DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
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MCO 4790.18B
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16 Jul 04

MARINE CORPS ORDER 4790.18B

From: Commandant of the Marine Corps
To: Distribution List

Subj: CORROSION PREVENTION AND CONTROL (CPAC) PROGRAM

Ref: (a) TM 4750-15/1

1. Situation. The Marine Corps is experiencing a decrease of readiness through corrosion of tactical ground and ground support equipment. Corrosion degrades operational and structural capabilities, also affecting the safety of our Marines.

2. Cancellation. MCO 4790.18A.

3. Mission. To establish an effective CPAC program to extend the useful life of all Marine Corps tactical ground and ground support equipment, and to reduce maintenance requirements and associated costs through the identification, implementation, and if necessary, development of corrosion prevention and control products, materials, technologies and processes. The use of these technologies and processes will repair existing corrosion damage and prevent, or at least significantly retard, future corrosion damage on all Marine Corps tactical ground and ground support equipment.

4. Execution

a. Commander's Intent and Concept of Operations

(1) Commander's Intent

(a) Minimize loss of equipment, as a result of corrosion, through the concept of a comprehensive CPAC program with the focal point at the Marine Corps Systems Command (MARCORSYSCOM).

(b) Identify and assess current and projected CPAC problems across the Marine Corps through regular communication and coordination with Marine Forces (MARFOR), Depots, and Storage Activities.

(c) Assist the MARFORs, Depots and Storage Activities in addressing and solving current and future CPAC problems by establishing formalized procedures to enable a flow of information between MARCORSYSCOM and the MARFORs, Depots and Storage Activities regarding CPAC technologies and processes.

(d) Establish CPAC program requirements and formalized CPAC standards for all future equipment acquisitions.

(e) Study ongoing CPAC technology processes in government and industry (both domestic and foreign) to improve our ability to prevent and control corrosion of our systems and equipment while avoiding duplication of effort.

(f) Establish standardized CPAC procedures in formal schools and MARFORs training programs.

(g) Comply with environmental requirements in the CPAC process. Ensure consideration of life cycle environmental compliance requirements and environmental impact of potential and current technologies and processes, and the use of pollution prevention as the first choice tool for ensuring life cycle environmental compliance and minimizing impacts to human health and the environment in the CPAC program.

(2) Concept of Operations

(a) The overall program includes two primary elements:

1 Preventive Corrosion Control. Preventive corrosion control employs approved techniques, materials, and technologies. Preventing corrosion starts during the acquisition process. The acquisition community shall consider state-of-the-art technologies and processes that directly address corrosion.

2 Corrective Corrosion Control. Corrective corrosion control focuses on identifying, developing, and implementing technologies and processes that will correct current equipment deficiencies resulting from corrosion and environmental damage. Corrective corrosion control includes all Marine Corps programs designed to correct corrosion damage (such as general maintenance and Corrosion Control and Coating (C3)).

(b) Supporting initiatives for the primary CPAC elements focus on three areas:

1 Corrosion Prevention Products and Materials Program (CPPMP). This Program will approve Marine Corps corrosion prevention products, techniques, and materials for tactical ground and ground support equipment. This program will also evaluate and approve new or experimental products for use on tactical ground and ground support equipment.

2 Corrosion Control and Coating (C3) Program. The MARFORs' commanders submit equipment to the Force Service Support Group (FSSG), approved private vendors, or the depots for corrosion repairs. The C3 program is a means to handle overflow maintenance that units cannot execute due to facilities and environmental constraints. The C3 program, however, does not replace organizational maintenance.

3 Controlled Humidity Protection (CHP) Program. CHP is a field-tested, time-proven maintenance technology that is designed to eliminate moisture-induced damage and the resulting sustainment costs. Modern technology has made this concept applicable to equipment throughout its spectrum of operation and its lifecycle. By maintaining relative humidity (RH) below 50 percent adverse effects of humidity are eliminated, including rust, mildew, mold and moisture. Above 50 percent RH the rate of corrosion growth shifts from linear to exponential. A CHP system is an environment stabilization system with four major components: air dehydration units, air distribution equipment, shelter/hull and a control system. The shelter/hull component can be tailored to meet operational requirements in the most cost-effective manner. Examples of shelter/hull configurations include Light Armored Vehicles (LAV), tanks, metal and tension fabric shelters, and existing buildings. The CHP program is designed as a means to evaluate and approve CHP technologies for operational and storage applications. Dehumidified protection is the preferred method of storage. The deferral of preventive maintenance checks and services for equipment stored in CHP is authorized.

b. Subordinate Element Missions

(1) Deputy Commandant, Installations and Logistics (DC, I&L (LPC)). The DC, I&L (LPC) provides policy and advocacy on all aspects of CPAC to include corrosion prevention and the C3 program.

