

TECHNICAL CHARACTERISTICS

1.0 PROGRAM BACKGROUND:

1.1 Identification: Field Refrigeration System (FRS) is a USMC family of refrigerated containers that consists of two principal articles. The FRS Support Equipment will consist of internal shelving and cargo restraints. The FRS Support Equipment will consist of shelving and cargo straps for both of the following systems.

1.1.1 Large Field Refrigeration System (LFRS): Based on an International Standards Organization (ISO) 8ft x 8ft x 20ft (external). The LFRS has internal dimensions of 83 inches high, 89 inches wide, and 17 ft long.

1.1.2 Small Field Refrigeration System (SFRS): Based on a standard “one-third” ISO rigid container, also referred to as a “TRICON” that is 6.5ft x 8ft x 8ft (external).

1.2 Functional Summary: This document describes the required technical characteristics that should be reflected back to the Government in the offerors Product Specification. The offeror may also propose their Value Added features not listed here.

2.0 APPLICABLE DOCUMENTS

NSF Standard/ANSI No. 2
MIL-STD 1472 “DoD Design Criteria, Human Engineering”
ASTM D3951-98(2004)

3.0 REQUIREMENTS

3.1 SFRS shelving:

3.1.1 Ratchet and Web Strap Assembly: Shall consist of 3 components and shall integrate with each component: wide handle torque limiting ratchet, 2-inch flat hook and web strap and shall meet the following requirements.

3.1.1.1 Wide Handle Torque Limiting Ratchet: Shall meet the following requirements.

- Breaking Strength: 10,000 Lbs
- Working Load Limit: 3,000 Lbs
- Weight: NTE 3 Lbs

3.1.1.2 2-inch Flat Hook: Shall meet the following requirements.

- Breaking Strength: 4,000 Lbs
- Working Load Limit: 3,000 Lbs
- Weight: NTE 0.55 Lbs
- Integration: Shall interface with the Articulated Track Fitting with D-Ring (section 3.2)

3.1.1.3 Web Strap: Shall meet the following requirements.

- Width: 2 inches
- Length: 27'
- Breaking Strength: 11,000 Lbs
- Working Load Limit: 3,500 Lbs

3.1.2 Articulated Track Fitting with D-Ring: Shall meet the following requirements.

- Anchor: Shall be able to integrate with a vertical E-Track system on SFRS internal wall
- Breaking Strength: 5,000 Lbs
- Working Load Limit: 3,000 Lbs
- Integration: Shall interface with the 2-inch Flat Hook (section 3.1.1.2)

3.1.3 Wire Shelf: Shall meet the following requirements.

- Compliance: Shall meet NSF Standard/ANSI No. 2
- Length: 86"
- Width: Start at 20" and shall be bent around the shoring and decking beams to make a final width of 17"

3.1.4 Shoring and Decking Beam: Shall meet the following requirements.

- Anchor: Shall be able to integrate vertical with E-Track system on SFRS internal wall
- Compliance: Shall meet NSF Standard/ANSI No. 2
- Decking Load Limit: 2000 Lbs
- Shoring Load Limit: 2000 Lbs
- Weight: NTE 18 Lbs
- Length: 8 Ft

3.2 LFRS Shelving. Shall meet the following requirements:

- Shall integrate with the LFRS horizontal E-track system shown in Figure 1.
- Shall provide at least two-level shelving
- Shall be reconfigurable by modules
- Shall withstand at least 50 pounds per foot of shelf length per level
- Shall minimize obstruction from support structure
- Shall be approximately 24 in deep
- Shall meet NSF Standard/ANSI No.2
- Shall allow draining and air circulation
- Shall withstand off-road transport while fully loaded



Figure 1. LFRS interior horizontal E-Track dimensions: A = 11 in, B = 29 in, C = 47 in, D = 64.875. All measurements are from the floor plane to the bottom of E-track opening.

4.0 VERIFICATION

FRS shelving and accessories will be subjected to limited Government Product Verification Testing (PVT) and analysis. The order of testing and analysis will be at the discretion of the Government.

