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USACE / NAVFAC / AFCEA / NASA UFGS-11 47 00 (January 2008)  
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Preparing Activity: USACE NEW  
SECTION

UNIFIED FACILITIES GUIDE SPECIFICATIONS

References are in agreement with UMRL dated March 2008

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### SECTION 11 47 00

#### ICE MACHINES 01/08

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NOTE: This guide specification covers the requirements for equipment used to produce, store, autoclean, and dispense ice. This section does not address the manufacturing of block ice.

Coordinate this section and use in conjunction with the following sections:

11 05 40 - COMMON WORK RESULTS FOR FOODSERVICE EQUIPMENT  
11 06 40.13 - FOOD SERVICE EQUIPMENT SCHEDULE

Edit this guide specification for project specific requirements by adding, deleting, or revising text. For bracketed items, choose applicable items(s) or insert appropriate information.

Remove information and requirements not required in respective project, whether or not brackets are present.

Comments and suggestions on this guide specification are welcome and should be directed to the technical proponent of the specification. A listing of technical proponents, including their organization designation and telephone number, is on the Internet.

Recommended changes to a UFGS should be submitted as a Criteria Change Request (CCR).

This guide specification includes tailoring options for NAVFAC and USACE. Selection or deselection of a tailoring option will include or exclude that option in the section, but editing the resulting section to fit the project is still required.

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## PART 1 GENERAL

### 1.1 REFERENCES

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NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.

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The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.

#### NSF INTERNATIONAL (NSF)

NSF 12	(2007) Standard Specification for Automatic Ice Making Equipment
NSF 14	(2007) Plastics Piping System Components and Related Materials
NSF 169	(2007) Standard Specification for Special Purpose Food Equipment and Devices
NSF Product Listing	(2002) NSF Product Listings of Food Equipment and Related Products, Components, and Materials

#### U.S. ENVIRONMENTAL PROTECTION AGENCY (EPA)

Energy Star	(1992; R 2006) Energy Star Energy Efficiency Labeling System
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#### U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

29 CFR 1910-SUBPART D	Walking - Working Surfaces
29 CFR 1910.144	Safety Color Code for Marking Physical Hazards
29 CFR 1910.145	Accident Prevention Signs and Tags
29 CFR 1910.306	Specific Purpose Equipment and

## Installations

### 1.2 GENERAL REQUIREMENTS

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NOTE: Indicate the configuration and layout for all ice making equipment, with elevations and equipment identified by number. Show "Food Service Equipment Schedule" on the drawings using the same identification numbers[ as indicated on the current US Army Quartermaster Center and School equipment schedule]. Ensure that all Contractor built-to-order items, per Food Service Equipment Schedule", are shown and coordinated with the specifications.

Designer must coordinate with other sections for final connection of equipment.

NOTE: Details of particular equipment and installations are provided on Naval Food Service Division drawings. Use these NAVFSD drawings as a basis for the project details. Contact NAVFSD at commercial telephone (717) 790-7580 or DSN 430-7580.

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Refer to section 11 05 40 - COMMON WORK RESULTS FOR FOODSERVICE EQUIPMENT for general requirements. Refer to section 11 06 40.13 for FOODSERVICE EQUIPMENT SCHEDULE.

### 1.3 DESCRIPTION OF WORK

The work includes [furnishing and] [installing] [and modifying existing] ice making equipment, including dispensing, production, storage [, and autocleaning ]equipment and related work. Verify all existing dimensions, contract drawings, product data and all related conditions prior to commencing rough-in work. Include coordination of delivery through existing finished opening and vertical handling limitations within the building. Advise the Contracting Officer of all discrepancies prior to ordering equipment. Submit Contractor's Field Verification Data prior to the preconstruction meeting.

Provide rough-in and connect utilities to equipment in accord with requirements specified in other sections of this specification and in accord with the physical dimensions, capacities, manufacturer's instructions, and other requirements of the equipment furnished.

#### 1.3.1 Design Requirements

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NOTE: On the drawings, show:

1. A 1:50 1/4 inch scale floor plan with layout of all food service equipment and Naval Equipment Symbols.

2. Food Service Equipment Schedule laid out in accord with NAVFSSONAVFSSOcurrent US Army Quartermaster Center and School equipment schedule

specified design requirements, including Energy Star qualified model list.

3. Floor, wall, and ceiling penetrations.
4. Raised bases, retainer curbs, or depressions.
5. Recessed, grated floor drains required for equipment.
6. Disconnect switches.
7. Electrical chases and raceways and plumbing chases.
8. Utility connections to building water, sanitary, electrical, and other utility systems. Convenience outlets at point of use for plug-in equipment.
9. All Contractor built-to-order items, per Food Service Equipment Schedule, shown and coordinated with the specifications.

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Submit detail drawings as stated in section 11 05 40 - COMMON WORK RESULTS FOR FOOD SERVICE EQUIPMENT for food preparation equipment and related food processing equipment. Drawings must be 1:50 1/4 inch scale minimum.

## 1.2 SUBMITTALS

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NOTE: Review Submittal Description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Submittals should be kept to the minimum required for adequate quality control.

A "G" following a submittal item indicates that the submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Choose the first bracketed item for Navy, Air Force  
and NASA projects, or choose the second bracketed  
item for Army projects.

