC-ED-ES).

**q. Federal Specifications and Standards (FED-SPECS and FED-STDS).** Documents issued or controlled by the General Services Administration (GSA) that are sometimes referenced in UFGS to define requirements. Active FED-SPECS and FED-STDS cited in DOD documents are available from the GSA Federal Supply Service Bureau.

**r. Military Specifications and Standards (MIL-SPECS and MIL-STDS).** Documents issued or controlled by one of the military departments that are sometimes referenced in UFGS to define requirements. Active MIL-SPECS and MIL-STDS are available from the DOD Single Stock Point (DoDSSP).

**s. Reference Standards.** Documents that contain requirements set by authority, custom, or general consensus and are established as accepted criteria. They are published by trade associations, professional societies, standards-writing organizations, governments, and institutional organizations, e.g., the American National Standards Institute (ANSI) and ASTM International (ASTM). These documents are incorporated by reference into UFGS and project specifications to define qualitative and performance requirements for materials, equipment, systems, test methods, and workmanship.

**6. HQUSACE Specifications Proponent.** The HQUSACE specifications proponent uses input from a variety of sources to ensure that specifications issues affecting USACE are addressed at the headquarters level. The specifications proponent maintains a liaison between the Military Programs and Civil Works Directorates at HQUSACE, as well as the specifications proponents from other agencies and DOD departments. The HQUSACE specifications proponent represents USACE specifications concerns and issues in discourse with other agencies and departments as appropriate, e.g., SPECSINTACT enhancements and CCB issues.

**7. Specifications Steering Committee.** The Corps of Engineers Specifications Steering Committee (CSSC) has been established by ER 15-1-41 to provide recommendations for improving UFGS and project specifications.

## **8. Unified Facilities Guide Specifications (UFGS).**

**a. Purpose.** UFGS provide design agencies and their contractors a set of master guide specifications reflecting DOD technical policy that will enhance productivity, quality, and uniformity of DOD construction. UFGS are revised and reissued periodically to incorporate lessons learned and technological advances.

(1) UFGS promote full and open competition in procurement in accordance with Federal

Acquisition Regulation (FAR) Subpart 11.002 and maximize construction economy consistent with sound functional, aesthetic, environmental, energy conservation, and architectural and engineering practices.

(2) UFGS contain designer notes providing guidance on use of the specifications and the coordination required with the other project specification sections and with the project drawings. UFGS also contain "tailoring options" in many sections that allows SPECSINTACT to globally delete products or requirements with a minimum of effort. Additionally, through the use of "brackets," the guide specifications identify blanks to be filled in and alternative text for selection by Designers.

(3) UFGS used in combination with SPECSINTACT automated processing methods improve project specification production, uniformity, consistency, and overall quality in accordance with DOD policy. Uniformity and consistency of project specifications aid contractors in their preparation of bids, improve quality of construction, and reduce cost to DOD customers.

**b. UFGS Development and Update Process.** UFGS are developed and maintained under the "Department of Defense Standard Practice for Unified Facilities Criteria and Unified Facilities Guide Specifications," MIL-STD-3007.

**c. Recommended Changes.** Design agencies are encouraged to submit proposals for new criteria and UFGS that may have DOD-wide application. Proposals for technical or editorial changes to existing criteria and UFGS that are necessary or desirable for general application or to reflect local availability of materials and construction practice are also encouraged. Such proposals may be submitted to DOD electronically using the Criteria Change Request (CCR) System. Recommended changes may also be presented to CSSC members. A current list of members is provided on TECHINFO.

**d. UFGS Points of Contact.** Questions about an individual UFGS may be directed to the designated technical proponent for the document. A current list of technical proponents and their phone numbers is provided on TECHINFO.

## **9. Project Specifications.**

**a. General Requirements.** Design agencies will ensure that high-quality and concise specifications are prepared, that the preparation of project specifications is fully coordinated with agency construction and contracting representatives, and that the project specifications comply with industry standards for format and content as established by the CSI Manual of Practice. It is recommended that each design agency designate a Specifications Engineer to oversee and coordinate the preparation of project specifications to ensure compliance with these requirements. A Specifications Engineer should have knowledge and experience in developing construction contract documents and project specifications.

