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Army Programs
Army Corrosion Prevention and Control Program Procedures

By Order of the Secretary of the Army:

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History. This publication is a new Department of the Army pamphlet.

Applicability. This pamphlet applies to the Regular Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve.

Proponent and exception authority. The proponent of this pamphlet is the Assistant Secretary of the Army for Acquisition, Logistics and Technology, in fulfilling the responsibilities under Public Law 110-417 § 903. The proponent has the authority to approve exceptions or waivers to this pamphlet that are consistent with controlling law and regulations. The proponent may delegate this approval authority, in writing, to a division chief within the proponent agency or its direct reporting unit or field operating agency, in the grade of colonel or the civilian equivalent. Activities may request a waiver to this pamphlet by providing justification that includes a full analysis of the expected benefits and must include formal review by the activity's senior legal officer. All waiver requests will be endorsed by the commander or senior leader of the requesting activity and forwarded through higher headquarters to the policy proponent. Refer to AR 25-30 for specific guidance.

Suggested improvements. Users are invited to send comments and suggested improvements on Department of the Army Form 2028 (Recommended Changes to Publications and Blank Forms) via email to usarmy.pentagon.hqda-asa-alt.list.saal-lp@mail.mil.

Distribution. This publication is available in electronic media only and is intended for the Regular Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve.

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Chapter 1

Introduction

1–1. Purpose

This pamphlet provides procedures for implementing the Army Corrosion Prevention and Control (CPC) Program set forth in AR 11–42. The Army CPC program is an Armywide program encompassing all military equipment and infrastructure owned, operated, and/or supported by the Army. Examples of military equipment include, but are not limited to weapons systems and platforms, munitions, support equipment, testing and training equipment and devices. Examples of infrastructure include, but are not limited to, real property, bridges, buildings including installed equipment, utilities systems, accountable property, and test and sustainment facilities. This pamphlet should be used in conjunction with AR 11–42. All requirements set forth in AR 11–42 remain in force, regardless of whether they are addressed in this pamphlet.

1–2. References, forms, and explanation of abbreviations

See appendix A. The abbreviations, brevity codes, and acronyms (ABCAs) used in this electronic publication are defined when you hover over them. All ABCAs are listed in the ABCA database located at <https://armypubs.army.mil/abca/>.

1–3. Associated publications

Policy associated with this pamphlet is found in AR 11–42.

1–4. Records management (recordkeeping) requirements

The records management requirement for all record numbers, associated forms, and reports required by this publication are addressed in the Records Retention Schedule–Army (RRS–A). Detailed information for all related record numbers, forms, and reports are located in Army Records Information Management System (ARIMS)/RRS–A at <https://www.arims.army.mil>. If any record numbers, forms, and reports are not current, addressed, and/or published correctly in ARIMS/RRS–A, see DA Pam 25–403 for guidance.

1–5. Authority

This pamphlet is intended for use by personnel involved in implementing all aspects of the Army CPC Program. The primary authority for the Army CPC Program is derived from Public Law 110–417 § 903 and AR 11–42. Since the Army CPC Program is an Armywide program encompassing all military equipment and infrastructure, certain aspects also fall under the authority of other policies.

Chapter 2

Procedures and Implementing Guidance for the Army Corrosion Prevention and Control Program

2–1. Procedures for Planning, Programming, Budgeting and Execution of Corrosion Prevention and Control Requirements

CPC considerations are embedded throughout many command missions and functions, even those that are not labeled with the term “corrosion.” All such considerations are covered by the normal planning, programming, budgeting and execution (PPBE) policies and procedures established by AR 1–1.

a. CPC requirements are not limited to a single Program Evaluation Group (PEG), Management Decision Package (MDEP), Army Program Element (APE) or appropriation. CPC considerations should be reflected across the equipping, installations, sustaining and training PEGs; various MDEPs and APEs; and the Military Construction, Operations and Maintenance, Procurement, and Research, Development, Test and Evaluation (RDT&E) appropriations, at minimum.

b. Army organizations should deliberately address CPC considerations as they follow the normal procedures to plan, program and budget for assigned missions, responsibilities, and functions. Army organizations should not attempt to decouple CPC requirements that are embedded with other related requirements, but they should identify where such relationships exist and seek to quantify or estimate the magnitude of the requirements that are specific to CPC. This is necessary for the Army Corrosion Control and Prevention Executive (CCPE) to perform statutory oversight duties.

c. Army organizations that submit CPC requirements should ensure that they clearly identify the product or outcome, measure of success and statutory, regulatory or other drivers. If the guidance issued by a specific PEG or MDEP does not require this information, then it should still be provided to the Army CCPE under separate cover.

d. PEG chairs and MDEP managers that receive CPC requirements should coordinate their validation and prioritization with the Army CCPE. This is necessary for the Army CCPE to perform statutory oversight duties.

e. The Army CCPE seeks to improve how all manner of CPC considerations are being addressed in the Army PPBE process. This includes coordinating with PEG chairs, MDEP managers and other resource management personnel to achieve the following:

- (1) Understand how CPC considerations are already reflected throughout the Army budget.
- (2) Ensure that CPC considerations are reflected appropriately in planning and programming guidance.
- (3) Review submitted CPC requirements to ensure that they support a measurable, auditable, and outcome-oriented Army CPC Program.
- (4) Advise on the validation and prioritization of submitted CPC requirements.
- (5) Conduct execution reviews to ensure that resources are aligned to valid CPC requirements and objectives.
- (6) Inform the development and submission of future CPC requirements.

f. Some MDEPs and APEs call for specific CPC requirements to be addressed. Only CPC requirements fitting the associated narratives or descriptions should be submitted under these MDEPs and APEs, as they are not intended to serve as a catchall for CPC requirements that belong in other MDEPs and APEs.

g. Army organizations with questions about how to identify and submit their CPC requirements should coordinate with the Army CCPE.

2–2. Procedures for Corrosion Action Memorandum Process

The Army CCPE established the Corrosion Action Memorandum (CAM) process for assigning and tracking CPC improvement initiatives. CAMs clearly articulate the recommended actions, responsible organizations, interim milestones and desired results. The process is designed to be measurable, auditable, and outcome oriented.

a. CAMs can result from various activities required by AR 11–42 and other Army policies. Examples of activities that can generate CAMs include but are not limited to the following:

- (1) Army CPC Surveys, including Equipment CPC Surveys (see AR 11–42 and AR 750–59).
- (2) CPC planning, as documented in the Systems Engineering Plan (SEP), Test and Evaluation Master Plan (TEMP) and Lifecycle Sustainment Plan (LCSP) (or equivalent acquisition planning documents that address engineering, sustainment, and testing considerations) (see AR 11–42 and AR 70–1).
- (3) Accelerated corrosion testing (see AR 11–42).
- (4) Operational sustainment reviews (OSRs) (see AR 11–42 and AR 700–127).
- (5) CPC technology demonstration and transition projects (see AR 11–42).
- (6) Executive Army Corrosion Forum (EACF) and executive steering group meetings (see AR 11–42).
- (7) Engagements and audits by the Government Accountability Office or Army Audit Agency.

b. When one of these activities results in recommended actions, the Army CCPE prepares and coordinates a draft CAM with the Army organization responsible for implementing the actions. If more than one organization has responsibility, the Army CCPE prepares and coordinates a separate CAM for each. The Army CCPE and the responsible organization both sign the CAM at the Senior Officer, Warrant Officer, Senior Enlisted Soldier or civilian equivalent (for example, GS–13, 14, or 15) to acknowledge their agreement.

c. After the CAM is signed, the responsible organization proposes its plan for completing each assigned action, to include a series of milestones and dates, using a standard template provided by the Army CCPE. In general, assigned actions should be implemented within one year of the CAM being signed.

d. The Army CCPE holds quarterly CAM in-process reviews (IPRs) where the responsible organizations provide status updates on all ongoing actions under all open CAMs. Other stakeholders including the Assistant Secretary of the Army for Installations, Energy and Environment (ASA (IE&E)), Deputy Chief of Staff (DCS) G–4, U.S. Army Corps of Engineers (USACE), Army Materiel Command (AMC), affected Lifecycle Management Commands (LCMCs), Combat Capabilities Development Command (DEVCOM),

and Engineer Research and Development Center are invited to participate as appropriate. The proposed plan and milestones are reviewed and approved at the first IPR after each CAM is signed. Subsequent IPRs continue to be held until all milestones are completed for all assigned actions, effectively closing the CAM.

e. The Army CCPE keeps a written record of all quarterly updates and the final resolution of all CAMs. Many actions assigned in CAMs produce their own written reports or other deliverables. For actions that do not, the CCPE's written record serves as the deliverable.

f. Figure 2–1 shows a graphical illustration of the CAM generation, execution, and completion process.