- 4.1 Certifications of Compliance: Shelving and accessories shall meet the requirements contained herein. Certifications of compliance of the requirements contained herein shall be provided. Certifications of corrosion resistant properties of shelving materials and compatibility of adjacent materials shall be provided. Working and Failure load certification of the straps shall be provided. Failure to provide certification of material compatibility, NSF applicability, and corrosion resistance, and strap capability shall constitute a failure of this verification.
- 4.2 Setup and Operation: The Government will perform setup and operation in accordance with (IAW) any provided assembly and operation instruction documents. After setup, the accessory straps will be used with a sample load to demonstrate the utility of the test unit. Failure to

setup and properly interface with the FRS system using the instructions provided shall constitute a failure of this test.

- 4.3 Safety and Human Factors: The Government will evaluate the FRS shelving, accessories, and setup and operation instructions using Mil-Std 1472 as guidance. Sharp edges, tripping hazards, pinch points, and other hazards will be identified and analyzed. The presence of any unacceptable hazards shall constitute a failure of this test.
- 4.4 Static Load Test: The shelves will be setup IAW any provided instructions and loaded to their specified maximum static weight for 24 hours. The manifestation of permanent deformation or material failure of the shelving shall constitute a failure of this test.
- 4.4 Dynamic Load Test: The FRS systems shall be setup IAW any provided instructions and loaded to their specified maximum dynamic load. The provided straps will be used to secure the load to the shelves and/or container wall. With the FRS shelving installed, and load strapped into place on the shelving, the FRS container will be subjected to the following road profile IAW Aberdeen Proving Grounds standard protocol:

Perryman – 41 mi (25 mph max)
Munson Belgian Block – 58 mi (25 mph max)
Perryman 1 – 29 mi (20 mph max)
Perryman 2 – 20 mi (20 mph max)
Perryman 3 – 83 mi (20 mph max)
Cross Country (Churchville) – 41 mi (20 mph max)

Failure of the shelving and accessory straps to restrain the load without permanent deformation or material failure of the load, shelving, accessories, or container shall constitute a failure of this test.

5.0 SYSTEM AND COMPONENT WARRANTY

The warranty support program will provide an all-inclusive (i.e. parts, labor, and shipping) warranty provided by the contractor for a minimum of one year. The warranty period shall start when each item is entered into the Wide Area Work Flow (WAWF). Maintenance and repair by trained, qualified Marine mechanics shall not void nor nullify the warranty. The warranty program will be structured to support deployed operational forces.

6.0 PACKAGING, SHIPPING, HANDLING & TRANSPORTATION

Level of packaging to be commercial ASTM D3951-98(2004), Level of packing to be Commercial. Mark for Address shall be provided.

7.0 CONFIGURATION

7.1 Changes to Materials, Processes, or Configuration: The Government technical representative shall be informed of any changes to the materials, processes, or configuration of any characteristic of the units. The Government representative shall determine if the reported changes to materials, processes, or configuration shall require the applicable verifications above to be repeated.

7.2 Conformance of Subsequent Production Quality: All products offered for acceptance throughout the life of the contract shall conform to all of the requirements of the contract. The Government reserves the right to re-verify conformance with requirements, at its own facility and at its own expense, at any time during the life of the contract and return to the contractor for warranty replacement such product that does not conform to the specified requirements.

Note: These technical characteristics are provided as part of Sources Sought/Request For Information only.

This sources-sought / Request For Information (RFI) is for planning purposes only and shall not be construed as a Request For Proposal or as an obligation on the part of the Government to acquire follow-on acquisition. The Government does not intend to award a contract on the basis of this RFI, or otherwise pay for the information requested. No entitlement to payment of direct or indirect costs or charges by the Government will arise as a result of submission of responses to this RFI and Government use of such information. The Government recognizes that proprietary data may be part of this effort. If so included, clearly mark such restricted or proprietary data and present it as an addendum to the non-restricted/non-proprietary information. Responses to this RFI shall be electronically transmitted to Marine Corps Systems Command stated in this notice.