**b. Use of Existing Project Specifications.** Where a previous project design is adapted for use on a project, where standard specifications are used for military construction, or where a project design has been completed and held in abeyance for more than six months, the project specifications will be reviewed and revised as necessary.

**c. Use of UFGS.** UFGS provide a set of master guide specifications that shall be used for

developing project specifications (Under Secretary of Defense memo; subject: Department of Defense Unified Facilities Criteria). UFGS must be tailored to fit specific project requirements. The intent and wording of UFGS should be preserved to the extent practicable as they incorporate public laws, federal mandates, DOD policy, industry coordination, and lessons learned.

**d. SPECSINTACT.** The use of SPECSINTACT is mandatory for production of all project specifications, except for overseas area projects designed to host nation standards. Maximum efficiency and quality are obtained when project specifications are prepared using SPECSINTACT and the latest UFGS edited to suit the specific requirements of projects.

**e. Specifications Development During Project Phases.** Project specifications, when combined with the project drawings, must provide a comprehensive set of construction documents that can be bid fairly and competitively and executed without change, except as necessary to resolve unforeseen conditions or changes made during construction. (See ER 1180-1-6 and ER 415-1-11 for guidance on biddability, constructibility, operability, and environmental review.) Design agencies will identify and resolve unusual design or contract administration problems and assure that project specifications comply with technical policy established by HQUSACE. Close coordination between the Specifications Engineer and the Designers is important throughout all design phases to produce complete and accurate project specifications. Specifications Engineering and Designing are distinct professional functions that must be performed during specifications development. In some organizations, a person performing the Specifications Engineering function for a project specification may also perform some Design functions; in other organizations a person may be exclusively devoted to performing the Specifications Engineering function with Design functions being performed by others.

(1) Specifications Engineers should assist Designers in identifying UFGS sections that are to be used in the project, operating the SPECSINTACT software, and incorporating a Designer's technical requirements into the project specifications.

(2) Designers are responsible for the design of technical project features and are responsible for the technical content of the project specifications for those features. Specifications Engineers are responsible for the format of all project specification sections and for ensuring that proper and non-contradictory contract language is used throughout. Specifications Engineers are also responsible for determining the project-specific information that must be inserted into the non-technical provisions and the Division 1 General Requirements sections.

(3) Designers will prepare technical requirements for which no UFGS exists. When a new specification section must be developed for a particular project, the Designer will provide the technical information and technical requirements to be included in the specification section. The Specifications Engineer will work with the Designer to ensure that the section contains proper language and is properly formatted in accordance with the document "Unified Facilities Guide Specifications (UFGS) Format Standard" UFC 1-300-02.

(4) Project Bid Schedules will be prepared in close coordination with Contracting, Counsel, Project Management, Design, Cost Engineering, and Construction. For Civil Works projects, the lump sum and unit-priced items defined for incorporation in the bid schedule must be consistent with the work breakdown structure. Bid schedules will conform to USACE guidance

and all aspects of the FAR (FAR Subpart 36.207).

(5) As part of the routine quality assurance/quality control (QA/QC) process, Specifications Engineers should perform quality checks (e.g., SPECSINTACT reports, visual scan of pages for errors, verification of specification inserts such as the submittal register, etc.) on project specifications prior to advertisement.

(6) Appropriate design staff should make field trips during the construction phase of projects to identify specifications and contract administration problems to be avoided in future project specifications. Corrective action will be implemented to resolve problems identified during all project phases that could have been prevented by improved specifications, e.g., recommend changes in UFGS.

(7) The Resident and Area Engineers should be contacted during the design process and their input solicited, particularly for Division 1 sections.

**f. Specifications Prepared by Architect-Engineer (A-E) Firms.** The requirement to use SPECSINTACT for production of project specifications will be included in all procurement of A-E design services. Design agencies will assist the A-E by providing copies of regulations, manuals, engineer technical letters, and other information not available on TECHINFO and CCB. Design agencies will provide guidance to A-E firms on preparation of Division 1 sections and provide agency-unique information to be incorporated into the Division 1 sections. Previous project specifications may be furnished as samples of the form and content for completed work but should not be used where applicable guide specifications exist.