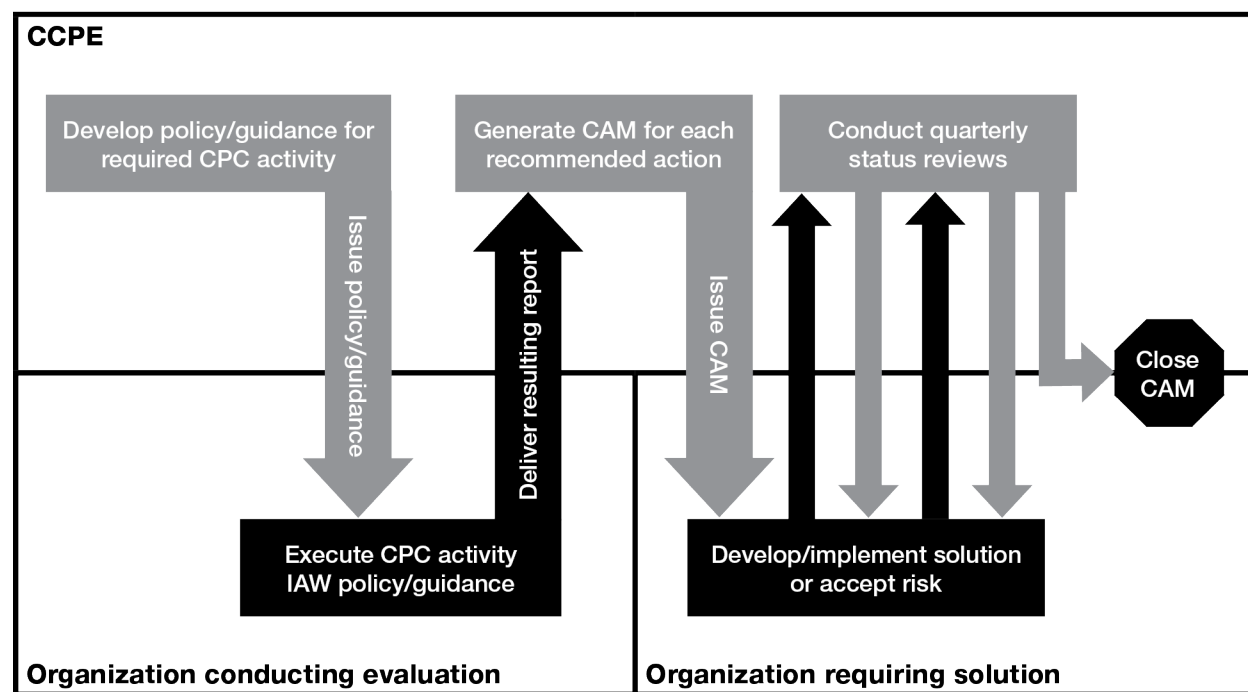


Figure 2–1. Corrosion Action Memorandum process

2–3. Procedures for Risk-based Approach to Corrosion Prevention and Control Planning

An example of a generic risk-based approach to CPC planning is provided below. It mirrors the risk matrix included in Department of the Army (DA) Pam 700–28. This example does not supersede, and can be used in conjunction with, other established risk assessment and management procedures. Program Executive Officers (PEOs), Program, Project and Product Managers (PMs) and Materiel Developers (MATDEVs) can tailor this example as their starting point for implementing a risk-based approach to identify critical components that are susceptible to corrosion.

a. The corrosion risk matrix in Figure 2–2 is used to graphically represent the contributions of CPC planning to overall program risk. The matrix provides a presentation media that is used to present other programmatic risks to the Deputy Assistant Secretary of Defense (Materiel Readiness), such as performance, cost, and schedule risks. This allows corrosion-related risk to be presented at the same level during briefs to the Milestone Decision Authority (MDA). Table 2–1 and Table 2–2 are used in tandem to provide an overall rollup of findings onto the risk matrix. Table 2–1 provides the levels and definitions of consequences (impacts) for the risk matrix, while Table 2–2 provides the likelihood (probability) decision table for the risk matrix.

b. The risk matrix should be used to evaluate the effectiveness of a program's approach to CPC planning. The baseline for comparison is the compilation of preferred CPC practices identified in AR 11–42 and its associated policies, procedures, standards, and specifications.

c. Different organizations have established different scales for rating corrosion severity. Two of these scales, for ground vehicles and aircraft, are included in the impact definitions in Table 2–1. PEOs, PMs, and MATDEVs should select and apply a corrosion rating scale appropriate to their system.

d. Corrosion impacts are a function of time. PEOs, PMs, and MATDEVs should define the timeframe appropriate to their system and critical components prior to assessing corrosion risk. Example timeframes include the full designed life of the system/component or the designed time between overhaul, recapitalization, or other major sustainment events.

e. The Army CCPE plans to develop and prove out more detailed processes and procedures for implementing a risk-based approach to CPC planning.

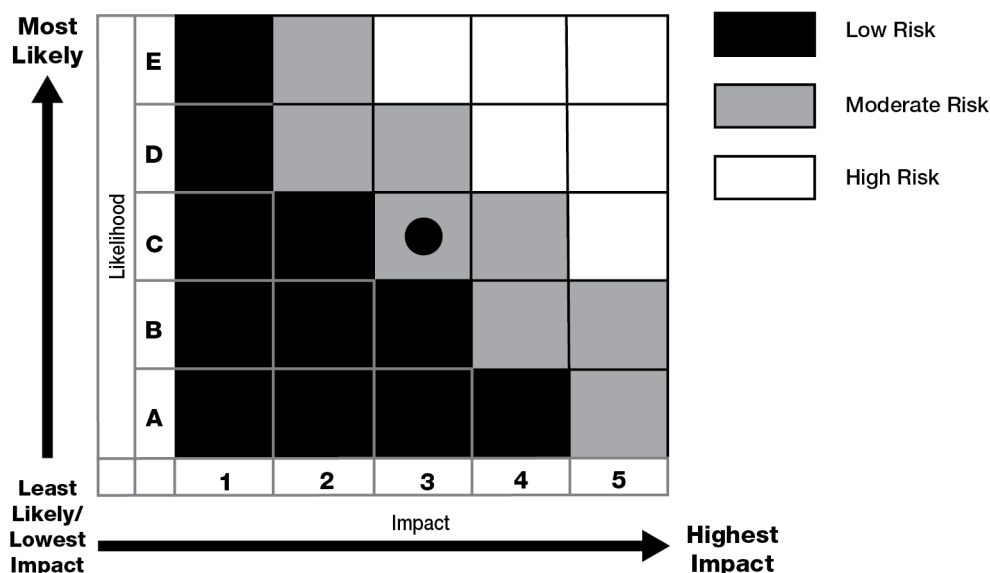


Figure 2-2. Corrosion risk matrix

Table 2-1
Corrosion impact-

Level	Life Cycle Cost	Performance
1	Negligible/no increase to life cycle cost expected	Negligible/no performance degradation; no impact to readiness; no functional failure; no corrosion past Stage 1* or Light**
2	Some increase to life cycle cost expected but not measurable with high confidence	Some performance degradation; readiness impacted through increase in unplanned repairs; corrosion expected at Stage 2* or Moderate**
3	Moderate increase to life cycle cost shown to exceed any perceived upfront cost savings	Moderate performance degradation; readiness impacted through extensive unplanned repairs and associated downtime; corrosion expected at Stage 3* or Severe**
4	Significant increase to life cycle cost shown to far exceed any perceived upfront cost savings	Significant performance degradation; functional failure to achieve one or more Additional Performance Attribute threshold requirements; corrosion expected at Stage 4* or beyond Severe**
5	Critical increase to life cycle cost, making program unaffordable	Critical performance degradation; functional failure to achieve one or more Key Performance Parameter or Key System Attribute threshold requirements

Legend:

* Stages of corrosion for ground vehicles:

Stage 0: No visible signs of corrosion or corrosive attack. No presence of white, red, or black corrosion products. No presence of paint film blistering indicating corrosive attack. Discoloration of a coating system, other than caused by corrosion, is permissible.

Stage 1: General surface corrosion is present. White, red, and/or black corrosion products are present on the surface of the component being evaluated, but no significant attack is present. Minor blistering of the coating may have also occurred.