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Government approval is required for submittals with a "G" designation;  
submittals not having a "G" designation are [for Contractor Quality Control  
approval.] [for information only. When used, a designation following the  
"G" designation identifies the office that will review the submittal for  
the Government.] Submit the following in accordance with Section 01 33 00  
SUBMITTAL PROCEDURES:

#### SD-01 Preconstruction Submittals

Contractor's Field Verification Data[; G][; G, [\_\_\_\_]]

#### SD-02 Shop Drawings

Detail Drawings[; G][; G, [\_\_\_\_]]

Custom fabricated equipment[; G][; G, [\_\_\_\_]]

Installation Instructions and Diagrams[; G][; G, [\_\_\_\_]]

Detail drawings, as specified, including insulation and utility  
requirements.

#### SD-03 Product Data

ice making equipment

ice machine autocleaning equipment

#### SD-05 Design Data

Manufacturer's descriptive and technical literature[; G][; G,  
[\_\_\_\_]]

#### SD-06 Test Reports

Manufacturer's Test Data[; G][; G, [\_\_\_\_]]

Field Test Reports[; G][; G, [\_\_\_\_]]

#### SD-07 Certificates

NSF Certification[; G][; G, [\_\_\_\_]]

UL Certification[; G][; G, [\_\_\_\_]]

Energy Star Qualified

#### SD-08 Manufacturer's Instructions

Manufacturer's Instructions[; G][; G, [\_\_\_\_]] for shipping,  
handling, storage, installation, and start-up.

### 1.5 QUALITY ASSURANCE

Refer to section 11 05 40 - COMMON WORK RESULTS FOR FOOD SERVICE EQUIPMENT.

Equipment specified within this section must also conform to the applicable  
requirements of the following reference standards: NSF 12, NSF 14, NSF 169,  
NSF Product Listing, and Energy Star for powered equipment.

#### 1.5.1 Pre-Installation Conference

Thirty [\_\_\_\_\_] days prior to the commencement of work, notify the Contracting Officer that the following items are prepared and ready for review:

- a. Shop Drawings, product data and installation instructions
    - 1. Detail Drawings
    - 2. Custom fabricated equipment

Submit custom fabricated equipment drawings after approval of food service equipment drawings.]

  - 3. Installation Instructions and Diagrams
- b. Product Data:
  - 1. ice making equipment
  - 2. ice machine autocleaning equipment
- c. Design Data
  - 1. Manufacturer's descriptive and technical literature
  - 2. Manufacturer's Test Data
  - 3. Energy Star Qualified
- d. Manufacturer's Instructions
  - 1. Manufacturer's Instructions for shipping, handling, storage, installation, and start-up.

### PART 2 PRODUCTS

#### 2.1 MATERIALS

Ice making equipment must conform to OSHA standards 29 CFR 1910.144, 29 CFR 1910.145, 29 CFR 1910.306, and related NSF and UL standards

Floor areas adjacent to ice making equipment point of operation must conform to 29 CFR 1910-SUBPART D

Ice making equipment materials must conform to the requirements as stated in section 11 05 40 - COMMON WORK RESULTS FOR FOOD SERVICE EQUIPMENT.

#### 2.2 LIST OF EQUIPMENT

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NOTE: Edit the master "Food Service Equipment Schedule" in section 11 06 40.13 carefully; retain items of equipment used for the project. The Equipment List is intended to be edited and included in the project Specification. List the information contained on the Equipment List on the Contract Drawings.  
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Submit detailed Food Service Equipment List as specified in section 11 06 40.13 - FOOD SERVICE EQUIPMENT SCHEDULE. Include submittal of NSF Certification and UL Certification for ice making equipment[ and autocleaning equipment].

## 2.3 CONSTRUCTION OF FABRICATED EQUIPMENT

Construction and finish of fabricated equipment must conform to the specifications as stated in section 11 05 40 - COMMON WORK RESULTS FOR FOOD SERVICE EQUIPMENT.

## 2.4 FACTORY TESTS AND CERTIFICATIONS

Submit [ ] copies of all [Manufacturer's Test Data](#) and certifications, including [NSF Certification](#); [UL Certification](#), and Energy Star Qualified data to the Contracting Officer prior to the commencement of any installation work.

## [2.5 AUTOMATIC CLEANING SYSTEM

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NOTE: Automatic cleaning systems for ice machines schedule and perform routine ice machine cleaning automatically, reducing the need for a service technician to perform manual cleaning. Cleaning cycles are normally scheduled for 2, 4 or 12 week cycles or less frequently.  
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Provide ice making equipment with [internal][external] automatic cleaning system with cleaning and sanitizing capability. Provide [115/60/1][208-230/50/60/1], 0.3 total amps, with 15 amp maximum fuse electrical system. Include one month supply of cleaning and sanitizing fluid plus initial start-up and testing supply.

## ]PART 3 EXECUTION

### 3.1 INSTALLATION

Refer to section 11 05 40 - COMMON WORK RESULTS FOR FOOD SERVICE EQUIPMENT for detailed installation procedures, operation and maintenance manual requirements, training and project closeout procedures. Include all ice making [and autocleaning ]equipment [Field Test Reports](#).

[ Coordinate ice machine equipment installation with water filter system as specified in section 11 46 00.]

-- End of Section --