**g. Construction Documents Format.** Construction contracts shall be prepared in accordance with the HQUSACE format for construction contracts in Engineering FAR Supplement (EFARS) Subpart 14.2, Solicitation of Bids, using the Electronic Contract Solicitation (ECS) process prescribed in ER 715-1-21, unless exempted therein. Specification section numbering will follow CSI MasterFormat (latest edition). The format of the sections within the specifications will be based on the CSI SectionFormat as modified under the "Unified Facilities Guide Specifications (UFGS) Format Standard" UFC 1-300-02.

**h. Reference Publications.** Materials, workmanship, and equipment will be described, where possible, by reference to industry and government standards generally known to the construction community, citing the type, class, or other designation necessary to identify fully the item required. The reference approval date and the dates of any applicable amendment and revisions shall be included in the solicitation (FAR Subpart 11.201a). Reference standards should not be used to describe minor, non-critical items (such as incidental fasteners) when any commercially available product of that nature would be adequate. To the maximum extent practicable, references will be to nationally recognized industry and technical society specifications and standards. If industry documents are unavailable or unsuitable, applicable Commercial Item Descriptions (CID) may be referenced. Publications referenced in project specifications need be no later than the editions cited in the current notice for the corresponding UFGS. Publications not readily available to bidders, such as locally developed policy or guidance, should not be referenced but if referenced shall be furnished with the solicitation (FAR Subpart 11.201b). In accordance with DOD direction, FED-SPECS, FED-STDS, MIL-SPECS, and MIL-STDS shall not to be used in

contracts unless exempted by HQUSACE. These publications cited in UFGS are approved for use. Federal Specifications, Standards, and Commercial Item Descriptions can be found on the GSA Federal Supply Service Bureau WEB Site. Government specifications and standards, and policy can be located through the Defense Standardization Program Office (DSPO) WEB site.

**i. Submittals.** Construction submittals, such as shop drawings, samples, test reports, certificates, and manufacturer's instructions should not be required for non-critical items of relatively low value when the cost of making the submittal exceeds the benefit to the project (see ER 415-1-10). Avoidance of such submittal requirements is particularly encouraged for small projects. Design agencies must keep submittals requiring government approval to a minimum due to funding limitations. Only those submittals that are critical to safety, construction execution, or system or facility operation should be required for government approval. Submittals not requiring government approval should be used when it is important to verify that the contractor is complying with contract requirements. Critical submittals requiring government approval are extensions of design, critical materials, deviations, O&M manuals, or those involving equipment that must be checked for compatibility with the entire system.

**j. Testing.** Ordinarily, testing is the responsibility of the contractor under the Contractor Quality Control (CQC) provisions of the specifications (see ER 1180-1-6). Requirements in the specifications making testing the contractor's responsibility will not be written in such a way as to void the right of the contracting officer to perform confirmation testing and Quality Assurance (QA) testing or to witness testing by the contractor. Specifying testing that will be performed by the government at government expense (i.e. outside of the tests to be performed by the contractor under the CQC procedures) should be kept to a minimum and should be done only when necessary to assure the quality of critical construction.

**k. Warranties.** Warranty requirements extending beyond the normal one-year construction warranty period or such other period required by UFGS will be specified only for materials, equipment, or systems for which longer warranties are normally provided in the industry. The increased cost of the extended warranties and the costs of administering and enforcing such warranties should be evaluated prior to their specification.

**l. New Materials and Methods.** Designers are encouraged to consider the use of new, unusual, or innovative materials, equipment, systems, or methods in designs when evidence shows that such use is in the best interest of the government in terms of value, lower life-cycle costs, and quality of construction. Manufacturers are to prove the merits of their product by certified laboratory results, evidence of satisfactory installation under conditions similar to those anticipated for the proposed construction and compliance with appropriate industry standards, if they exist. For a specific project, where different requirements from those in UFGS are specified, and where the requirements may have application beyond that specific project, design agencies will submit a recommended change using the Criteria Change Request (CCR) web site to report the new, unusual, or innovative items to DOD. The recommended changes will allow DOD to implement changes to criteria.