Stage 2: Heavy corrosion products are present on the surface of the component. This is the beginning of base metal loss; however, no significant loss has yet occurred. Moderate white, red, and/or black corrosion products are present on the component surface. Severe blistering of the paint may have also occurred.

Stage 3: Corrosive attack has resulted in significant base metal loss. Reduction in the cross-section thickness of the component has occurred. Voluminous white, red, and/or black corrosion products are present on the component. The structural integrity of the component may or may not be compromised. Pinholes, which may or may not penetrate through the base metal, may have developed.

Stage 4: Perforation of the base metal has occurred. No metal remains at the point of severest corrosive attack. The component has lost structural integrity.

** Stages of corrosion for aircraft:

Light: At this degree, the protective coating is scared or etched and the condition of the metal is characterized by discoloration and pitting to a depth of approximately one mil (0.001 inch) maximum. This type of damage can normally be removed by light hand sanding.

Moderate: This appears similar to light corrosion, with the addition of blistering or evidence of scaling and flaking of the coating or paint system. The pitting depths may be as deep as 10 mils (0.010 inch). This type of damage is normally removed by extensive hand sanding or light mechanical sanding.

Severe: Its general appearance is similar to moderate corrosion, with the addition of severe intergranular, blistering, exfoliation, scaling, or flaking. The pitting depths are deeper than 10 mils (0.010 inch). This damage must be removed by extensive mechanical sanding or grinding.

Table 2–2
Corrosion likelihood-

Level	Likelihood
A	Not likely
B	Low likelihood
C	Likely
D	Highly likely
E	Near certainty

2–4. Procedures for Deviating from Preferred Corrosion Prevention and Control Practices

AR 11–42 identifies several preferred CPC practices for PMs and MATDEVs to implement and requires them to document their supporting rationale whenever the MDA approves a deviation from those preferred CPC practices.

a. Supporting rationale included in the SEP, TEMP, and LCSP (or equivalent acquisition planning documents that address engineering, sustainment, and testing considerations) should consider both technical and economic justification in assessing the costs and benefits of the decision. Where possible, justification should be based on actual data relevant to the affected equipment, such as studies, test results and objective quality evidence.

(1) Technical justification should include a comparison of the lifecycle corrosion performance of the chosen CPC practice to the preferred CPC practice. It should clearly explain why any differences in observed or expected corrosion performance are beneficial, or at least acceptable, from a lifecycle perspective. The Army Research Laboratory and DEVCOM centers can assist in generating relevant test data, evaluating the suitability of existing data and preparing technical justification narratives.

(2) Economic justification should include a comparison of the lifecycle costs and benefits of the chosen CPC practice to the preferred CPC practice. This includes not only the initial purchase or production cost but also the costs associated with supporting, sustaining, repairing, replacing, and reapplying the chosen CPC practice over the expected useful life of the affected equipment. The justification should clearly explain why any differences in cost are beneficial, or at least acceptable, from a lifecycle perspective. DEVCOM cost analysis teams can assist in evaluating lifecycle cost data, applying valid cost and decision analysis methods and preparing economic justification narratives.

b. The following elements should be included when reporting a deviation decision to the Army CCPE:

- (1) Provide a succinct summary of the decision and the date it was made.
- (2) Clearly state the facts leading to the decision, citing studies, test results or cost-benefit analyses.
- (3) Quantify the benefits to capabilities, readiness, safety, cost, or other metrics.
- (4) Describe mitigating actions that will be taken to account for any reduced corrosion performance resulting from the decision. Identify where these mitigating actions are included in planning documents, contracts, and so forth, and identify the individual or office responsible for implementing them. The Army CCPE uses the CAM process to assign and track these mitigating actions, as appropriate.

2-5. Procedures for Command Corrosion Prevention and Control Programs

Commanders, including unit commanders, are required by AR 11-42, AR 750-1 and AR 750-59 to establish and operate effective command-level CPC programs. Command CPC programs encompass all policies, practices, and procedures relevant to CPC throughout the command, including subordinate organizations and units.

a. Where feasible, the command point of contact (POC) who is responsible for the planning, execution, and oversight of all command CPC activities (as required in AR 11-42) should be the same individual who is appointed to act as the primary POC representing the command to the Army CCPE (as required in AR 11-42). Where it is infeasible for a single POC to fulfill both roles, commanders should take steps to ensure efficient and effective communication between the two appointed POCs.

b. Command CPC programs should be accompanied by written documentation describing the scope of the program and the roles, responsibilities, procedures, and resources required to implement it. Other required elements are outlined in AR 11-42, AR 750-1 and AR 750-59.

c. There is no required format for documenting command CPC programs. Each commander, or their appointed POC, should determine the most appropriate way to document their command CPC program. One sample template for documenting a unit CPC program as part of a unit standard operating procedure (SOP) was developed by the Army CCPE in coordination with the LCMCs (See Appendix B). This sample is general and applies to all personnel involved with aviation, ground vehicles, ground support equipment, computer-electronic equipment, supply systems, weapons, munitions and related equipment. It serves only as an example for tailoring, as it might not contain all elements needed to satisfy applicable responsibilities and requirements for a given unit. Organizations that have already developed their own sound processes to implement command-level and unit-level CPC programs need not modify them to comply with the sample template. The Army CCPE plans to develop and prove out further processes and procedures as necessary.

d. Command CPC programs should reflect the fact that CPC considerations are embedded throughout many command missions and functions, even those that are not labeled with the term “corrosion” or explicitly identified in the referenced Army Regulations. Command POCs should coordinate with the Army CCPE if they need help determining how to address CPC within their command’s functions. Examples of CPC-related functions spanning the entire life cycle of both equipment and infrastructure include the following:

- (1) Research and development.
- (2) Engineering and design.
- (3) Test and evaluation.
- (4) Requirement generation.
- (5) Technical data management.
- (6) Procurement and contracting.
- (7) Production and construction.
- (8) Supply.
- (9) Packaging and preservation.
- (10) Storage.
- (11) Transportation.
- (12) Maintenance.
- (13) Inspection and reporting.

e. Command CPC program documentation should explicitly address how CPC-related resource requirements are integrated into the command’s planning, programming, and budgeting process. Some commanders might decide to identify new standalone resource requirements to implement their command CPC program, while others might decide to use available resources that have already been programmed for other CPC-related command functions. Because CPC considerations span the entire lifecycle of both equipment and infrastructure, a command’s CPC-related resource requirements might belong in more than one APE, MDEP, PEG, and appropriation category. All such decisions should be documented, and the magnitude of the CPC-related resource requirements should be quantified or estimated.

f. The Army uses a measure known as environmental severity classification (ESC) to quantify local conditions affecting the corrosivity of the environment, including but not limited to temperature cycling, humidity, and proximity to saltwater. UFC 1-200-01 explains how ESC is determined and provides a table of ESC for every major DoD installation worldwide. Although UFC 1-200-01 governs only design of infrastructure and not military equipment, the discussion of ESC is equally relevant to both. Commands with

equipment and infrastructure located in zones of higher ESC should design, resource, and implement their command CPC programs to account for these more corrosive environments.

g. Command CPC programs should make maximum use of existing Army and DoD information sources to raise command personnel awareness of CPC topics. These sources are intended for a variety of target audiences, so staff should be provided with the materials most applicable to their duties. In addition to technical manuals (TMs) and technical bulletins (TBs) associated with specific pieces of equipment, the Army also publishes several general TMs and TBs containing CPC procedures that are common to entire commodity groups. These general TMs and TBs contain CPC information relevant to more than just operators and maintainers. Where existing CPC information sources are insufficient, command POCs should coordinate with the Army CCPE to identify the need for new or revised materials. Existing information sources include but are not limited to the following:

- (1) TM 1-1500-344-23 (four volumes).
- (2) TM 1-1500-345-23.
- (3) TM 43-0139.
- (4) TM 38-470.
- (5) TM 43-0242.
- (6) TB 43-0213.
- (7) UFC 1-200-01.
- (8) Various editions of PS Magazine, especially issues #712 (TB 43-PS-712) and #750 (TB 43-PS-750).
- (9) Pre-recorded, virtual and in-person instruction provided by LCMCs on various CPC topics.
- (10) Defense Acquisition University (DAU) courses, especially the following:
 - (a) CLM 038, Corrosion Prevention and Control Overview.
 - (b) CLE 070, Corrosion and Polymeric Coatings.
- (11) The CPC Source: infrastructure CPC knowledge base hosted on the Whole Building Design Guide.