(2) COMMARCORSYSCOM

(a) Manage the CPAC program. Verify that CPAC is adequately incorporated in all acquisitions and fielded systems.

(b) Serve as Marine Corps point of contact when interfacing with other DoD and industry agencies on CPAC matters.

(c) Establish and chair the CPAC working group.

(d) Coordinate the annual CPAC conference.

(e) Assist units encountering CPAC problems.

(f) Establish and administer the CPPMP.

(g) Ensure CPAC technologies are included in the acquisition process.

(h) Serve as the CHP program sponsor. Provide overall program management, leadership, guidance, direction, coordination, and liaison efforts as may be required.

(i) Coordinate the reviews of CPAC related Technical Manuals (TM), (TMs in the 4795 series and the reference.

(j) Provide implementing instructions in support of this policy.

(3) Commanding General, Marine Corps Combat Development Command (CG MCCDC)

(a) Provide a representative to the CPAC working group. The representative will also serve as the MCCDC CPAC point of contact.

(b) Include CPAC technologies in all initial capabilities documentation for tactical ground equipment.

(c) Establish CPAC training and education standards for all users/operators, maintenance personnel, and managers of Marine Corps systems.

(4) Commanding General (CG), LOGCOM

(a) Provide a representative to the CPAC working group. The representative will also serve as the LOGCOM CPAC point of contact.

(b) Include CPAC technologies in all requirements documentation for tactical ground equipment.

(c) Establish and administer a CHP Program that supports long-term storage initiatives.

(5) Commanders, MARFORs

(a) Establish CPAC as a maintenance-related program.

(b) Determine and POM annually for C3 requirements based on the following corrosion categories:

1 Category 1: Item requires no corrosion repair or preservatives, and has been assessed within the past 6 months. The goal at this level is to maintain the item as a category 1.

2 Category 2: Item requires surface preparation, spot paint, and preservation at the operator and/or organizational level. The goal of this effort should to return the item to category 1.

3 Category 3: Item requires maintenance performed beyond the operator level. Spot painting has arrested the corrosion, but the item is now in a condition that requires complete repainting and overcoat. The item must be inducted to the C3 program for repair. The goal of this effort is to induct the item into the C3 program so that it will return to the unit in a category 1 condition.

4 Category 4: Item requires repair to sheet metal, major frame components, paint, blasting and undercoating (e.g., replacement or repair of components such as doors, fenders, and chassis frame rails, or battery boxes due to corrosion). The goal of this effort is to immediately induct the item into the C3 program so that it will return to the unit in a category 1 condition.

5 Category 5: The item is degraded to a degree that requires depot level repair and replacement based on the deterioration caused by corrosion.

(c) Annually submit C3 requirements to the CMC (LPC) by 1 Nov.

(d) Submit semiannual C3 execution data to the CMC (LPC) by 15 Jun and 15 Dec.

(e) Coordinate with COMMARCORSYSCOM regarding all matters relative to the CPPMP, CHP and C3.

(f) Coordinate with COMMARCORLOGCOM regarding all matters relative to the CHP for long-term storage initiatives and programs.

(g) Provide a representative to the CPAC working group.

5. Administration and Logistics

a. Distribution Statement. Directives issued by the CMC are published electronically and can be accessed online via the Marine Corps homepage at: http://www.usmc.mil.

b. Access to an online medium will suffice for directives that can be obtained from the Internet, CD-ROM, or other sources. For purposes of inspection, electronic files will suffice and need not be printed. For commands without access to the Internet, hard copy, and CD-ROM versions of Marine Corps directives can be obtained through Marine Corps Publications Distribution System (MCPDS).

c. Recommendations concerning the contents of this Order are invited. Such recommendations will be forwarded to the CMC (LP) via the appropriate chain of command.

6. Command and Signal

a. Command. This Order is applicable to the Marine Corps Total Force.

b. Signal. This Order is effective the date signed.

RICHARD L. KELLY
Deputy Commandant
Installations and Logistics

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