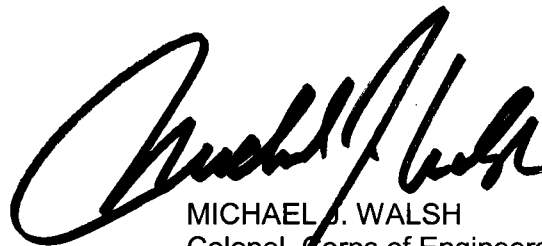
**m. Brand Names and Proprietary Items.** Specifying items peculiar to one manufacturer (closed proprietary), either by brand name or by peculiar characteristic, is prohibited unless specially justified and approved (FAR, Subpart 11.105). Brand name or equal (open

proprietary) descriptions should be used with great care and discretion. Where the brand name or equal description is used, the contract provisions shall include those salient features of the item or items specified upon which equality can be determined (FAR, Subpart 11.104, Subpart 11.107, and Subpart 36.202(c)).

**n. Contractor's Options.** Optional materials and methods of construction that are acceptable are included in UFGS as a means of increasing competition and reducing project costs. Project specifications should include all contractors' options contained in UFGS. Additional optional materials and methods may be specified if a study of conditions affecting a particular project shows that other options are consistent with good architectural and engineering practice, are economically justifiable, and provide the best value to the government. Where a contractor's option is specified that is not part of a UFGS section and the specified contractor's option may have application beyond that specific project, the design agencies will submit recommended changes electronically using the Criteria Change Request (CCR) web site.

**10. Training.** Design agency staff involved in preparation of specifications should attend the Proponent-Sponsored Engineer Corps Training (PROSPECT) Course "Specifications for Construction Contracts." Training should also be provided in bidding procedures and the preparation of the non-technical provisions of contract documents, personal computer software, SPECSINTACT, and, if SPECSINTACT is used on a network, in network operation and software. Specifications staff should be encouraged to become certified under the CSI Certified Construction Specifier Program.

**FOR THE COMMANDER:**



MICHAEL J. WALSH  
Colonel, Corps of Engineers  
Chief of Staff

1 Appendix  
APP A - References



## APPENDIX A

### REFERENCES

#### **A-1. Required Publications.**

- a. Federal Acquisition Regulation (FAR), Part 11.
- b. Federal Acquisition Regulation (FAR), Part 36.
- c. MIL-STD-3007, current edition, Department of Defense Standard Practice for Unified Facilities Criteria and Unified Facilities Guide Specifications.
- d. UFC 1-300-02, Unified Facilities Criteria (UFC) Unified Facilities Guide Specifications (UFGS) Format Standard
- e. The Under Secretary of Defense memo dated 29 May 2002, subject: Department of Defense Unified Facilities Criteria.
- f. ER 5-1-11, U. S. Army Corps of Engineers Business Process
- g. ER 15-1-41, Corps of Engineers Specifications Steering Committee (CSSC).
- h. ER 415-1-10, Contractor Submittal Procedures.
- i. ER 415-1-11, Biddability, Constructibility, Operability, and Environmental Review.
- j. ER 715-1-21, Electronic Contract Solicitations
- k. ER 1180-1-6, Construction Quality Management.
- l. Engineering FAR Supplement (EFARS) Subpart 14.2, Solicitation of Bids.
- m. Manual of Practice (MOP), Construction Specifications Institute (CSI), 601 Madison Street, Alexandria, VA 22314.

#### **A-2. Related Publications.**

- a. AR 5-1, Army Management Philosophy.
- b. ER 690-1-414, Proponent-Sponsored Engineer Corps Training (PROSPECT).
- c. ER 1110-1-12, Quality Management.
- d. ER 1110-2-1150, Engineering and Design for Civil Works Projects.
- e. ER 1110-2-1302, Civil Works Cost Engineering.

- f. ER 1110-3-1300, Military Programs Cost Engineering.
- g. ER 1110-345-100, Design Policy for Military Construction.
- h. ER 1110-345-700, Design Analysis, Drawings, and Specifications.
- i. ER 1180-1-9, Design-Build Contracting.