2-6. Procedures for Army Corrosion Prevention and Control surveys

As established in AR 11-42, Army CPC Surveys typically have three distinct aspects: conducting effective equipment CPC surveys, conducting effective infrastructure CPC surveys, and evaluating all other aspects of command-level CPC programs for the organizations being surveyed. The Army CCPE plans to develop and prove out processes and procedures integrating all three aspects. Until then, existing procedures and guidance related to the three individual aspects can be used to implement Army CPC Surveys.

a. Requirements related to the first aspect of Army CPC Surveys, conducting effective equipment CPC surveys, have existed in AR 750-59 since the 1980s and remain largely unchanged. As a result, various procedures and guidance have already been developed and adopted to implement them. One set of sample procedures was developed by the Army CCPE and published as U.S. Army Corrosion Assessment Plan and Strategy for Equipment, Version 2.0, September 2014. This document addressed many facets of conducting an equipment CPC survey, from composing the survey team to preparing the final report. However, it is not a required format or template, and organizations leading surveys should verify that it addresses both their own needs and current policy requirements before deciding whether to use it. Organizations that have already developed their own sound processes to address AR 750-59 requirements for equipment CPC surveys need not modify them to comply with the sample procedures.

b. Requirements related to the second aspect of Army CPC Surveys, conducting effective infrastructure CPC surveys, exist in multiple Army and DoD policies. These requirements are generally not unique to corrosion but concerned with the overall condition of the infrastructure. AR 420-1 requires inspection of infrastructure including roofing, pavement, railroads, bridges, and dams, while the DoD policy memorandum Standardizing Facility Condition Assessments, 10 September 2013, mandates the use of standardized sustainment management systems (SMS) developed by USACE for assessing the condition of all infrastructure types. The Army CCPE plans to coordinate with these policy and SMS proponents to tailor their existing procedures and guidance to meet the specific objectives of Army CPC Surveys.

c. Requirements related to the third aspect of Army CPC Surveys, evaluating all other aspects of command-level CPC programs, exist primarily in AR 11-42 but are supported by other Army policies. AR 750-59 requires some elements of command-level CPC programs to be evaluated during equipment CPC surveys, while AR 750-1, in conjunction with DA Pam 750-1, requires unit-level CPC programs to be established and implemented as part of the Command Maintenance Discipline Program. The Army

CCPE plans to prepare and issue more extensive procedures and guidance for evaluating all command level CPC program requirements contained in AR 11–42 as part of Army CPC Surveys.

d. The Army CCPE uses the CAM process to assign and track all recommended actions resulting from Army CPC Surveys.

2–7. Procedures for reporting to the Army Corrosion Control and Prevention Executive

a. AR 11–42 requires Army organizations to provide various reports and deliverables to the Army CCPE. These are in addition to the tailored information request that the Army CCPE disseminates annually, per AR 11–42 via formal tasker.

b. Army organizations should submit their required reports and deliverables to the Army CCPE electronically, through email or approved file sharing software, in accordance with the timeframes established in AR 11–42. The Army CCPE does not intend to issue separate taskers for these reports and deliverables, since the suspense dates have already been published.

(1) Many of the reports and deliverables are due at the same time each year, typically September 30th. Table 2–3 summarizes these annual reporting requirements.

(2) Other reporting requirements are triggered by events that can occur at any time, such as the completion of an assessment or the publication of new implementing guidance. Table 2–4 summarizes these reporting requirements that occur on other than an annual basis.

c. The tables are provided for ease of reference only. Refer to the cited paragraphs in AR 11–42 for the unabridged requirements. In the event of any disagreement, AR 11–42 takes precedence over these tables.

Table 2–3
Summary of Annual Reporting Requirements

Organization	AR 11–42 Para	Responsible for Providing to the Army CCPE
All	3-2c	Timely, complete, and accurate responses to the annual information request
ASA (ALT)	1-9e	Report on CPC lessons learned from OSRs and plans to address corrective actions
	1-9g(2)	Report summarizing CPC requirements in the EE PEG and SS PEG
PEOs and JPEOs	1-9j(3)	<i>Via ASA(ALT)</i> : Summary of the adequacy of PM and MATDEV CPC planning against the implementing guidance specific to their commodity area
ASA (IE&E)	1-12b	Report summarizing CPC requirements in the II PEG
	1-12e(4)	Evaluation of the Army Infrastructure CPC Program
ASA (M&RA)	1-13a	Report summarizing CPC requirements in the TT PEG
Commanding General (CG), Army Futures Command (AFC)	1-25d	Report on CPC products resulting from RDT&E programs and recommendations for transitioning them
CG, AMC	1-24b	Status of facilities required to perform CPC activities
CG, LCMCs	1-24j(3)	<i>Via CG, AMC</i> : Report summarizing corrosion surveys
CG, Army Test and Evaluation Command	1-38c	Report summarizing accelerated corrosion testing capabilities and activities
PMs and MATDEVs	2-3a(6)	Report on decisions not to implement preferred CPC practices
	2-3a(11)	Report on improved CPC methods and materials, in coordination with DEVCOM
Commanders	3-3h	Report on systemic corrosion-related issues
	3-3k	Progress made in establishing local policy and meeting training goals and other key metrics
	3-3l	Capability shortfalls in corrosion-related facilities

Table 2–4 Summary of Other (non-Annual) Reporting Requirements–			
Organization	AR 11–42 Para	Timeframe	Responsible for Providing to the Army CCPE
All	1-42f, various	Within 15 business days of appointment	Name and contact information of their primary POC
PEOs and JPEOs	1-9j(2)	Within 30 business days of publication	<i>Via ASA(ALT)</i> : Initial and revised copies of implementing guidance for lifecycle CPC planning
	1-9j(5)	Prior to publication and revision	<i>Via ASA(ALT)</i> : CPC requirements included in the SEP, TEMP, and LCSP (or equivalent)
DCS, G–9	1-18b	Within 30 business days of publication	Initial and revised copies of guidance containing CPC considerations for infrastructure
CG, AFC	1-25b(2)	Within 30 business days of publication	Initial and revised copies of implementing guidance for creating CPC requirements in the process of translating capability documents, in coordination with DCS, G–8
Commands	1-42b	Within 90 business days of completion	Reports, findings, and results from completed Army CPC Surveys, when serving as the lead organization
PMs and MATDEVs	2-3a(4)	Within 30 business days of preparation	Copies of accelerated corrosion test results and reports
	2-3a(7)	Within 30 business days of completion	Report assessing the outcome of CPC planning decisions over the lifecycle and evaluating identified deficiencies

2–8. Procedures for Executive Army Corrosion Forum

The EACF is established in AR 11–42 as the senior DA forum for resolving CPC policy, requirements, concerns, and procedures. The Army CCPE chairs the EACF.

a. Issues to be worked by the EACF are generally widespread, systemic, or those requiring input from more than one member organization, such as the following:

- (1) Issues identified during equipment CPC surveys, OSRs, accelerated corrosion testing or field observation on multiple types of weapon systems or facilities.
- (2) CPC resourcing issues that are not resolved through the normal PPBE process.
- (3) Cross-cutting CPC technology shortfalls affecting multiple types of weapon systems or facilities.
- (4) Gaps in existing Army CPC policy and procedures.

b. EACF membership includes a Senior Officer, Warrant Officer, Senior Enlisted Soldier or civilian equivalent (for example, GS–13, 14, or 15) representative from the following organizations:

- (1) ASA (IE&E).
- (2) ASA (M&RA).
- (3) ASA Financial Management and Comptroller.
- (4) DCS, G–4.
- (5) DCS, G–9.
- (6) Chief of Engineers.
- (7) AFC.
- (8) AMC.
- (9) PEOs.
- (10) Other representatives as determined by the Army CCPE.

c. The following procedures apply to meetings of the EACF:

- (1) The Army CCPE identifies appropriate members to attend each EACF based on the agenda. Meeting attendance is limited to those members identified by the Army CCPE.
- (2) EACF meetings are held quarterly or as needed.
- (3) Meetings are held via teleconference or video teleconference whenever possible.
- (4) Face-to-face meetings in the Washington, DC metropolitan area are held based on availability.
- (5) Meetings average one to two hours in duration.

- (6) As chair, the Army CCPE records and coordinates the meeting minutes.
- (7) Actions items are assigned to individual action officers with suspense dates and defined end states.
- (8) Action officers are responsible for providing regular status updates to the Army CCPE until their actions are complete.
- (9) The Army CCPE uses the CAM process for assigning and tracking long-term actions, as appropriate.

