



DEPARTMENT OF THE NAVY
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MCO 4790.18A
LPC-2
3 Dec 02

MARINE CORPS ORDER 4790.18A

From: Commandant of the Marine Corps
To: Distribution List

Subj: CORROSION PREVENTION AND CONTROL (CPAC) PROGRAM

1. Situation. The Marine Corps is experiencing loss 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 4790.18.

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 Marine Corps Materiel Command (MARCORMATCOM).

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

(c) Assist the Marine Forces in addressing and solving current and future CPAC problems by establishing

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formalized procedures to enable a flow of information between MARCORMATCOM and the Marine Forces 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 Marine Forces 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 Marine Forces 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, the 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 (LAVs), tanks, metal and tension fabric shelters, and existing buildings. This 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 as defined in Commander, Marine Corps Materiel Command's implementing instructions.

b. Subordinate Element Missions

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

(2) COMMARCORMATCOM

(a) Responsible for the management of 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) Establish and administer the CHP Program.

(h) Ensure consideration of CPAC in the acquisition process.

(i) Serve as the C3 program sponsor. Provide overall CPAC program management, leadership, guidance, direction, coordination, and liaison efforts as may be required.

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

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

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

(b) Consider CPAC in all requirements 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) Commanders, Marine Forces

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

(b) Determine and annually submit C3 requirements to the COMMARCORMATCOM. Requirements for C3 will be based on the following categories:

1 Category 1: Paint, blast, and undercoating only.

2 Category 2: Paint, blast, and undercoating with minor bodywork (e.g., replacement or repair of components such as doors, fenders, or battery boxes due to corrosion).

3 Category 3: Includes everything listed in category 2, plus component removal required to arrest and treat corrosion.

(c) Submit quarterly C3 execution data.

(d) Coordinate with COMMARCORMATCOM regarding all matters relative to the CPPMP, C3, and CHP programs.

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

5. Administration and Logistics

a. Distribution Statement. Directives issued by 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 Commandant of the Marine Corps (LP) via the appropriate chain of command.

6. Command and Signal

a. Command. This Order is applicable to the Marine Forces Reserve.

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3 Dec 02

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

A handwritten signature in black ink, appearing to read "RLK of". The signature is stylized and cursive.

RICHARD L. KELLY
Deputy Commandant
Installations and Logistics

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