

AD-A124 968

REQUIRED OPERATIONAL CAPABILITY (ROC) NUMBER LOG 154  
FOR A SYSTEM OF SOFT SHELTERS(U) MARINE CORPS  
WASHINGTON DC 20 JAN 83

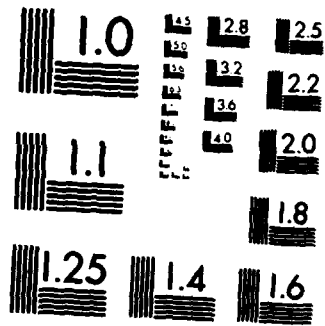
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DEPARTMENT OF THE NAVY  
 HEADQUARTERS UNITED STATES MARINE CORPS  
 WASHINGTON, D.C. 20380

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IN REPLY REFER TO  
 RDD-24-6-3-avs  
 20 JAN 1983

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From: Commandant of the Marine Corps  
 To: Distribution List  
 Subj: Required Operational Capability (ROC) No. LOG 1.54 for a System of Soft Shelters  
 Ref: (a) MCO 3900.4B  
 Encl: (1) ROC No. LOG 1.54 for a System of Soft Shelters

1. This letter establishes and promulgates ROC No. LOG 1.54 for a System of Soft Shelters. The ROC has been developed in accordance with the reference and is contained in the enclosure.
2. The Commanding General, Marine Corps Development and Education Command (Director, Development Center) is the Marine Corps point of contact for the development efforts pertaining to the Soft Shelter System.

*Eugene B. Russell*

Eugene B. RUSSELL  
 DEPUTY CHIEF OF STAFF FOR RD&S

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REQUIRED OPERATIONAL CAPABILITY (ROC) No LOG 1.54  
FOR A  
SYSTEM OF SOFT SHELTERS

1. STATEMENT OF NEED. The Marine Corps has an urgent requirement for a system of soft shelters that will be reliable, quickly erectable, and easily maintained. These shelters will provide protection from weather for command and control, billeting, maintenance, and other combat service support functions. They must be constructed of materials that will not deteriorate in storage, will be easy to handle when wet or subjected to low temperatures, and will not rot or mildew when the situation requires that they be stored wet. An Initial Operational Capability (IOC) of FY84 for this is desired.

2. THREAT AND OPERATIONAL DEFICIENCY

a. Threat. Not applicable.

b. Operational Deficiency

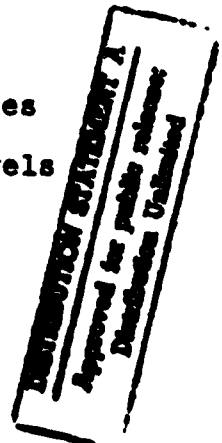
(1) The current family of soft shelters consists of the following items:

- (a) Tent, Command Post w/liner, TCN C6390
- (b) Tent, General Purpose, Medium, TCN C6410
- (c) Tent Liner, Tent General Purpose, TCN V4650
- (d) Tent, Frame Type, Maintenance, Medium, TCN C6400
- (e) Tent, Maintenance, Shelter, TCN C6420

(2) These items were designed in the late 1940s and early 1950s and are made with cotton fabrics which, by their very nature, are heavy, extremely susceptible to dry rot and mildew, difficult or nearly impossible to repair at the user level, and have a short service life.

(3) The larger tents take an experienced crew an exceptionally long time to erect and strike. The Tent, Frame Type Maintenance, Medium takes four men, five hours to erect and four hours to strike under ideal conditions.

(4) The short service life of the fabric and high replacement cost has forced commanders to let their inventories of these items drop drastically, thereby adversely affecting combat readiness. This reluctance to maintain prescribed levels has had adverse affects throughout the supply system.



(5) The corrosive effect of the shipboard environment on natural fibers will have a debilitating effect on products made of these fibers when they are stored aboard amphibious ships.

(6) There are currently no maintenance tents available for issue in the supply system.

### 3. OPERATIONAL AND ORGANIZATIONAL CONCEPTS

a. Operational Concept. The shelters will be used by units requiring lightweight, highly portable and quickly erectable shelters.

#### b. Organizational Concept

(1) The proposed shelter system will consist of:

(a) A Command Post Shelter, with liner.

(b) A General Purpose/Maintenance Shelter, Medium, with liner.

(c) A Maintenance Shelter, Large.

(2) The Command Post Shelter will replace the current item on a one-for-one basis.

(3) The General Purpose/Maintenance Shelter, Medium will replace both the current General Purpose Tent, Medium and the Tent, Maintenance, Shelter on a one-for-one basis. The current General Purpose Tent provides 512ft<sup>2</sup> (47.58m<sup>2</sup>) of shelter and the Tent, Maintenance Shelter has 468ft<sup>2</sup> (43.49) of shelter. By using a design that accommodates the desirable features of both tents, one shelter can replace both.

(4) The Maintenance Shelter, Large will replace the current Tent, Frame Type, Medium. The replacement factor has not been determined, but because of its larger size, a 2-to-3 ratio may be a realistic replacement factor.

#### c. Training and Support Requirements

(1) No formal specialized training will be required for the user.