2–9. Army Corrosion Prevention and Control Program metrics

a. AR 11–42, Appendix B, Internal Control Evaluation, provides a set of test questions for Army organizations to evaluate and report on their CPC programs and activities. These test questions serve as the initial metrics for the Army CPC Program. They measure whether required actions, activities, and assignments have been adequately and appropriately executed.

b. The Army CCPE plans to develop, prove out and implement new business processes and procedures associated with many of the requirements set forth in AR 11–42. These new business processes and procedures might establish new and improved metrics for the Army CPC Program. The Army CCPE will prepare and distribute further guidance on metrics as necessary.

Appendix A

References

Section I

Required Publications

Unless otherwise indicated, all Army publications are available on the Army Publishing Directorate website at <https://armypubs.army.mil>.

AR 1–1

Planning, Programming, Budgeting, and Execution (Cited in para 2–1.)

AR 11–42

Army Corrosion Prevention and Control Program (Cited in para 1–1.)

AR 25–30

Army Publishing Program (Cited in title page.)

AR 70–1

Army Acquisition Policy (Cited in para 2–2a(2).)

AR 420–1

Army Facilities Management (Cited in para 2–6b.)

AR 700–127

Integrated Product Support (Cited in para 2–2a(4).)

AR 750–1

Army Materiel Maintenance Policy (Cited in para 2–5.)

AR 750–59

Corrosion Prevention and Control for Army Materiel (Cited in para 2–2a(1).)

DA Pam 750–1

Commanders' Maintenance Handbook (Cited in para 2–6c.)

Section II

Prescribed Forms

This section contains no entries.

Appendix B

Unit CPC Program SOP Template Example

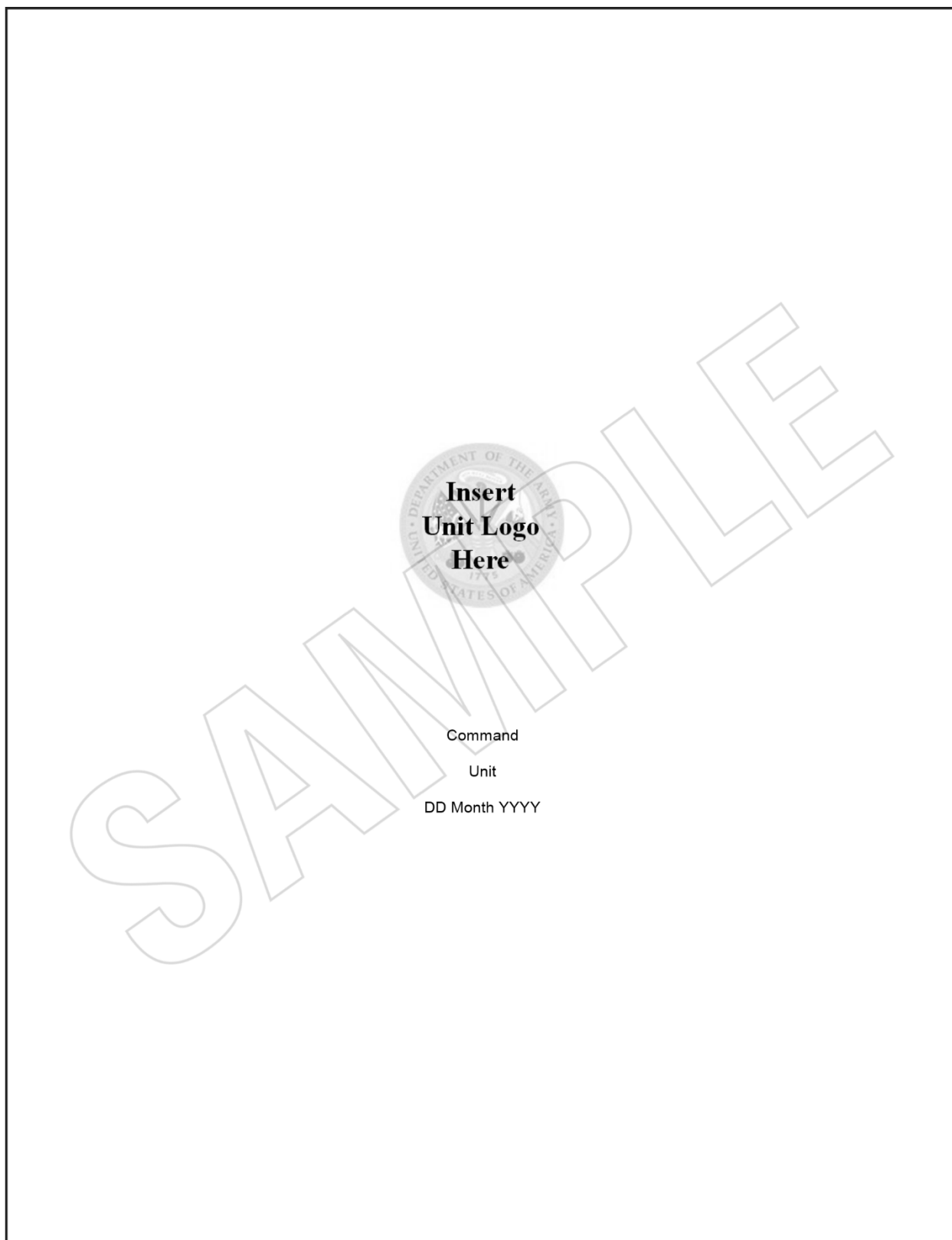


Figure B–1. Unit CPC Program SOP Template Example

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Figure B–1. Unit CPC Program SOP Template Example - continued

1. Purpose and Scope. To establish procedures regarding the Corrosion Prevention and Control (CPC) program for all assigned equipment and to meet the requirement of Command maintenance Discipline Program Unit CPC Program per DA-PAM 750-1, Table 10-1, 18. This SOP applies to all personnel involved with aircraft, aviation weapons, aviation ground support equipment (AGSE), aviation supply systems, ground vehicles, weapons and related equipment both direct and indirectly.

2. Required References. The following publications are the minimum requirements for a CPC library.

AR 11-42	Army Corrosion Prevention and Control Program
AR 750-1	Army Material Maintenance Policy
AR 750-59	Corrosion Prevention and Control for Army Materiel
AR 740-3	Stock Readiness
DA PAM 750-1	Commanders' Maintenance Handbook
TB 43-0213	Corrosion Prevention and Control (CPC) for Army Ground Equipment
TB 43-0242	WD CARC Spot Painting
TM 1-1500-204-23-(series)	General Aircraft Maintenance Manuals
TM 1-1500-328-23	Aeronautical Equipment Maintenance Management Policies and Procedures
TM 1-1500-344-23 (AVIATION) Volumes 1,2,3&4	Cleaning and Corrosion Control (Aviation)
TM 1-8145-695-24&P	Field and Sustainment Maintenance Manual Including Repair Parts and Special Tools List for Specialized Reusable Containers for Aircraft Equipment
TM 38-400	Joint Service Manual (JSM) for Storage and Materials Handling
TM 38-8145-709	Care of Supplies in Storage (COSIS) For Army Material
TM 43-0139	Chemical Agent Resistant Coating (CARC) Application and Quality Assurance on Army Ground Equipment
DA PAM 11-42	Army Corrosion Prevention and Control Program Procedures
DA PAM 710-2-1	Using Unit Supply System (Manual Procedures)
DA PAM 710-2-2	Supply Support Activity Supply System: Manual Procedures

Figure B-1. Unit CPC Program SOP Template Example – continued

3. Additional References. In addition to the above references, the following publications should be available for reference:

AMC-R 700-107	Preparation of Standard Operating Procedures (SOP) for Ammunition Operations
AR 702-7	Product Quality Deficiency Report Program
AR 702-11	Army Quality Program
ATP 3-04.7	Army Aviation Maintenance
AR 735-11-2	Reporting of Supply Discrepancies
DA PAM 385-64	Ammunition and Explosives Safety Standards
DA PAM 710-2-1	Using Unit Supply System (Manual Procedures)
DA PAM 710-2-2	Supply Support Activity Supply System: Manual Procedures
DA PAM 750-8	The Army Maintenance Management System (TAMMS) User's Manual
DA PAM 738-751	Functional User's Manual for the Army Maintenance Management System-Aviation
JMC-R 702-2	Inspection of Supplies and Equipment Ammunition Surveillance Procedures
TM 1-1500-345-23	Painting and Marking of Army Aircraft
UFC 1-200-01	Unified Facilities Criteria (UFC) DoD Building Code

4. General.

a. The process of CPC is vital to unit readiness. When this process is neglected, mission availability for equipment, facilities and infrastructure may be affected. The potential for unsafe conditions to personnel increases. The purpose of corrosion inspections is to find broken or deteriorated protective mechanisms before extensive corrosion repair is necessary. This damage includes cracked/chipped/missing coating systems, sealant deterioration, lack of corrosion prevention compounds (CPC), lack of corrosion inhibiting compounds (CIC), and water intrusion.

b. Command emphasis and active command participation is a key element of an effective Corrosion Prevention and Control program. Commanders and maintenance officers, at all levels, must ensure that all Army policy and procedures for the detection and treatment of corrosion for systems and associated equipment are followed. Commanders are required to develop unit specific CPC Programs as part of their Command Maintenance Discipline Program per DA PAM 750-1.

Figure B-1. Unit CPC Program SOP Template Example – continued

c. All discrepancies involving corrosion shall be entered on aircraft DA Form 2408-13-1 (Aircraft Inspection and Maintenance Record) or 2408-13-3 (Aircraft Technical Inspection worksheet) in accordance with DA Pamphlet 738-751. Corrosion-related deficiencies for ground and ground support equipment shall be entered on DA Form 5988-E (Equipment Maintenance and Inspection Worksheet (EGA)) or DA Form 2404 (Equipment Inspection and Maintenance Worksheet) in accordance with DA Pamphlet 750-8 and reported in GCSS-A utilizing Cause Code 170, "Corroded/Rusted," and the appropriate Object Part Code, i.e., "Code 12 = Brakes."

d. To prevent further deterioration, maintainers will take corrective action as soon as possible. When a corrosion deficiency is assigned a status symbol and corrective action is not initiated within 30 days from date of discovery, the status symbol shall be changed to non-mission capable (NMC). The system is to remain grounded and reported as NMC on readiness reports until corrective action has been taken in accordance with DA PAM 738-751.

e. System test and equipment maintenance information related to corrosion shall be documented utilizing <https://jdrs.mil> Joint Deficiency Report System (JDRS), or <https://dls.daas.dla.mil/portal> Web Supply Deficiency Report (WebSDR), and DD Form 1225 (Storage Quality Control Report) in electronic form can be used. All non-Aviation/Missile EIRs and PQDRs must be submitted through the Product Data Reporting and Evaluation Program (PDREP) website. The PDREP site is: <https://www.pdrep.csd.disa.mil/>. Aviation supply packaging discrepancies shall be documented utilizing <https://dls.daas.dla.mil/portal> Web Supply Deficiency Report (WebSDR). If internet access is not available, paperwork may be submitted using an SF 368 (Product Quality Deficiency Report) using regular mail or fax using the addresses/fax numbers specified in DA PAM 750-8, The Army Maintenance Management System (TAMMS) User's Manual.

5. Responsibilities.

a. Commanders shall:

- (1) Align with Command CPC Program and Army CPC Strategic Guidance.
- (2) Integrate CPC awareness into all levels of maintenance including depot and inter-service contracts (contractors).
- (3) Publish CPC directives to provide adequate instructions and awareness without reducing mission effectiveness.
- (4) Ensure the following:
 - (a) CPC directives address all system maintenance levels.
 - (b) The unit CPC corrosion monitor is designated and appointed on Unit orders. The monitor is an additional duty assigned to a Master Repairer-ML4, a Technical Inspector (TI), or a maintenance supervisor. Master Repairer (ML4) and Technical Inspectors (TI) shall be certified monitor in accordance with ATP 3-04.71.
 - (c) The unit corrosion monitor shall receive commodity specific certification as per AR 750-59. Ensure unit corrosion monitors receive CPC unit corrosion monitor training from an LCMC-, TRADOC-, AFC-, or

Figure B-1. Unit CPC Program SOP Template Example – continued

AMC-endorsed course. It is recommended that at least two personnel be identified to execute unit corrosion program responsibilities.

(d) Specific CPC responsibilities are delegated to appropriate staff members, maintenance supervisors, and technical inspectors.

(e) A safe environment exists for those working in the CPC program. This will include but is not limited to facilities, equipment, and supplies.

(f) The Unit SOP CPC procedures are complete and are revised when necessary and that all personnel are aware of and comply with them.

(g) A CPC training program for all maintenance levels is established to re-enforce CPC inspection, detection, and treatment skills. This training shall be documented on the unit-training calendar. Training should be appropriate to the skill level of each job identified and conducted as follows:

1. Newly assigned personnel should receive training within 90 days of initial assignment.
2. Biennial, make-up, and refresher training shall be conducted for all assigned maintenance personnel and documented on the appropriate individual training records.

(h) The effectiveness of the CPC program is continuously evaluated. All recommendations for improvement are reviewed and approved changes are promptly integrated.

(i) Schedule CPC Survey of equipment per AR 750-59 and AR 11-42 with appropriate Life Cycle Management Command (e.g., AMCOM, TACOM, CECOM, JMC). (See **Checklist for effective Unit CPC Program** for contact information)

b. Unit CPC Program Corrosion Monitors shall:

(1) Act as the Commander's direct representative to implement and coordinate the CPC program.

(2) Schedule for unit corrosion monitor training.

(3) Ensure that all unit personnel are trained appropriate to the skill level of their job.

(4) Maintain (or have access to) a current reference library of maintenance CPC literature, to include at minimum those listed in "Required References" (above) and TM 1-1500-328-23.

(5) Work with maintenance supervisors, technical inspectors, and mechanics to determine the effectiveness of the Unit's CPC program; advise the Commander of all CPC concerns, findings and emerging trends.

(6) Monitor techniques and proficiency of maintenance personnel accomplishing corrosion inspections and system washings and take prompt corrective action when needed. This will include but is not limited to; spot checks of chemicals used, proper dilution of cleaning compounds, and proper application of corrosion preventive and water displacing compounds.

(7) Maintain training and performance records (manually or automated) to include training received and demonstrated proficiency for all affected personnel. Conduct periodic record reviews and ensure that additional assistance is given as needed.

(8) Periodically observe inspections and other maintenance actions to determine the extent of the corrosion on unit system, ensuring that prompt action is taken to treat any corrosion detected.

Figure B-1. Unit CPC Program SOP Template Example – continued

(9) Document any discrepancies found and provide recommendations to correct discrepancies to the Commander and Maintenance officer.

(10) Schedule CPC Survey of equipment per AR 750-59 and AR 11-42 with appropriate Life Cycle Management Command (e.g., AMCOM, TACOM, CECOM, JMC). (See **Checklist for effective Unit CPC Program** for contact information)

c. Maintenance Officers shall:

(1) Support the Commander's CPC program.

(2) Allocate the necessary resources to conduct an effective CPC program.

(3) Work with the CPC monitor, maintenance supervisors, technical inspectors, and maintainers to determine the effectiveness of the Unit's CPC program, ensuring the Commander is advised of all CPC concerns and findings.

(4) Ensure that the system and equipment is inspected for damaged, missing paint, missing sealant or sealant deterioration, water intrusion, lack of CPCs/CICs and corrosion during pre-operations, during and after-operations inspections, scheduled and nonscheduled maintenance.

(5) Ensure that, upon completion of maintenance operations, components requiring sealant or corrosion preventative compounds are entered accordingly on the appropriate DA Form, either DA Form 5988-E for Ground Equipment or DA Form 2408-13-1 for Aviation.

(6) Ensure that CPC Survey of equipment is scheduled per AR 750-59 and AR 11-42 with appropriate Life Cycle Management Command (e.g., AMCOM, TACOM, CECOM, JMC). (See **Checklist for effective Unit CPC Program** for contact information)

d. Maintenance Crews shall:

(1) Maintain the system and equipment in accordance with the applicable Technical Manuals and this SOP.

(2) Ensure the proper CPC inspection frequency is annotated within the equipment records within GSCC-A for Ground Equipment, to include the system logbook.

(3) Inspect system, equipment, facilities or infrastructure for damaged, missing paint, missing sealant or sealant deterioration, water intrusion and corrosion during pre-operations, during and after operations inspections. Application of a CPC for temporary protection is strongly recommended at this point.

(4) On detection, annotate any potential corrosion deficiencies on the following: DA Form 5988-E or DA Form 2404 for Ground Equipment and DA Form 2408-13-1 or DA Form 2408-13-3 for Aviation.