(2) The shelters will require no organizational maintenance other than cleaning.

(3) Intermediate maintenance activities will require the appropriate materials for repair of the shelters. No special tools or machines will be required.

(4) Training required by maintenance personnel will be minimal.

#### 4. ESSENTIAL CHARACTERISTICS

##### a. General. Each shelter will:

- (1) Be made of tear resistant fabrics impervious to rot and mildew, liners included.
- (2) Be fire resistant.
- (3) Provide blackout protection without the aid of a liner.
- (4) Be capable of withstanding snow loads of ten lbs/ft<sup>2</sup> (4.54kg/m<sup>2</sup>), as defined in AR 70-38.
- (5) Be capable of withstanding a steady windspeed of 30 mph and gusts of 45 mph.
- (6) Be constructed of materials that will not emit hazardous fumes if exposed to flame.
- (7) Be designed to easily accept electrical wiring harnesses.
- (8) Have a service life of 2 years (a service life being defined as a minimum of 30 erections/strikings per year).
- (9) Have a shelf life of ten years.
- (10) Be resistant to POL contamination.
- (11) Be capable of easy decontamination.
- (12) Be capable of accepting the current camouflage screening system.
- (13) Be of a dark brown coloring to facilitate camouflage in most terrain.
- (14) Be made of a fabric that remains pliable at -40° F (-40° C).
- (15) Have a frame made from aluminum or other lightweight material. The material will be coated/painted with approved camouflage coatings consistent the state-of-the art.
- (16) Have quick disconnects so the frame can be easily and quickly erected or struck without any special tools.
- (17) Have no center poles.

(18) Be compatible, when in the shipping configuration, with the International Organization for Standardization (ISO) container system.

(19) Have two systems for positive closure of all doors and windows.

(20) Be capable of being joined together with another shelter of like size and still maintain blackout characteristics.

(21) Have window openings that can be blacked out.

b. The Command Post shelter will:

(1) Be approximately 10ft (3.04m) wide, 20ft (6.09m) long, and 8ft (2.43m) high at the center line.

(2) Weigh less than 200 lbs (90.71kg).

(3) Be able to be erected and struck with no special tools by three men in less than five minutes.

(4) Be compatible with the current family of space heaters.

(5) Have an opening at each end to provide for easy access and egress.

(6) Have windows and screens that can be blacked out.

(7) Have screens and flaps for all door openings.

(8) Be designed to readily accept a liner.

c. General Purpose/Maintenance Shelters will:

(1) Cover approximately 600ft<sup>2</sup> (55.74m<sup>2</sup>), i.e., 20 ft (6.09m) wide, 30ft (9.14m) long, and 10ft (3.04m) high at the center line.

(2) Be able to be erected and struck by four men in less than ten minutes.

(3) Weigh no more than 400 lbs (181.43kg).

(4) Permit vehicle to enter/exit from either end.

(5) Contain no slide fasteners at the vehicles entrances.

(6) Be capable of accepting duct and space-type heaters.

(7) Be designed to readily accept a liner.

d. Maintenance Shelter, Large will:

(1) Cover approximately 900-1000ft<sup>2</sup> (83.61-92.90m<sup>2</sup>) and be at least 20 ft (6.09m) wide, 40 ft (12.19m) long and 15 ft (4.57m) high at the center line.

(2) Be able to be erected and struck by six men in less than 20 minutes.

(3) Weigh no more than 900 lbs (408.23kg)

(4) Permit an M60 Tank to enter/exit from either end.

(5) Be capable of accepting duct-type heaters.

(6) Contain no slide fasteners at the vehicle entrances.

(7) Have man openings at both ends in addition to the equipment openings.

5. OTHER WARFARE AREAS CONCERNED. The introduction of this equipment will primarily affect Mission Area-216.4 (Combat Service Support (Shelters)).

6. RELATED EFFORT. No other service has an approved requirement document in this area. Natick Research and Development Laboratories through internal funding has developed a prototype of a General Purpose System shelter, but is made with a cotton/polyester fabric and has a shelf life of only three years.

7. TECHNICAL FEASIBILITY, ENERGY-EFFECTIVENESS IMPACT, AND COST FORECAST

a. Technical Feasibility. The subject items are technically feasible.

b. Energy-Effectiveness Impact. Not applicable.

c. Cost Estimate. The following cost estimate is based on commercial sources:

<u>ITEM</u>	<u>QUANTITY</u>	<u>COST-</u>
Item Post Design Prototype	20	\$30,000
General Purpose Design Prototype	20	80,000

<u>ITEM</u>	<u>QUANTITY</u>	<u>COST-</u>
Large Maintenance Design Prototype	20	160,000
Preparation of Technical Data		
Package (TDP)		25,000
Temporary Additional Duty (TAD)		<u>5,000</u>
	TOTAL	\$300,000

d. Procurement Cost Estimate. Based upon a production quantity of 5,000 units each, the following are estimated per item procurement costs of the three shelters:

Command Post Shelter \$2,495.

General Purpose/Maintenance Shelter \$7,200.

Maintenance Shelter, Large \$12,000.

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