(5) Correct any corrosion deficiencies as soon as possible (not to exceed 30 days in accordance with the applicable TM, TB 43-0213 and TB 43-0242 for ground equipment, or TM 1-1500-328-23 for aviation).

e. Maintenance Personnel shall:

(1) Comply with maintenance crew requirements (section d. above).

(2) Use only approved chemicals and compounds.

(3) Touch-up any tool marks upon completion of tasks to prevent corrosion.

Figure B-1. Unit CPC Program SOP Template Example – continued

(4) Properly preserve and package unserviceable components to prevent corrosion during storage or transit. The following guidelines apply:

(a) Treat all electrical component connections internally and externally with approved CPC in accordance with TM 1-1500-344-23-3.

(b) Treat other bare metal areas with a corrosion preventive compound in accordance with TM 1-1500-344-23-2.

(c) Install protective caps on all removed connectors for prevention and to prevent any FOD from getting inside those areas and electrostatic discharge.

(d) Components with conductive mating surfaces shall be stored with surface up to prevent damage to conductive coatings or possible shorting between two components.

(e) Do not store components in direct contact with metal or wood shelving. Isolate components using rubber matting or bubble wrap.

(f) Protect Electrostatic sensitive components with electrostatic protective wrapping, caps, and plugs.

f. Supply Section shall:

(1) Ensure that all stored parts are properly packaged and stored in a manner that will minimize their exposure to the elements (MIL-STD-2073-1 and FedLog Type of Storage TOS).

(2) If labeling and paperwork is correct, do not open repaired/new parts received in original packaging or ready for issue with no visible signs of damage merely to confirm contents of package.

(3) Reference TM 38-8145-709 for inspection intervals. All aircraft parts will be inspected to include reusable containers in accordance with AR 710-2 and TM 38-8145-709.

(4) Maintain an on-hand quantity of humidity indicator cards and desiccant bags.

(5) Inspections shall be conducted in accordance with this SOP and in conjunction with the locally produced COSIS checklist. Inspections shall be documented on a DA Form 7790 (Care of Supplies in Storage (COSIS)) and the COSIS app (TM 38-8145-709 COSIS for Army Material) and be maintained in Tech supply with the completed COSIS checklist. A copy of the completed DD Form 1225 shall be given to the Corrosion Control Monitor.

g. Quality Control shall:

(1) Ensure (in conjunction with supply personnel) components are properly preserved and packaged for turn-in. Items for turn-in will be in proper Method of Preservation (MOP) in accordance with MIL-STD-2073-1 and FedLog.

(2) Ensure JDRS/WebSDRs and PQDRs are submitted for packaging or corrosion-related discrepancies.

(3) Use the proper failure codes when reporting corrosion related discrepancies on DA Form 2410 (Component Removal/Repair/Install/Gain/Loss Record), such as: 170- Corroded, 240- Flaking, 280- Fungus/Mildew, and 520- Pitted which can be found in DA Pamphlet 738-751. Use the proper Cause Codes, Object Part Codes, and Failure Codes when reporting corrosion- related discrepancies on DA Form 5988-E and DA Form 5990-E (Maintenance Request (EGA)). Ensure corrosion-related discrepancies and codes are recorded in GCSS-A.

Figure B-1. Unit CPC Program SOP Template Example – continued

PROCEDURES



1. General. Prevention control procedures must be conducted as soon as possible per the applicable TM when system or associated equipment is exposed to any type of environmental or atmospheric condition conducive to corrosion.

2. COSIS (Care of Supplies in Storage) Inspections.

- a. Initially, when parts are received, an inspection of the shipping container shall be conducted and recorded on a DA Form 7790 in accordance with TM 38-8145-709 and conjunction with the unit's COSIS checklist.
- b. If, upon inspection, any damage to the shipping container is identified, corrective action will be initiated. The container damage will be evaluated for corrective action and, if necessary, opened for component condition. If the container is opened for any reason use steps outlined in paragraphs H through M below.
- c. If, upon inspection, the humidity indicator card does not show a blue color (for partitioned cards if the card does not show blue on any number) the container must be opened and the part inspected for corrosion damage and the desiccant replaced with clean, dry desiccant.
- d. When parts are damaged, or containers so damaged, that repair is not feasible at the facility or unit level an SDR shall be submitted.
- e. All systems parts should be stored inside as appropriate in accordance with Type of Storage (TOS) listed in FedLog Army Packaging Tab. When inside space is not available, parts shall be stored as protected as possible. All containers shall be kept in a serviceable condition to include seals on lids and external paint to prevent unnecessary damage to re-useable shipping containers and to prevent water intrusion from damaging components. Only chemical agent resistant coating (CARC) paints will be used on reusable containers.

Figure B–1. Unit CPC Program SOP Template Example – continued

- f. Components stored inside shall be stored in such a manner that maximum storage space is utilized for the amount of components in storage, and that inspection of components in storage can easily be conducted (humidity indicator cards facing the walkways, COSIS inspection stickers visible, pressure relief valves accessible.).
- g. The following inspection intervals will be adhered to for all COSIS components per AR 710-2 and TM 38-8145-709. Items located in tech supply will be inspected every month, items in the Loading shed will be inspected every 6 months, and items stored outside will be inspected every 6 months.
- h. Parts being turned in for shipment or storage will be packaged per FEDLOG FLIS requirements. Parts will be cleaned and appropriate CPCs applied prior to packaging. The appropriate quantity of desiccant will be placed in the container using the charts on page 10 of this SOP per MIL-STD-2073.
- i. For containers without a desiccant receptacle: install new dry desiccant inside the container but not on the bottom of the container. Secure or tie desiccant to container struts and hardware, not to or on component. For containers having a desiccant receptacle: replace the desiccant with a new desiccant and ensure the desiccant receptacle cover is properly installed and secured.

Quantity of Desiccant Formula
Excerpt from MIL-STD-2073 (Formula II)

$$U = KV + X_1D + X_2D + X_3D + X_4D$$

U = Number of desiccant units to use
 K = 1.2 when volume is expressed in cubic feet
 V = Volume within rigid metal container in cubic inches or cubic feet
 X₁ = 8.0 for cellulose material, incl. wood / other material noted below
 X₂ = 3.6 for synthetic or vegetable fibers bound with rubber
 X₃ = 2.0 for glass fibers (fiberglass)
 X₄ = 0.5 for synthetic foams and rubber
 D = Pounds of dunnage within the container

- j. Ensure the container is clean and dry prior to the component being placed in the container and when the container is sealed for shipment, ensure seals, humidity indicators, alignment pins and mounts are serviceable. Ensure all mounting bolts, latches and bands are free of corrosion and serviceable.
- k. Ensure the component to be shipped or stored is clean, dry, and that CPCs are applied in accordance with the applicable publication when the component is placed in the container. For bare metal surfaces, apply CPC products per TB 43-0213 (for ground equipment) or TM 1-1500-344-23 (for aviation).
- l. Install and secure the component in accordance with the procedures listed in the container installation instructions located on the container interior wall. Place all applicable paperwork inside a waterproof bag and secure it to the component. The waterproof bag should be secure enough so it will not become dislodged or loose during shipment. Place an additional copy of the condition tag outside of the container in a waterproof bag and secure it to the container so it remains visible and will withstand shipment.
- m. Attach serviceable bolts in all applicable locations of the upper and lower half of the container. Tighten all bolts securely for shipment using general maintenance practices.

Figure B-1. Unit CPC Program SOP Template Example – continued

n. If the container is open during storage for any reason repeat the steps outlined in paragraphs H through M.

o. Marking of containers shall be accomplished by any means that provides the required degree of legibility and durability. Marking may be applied by tagging, stenciling, stamping, or labeling using preprinted labels. All tags used for labeling will be placed in a water-resistant envelope.

p. Reusable containers packaged with desiccant shall bare the method 50 label stating, "PACKAGED WITH DESICCANT-DO NOT OPEN UNTIL READY FOR USE".

3. System Cleaning. Proper cleaning procedures are extremely important; therefore, cleaning procedures and materials shall be in accordance with the system specific TM, TM 1-1500-344-23 (for aviation), or TB 43-0213 (for ground equipment). All those equipment areas exposed to the environment require cleaning at a minimum of every 30 days. All other areas are subjective and shall be cleaned as needed and/or as required by the specific system TM, TM 1-1500-344-23-2, Appendix B, and this SOP. Personnel shall comply with the following:

a. Unit should insert additional cleaning procedures in this section, such as prior to aircraft weighing, return for extended field operations, etc. that indicates what additional work packets and procedures should be accomplished.

b. Use only authorized cleaning compounds and solvents as described in the appropriate system TM, TM 1-1500-344-23, Cleaning and Corrosion Control manuals. Dilution of materials will follow the recommendations in the system TM or the label on the container. Comply with dilution instructions.

c. Do not use equipment that develops more than **175-psi** nozzle pressure when not otherwise specified by the system TM, to rinse or apply cleaning compounds.

d. The use of steam to clean system is strictly prohibited.

e. The CPC program monitor will evaluate potential health hazards, and ensure the proper equipment is used and all safety precautions are observed. Personal Protective Equipment (PPE) will be worn, per SDS Section 8, to include such items as, goggles, gloves, aprons, and boots.

f. Supervisory personnel shall ensure that all personnel comply with product labels, placards and SDS warnings.

g. All personnel shall comply with post, station, or installation requirements and guidelines for the disposal of waste products such as water, soap, and solvents.

h. Generally, the system should not be washed outdoors when the air temperature is below 40 degrees Fahrenheit. This is due to the inability of most system cleaning compounds to properly emulsify at lower temperatures.

i. Water temperature is important, warmer water is usually more effective, steam will not be used. To avoid streaking, and to create a clean water break free surface wash and rinse the system from the bottom up. It may be necessary to wet the system first to cool the system surfaces before washing to prevent the soap/solvent from drying and to rinse any loose contaminants from the surface.

Figure B-1. Unit CPC Program SOP Template Example – continued

- j. Do not wash system with a solid stream of water. Use a soft spray pattern to avoid damaging fragile sections or causing water intrusion. Pressure washers will be set below 175 PSI when not otherwise specified by the system TM.
- k. Use extreme care when performing cleaning operations around radomes, access doors to integral fuel tanks, light fixtures, electrical components, antennas, etc. These areas may be easily damaged.
- l. To prevent entrapment of water, solvents, and other cleaning solutions inside system parts and structural areas, all drain holes, flap valves, etc., shall be opened before washing to ensure proper drainage. Ensure all panels, cowlings, door, and covers are installed in accordance with TM 1-1500-344-23-2, Appendix B.
- m. Inspect systems and equipment parts for water entrapment. Remove entrapped water by wet/dry vacuum or shop towels and apply appropriate CPCs to these areas.
- n. After cleaning parts with gas path cleaner, wash the affected areas with an approved surface cleaning compound. Rinse thoroughly with plenty of fresh water until all residue is removed.
- o. Re-lubricate all fittings and other lube points in areas to which cleaning compounds have been applied, such as wheel wells, flight control wells, etc. Ensure that these areas are drained and check the specific TM to determine lubrication requirements.
- p. Systems shall have corrosion preventive compounds reapplied as required after washing in accordance with the appropriate TM and / or TM 1-1500-344-23 (for aviation) and TB 43-0213 (for ground Equipment).

4. Corrosion Inspections.

- a. Frequent corrosion inspections are essential to the overall corrosion control program. Through early detection, identification, and treatment, the costs resulting from corrosion are minimized. Without regular systematic inspections, corrosion will seriously damage system equipment. All corrosion write-ups will be annotated on the following: DA Form 5988-E or DA Form 2404 for Ground Equipment and DA Form 2408-13-1 or DA Form 2408-13-3 in accordance with TM 1-1500-328-23 for Aviation. All corrosion deficiencies will be properly annotated and recorded in the appropriate database, such as GCSS-A, and trends tracked.
- b. Corrosion detection is everyone's responsibility. Since corrosion can occur almost anywhere on system equipment, all maintenance personnel must be able to identify and report corrosion problems. Personnel performing any scheduled inspection shall be qualified in corrosion detection and shall have attended appropriate corrosion courses as established by the parent service organization.
- c. When corrosion is discovered during an inspection and subsequently removed, the area must be properly treated. The metal and finish for the part or surface must be properly identified. If any temporary finish is removed, pre-treat the metal when necessary, and apply new primer and paint/coating.
- d. Ensure drain holes are unobstructed, installed as required, and functional to prevent water entrapment.
- e. Sealant, CPCs, and CICs shall be utilized per system TM, IETM and the general maintenance practices cited in TM 1-1500-344-23 series. For additional information see publication reference list at the beginning of this SOP.

Figure B-1. Unit CPC Program SOP Template Example – continued

5. Geographical Location, CPC Inspection and Wash Frequency. The frequency of system washing and CPC inspections will vary depending on the system and home station. Refer to TM 1-1500-344-23-2, Appendix B and UFC 1-200-01 to determine geographic locations and frequencies.

a. The frequency of cleaning should increase based on environmental severity classification of the operating environment. All locations to which the Army stations or deploys are classified by their environmental severity classification provided in UFC 1-200-01.

b. Corrosion inspections are to be conducted during normal scheduled weekly PMCS, pre-, during, and after dispatch and during scheduled interval services. For Units located in a highly corrosive environment, recommend dedicating a Command Maintenance day at a certain interval to conduct corrosion-specific mitigation / preservative measures, such as spot paint and CIC application.

c. The Commander or Maintenance officer shall increase the frequency of the inspection to meet the environment or trends. The frequency of cleaning should increase based on environmental severity classification of the operating environment. All locations to which the Army stations or deploys are classified by their environmental severity classification provided in UFC1-200-01.

d. Upon redeployment to home station, conduct a thorough CPC inspection to re-align the frequency with the home station environment.

e. Conduct CPC inspections per the applicable equipment TM, TB 43-0213 (for ground equipment), and TM 1-1500-344-23 series (for aviation).

f. During scheduled or unscheduled maintenance actions on aviation equipment, aviation equipment, or components, the area involved as well as those within 36 inches (18 inches on each side) of the repair or treatment area shall be visually inspected for corrosion. Additional inspections may be necessary in areas which are particularly prone to corrode, such as magnesium gear boxes, wheel and flap wells, transmissions, electrical connectors, bilge areas, etc.

6. Operational preservation. The day-to-day application of CPCs to prevent corrosion on operational system is known as operational preservation. Areas that are corrosion prone or where paint is damaged shall be protected with CPCs until a permanent repair (such as paint touchup or sealing) can be applied.

7. Cleaning Frequency. Systems shall be washed as required, with the following exceptions:

a. Wash aircraft immediately following a spill of battery electrolyte or exposure to a fire extinguisher agent.

b. Aircraft operated at 3000' ASL over salt water or stationed within 2 miles of salt water shall receive daily freshwater rinsing.

NOTE

Fresh water rinsing does not replace aircraft washing requirements.

Figure B-1. Unit CPC Program SOP Template Example – continued

c. Rinse ground support exposed to salt spray with fresh water daily. See TB 43-0243 for additional ground equipment cleaning procedures.

d. Ground support equipment shall be washed at a minimum of semi-annually. See TB 43-0243 for additional ground equipment cleaning procedures.

8. Avionics/Electrical. The reliability of complex avionics systems is critical for operations and mission accomplishment. Corrosion is a major cause of electrical failure. Corrosion on electrical equipment is similar to that found on system structures; however, significantly smaller amounts of corrosion on electrical equipment can cause intermittent or complete system malfunctions. Follow the guidance contained in the applicable TM and/ or TM 43-0213 (for ground equipment) or TM 1-1500-344-23 (for aviation).

a. Corrosion on electrical or cannon plugs exteriors is generally indicated by surface dulling or white deposits. Without intervention, corrosion will cause the plating to flake, exposing the substrate. Once the substrate is exposed, the connector must be replaced.

b. Personnel disconnecting / reconnecting electrical connectors shall treat the interior and exterior of the connector, after connection, per the guidance provided in either TB 43-0213 (Ground Equipment) or TM 1-1500-344-23 (Aviation).

c. For aviation, common bonding points that do not require frequent disassembly shall be sealed or treated with CPC in accordance with TM 1-1500-344-23 to prevent corrosion. For Ground equipment, reference the applicable equipment TM or TB 43-0213 for guidance.

9. Structural Repairs.

a. External skin patches shall be chemically pretreated, primed with approved primer before installation and have corrosion inhibiting sealant applied to faying surfaces.

b. External skin rivets shall be installed wet using a corrosion inhibiting sealant or primer.

10. Painting. Painting of equipment is primarily for protection against rust or corrosion. Other considerations are camouflage or organization identification. Most equipment is painted using polyurethane based Chemical Agent Resistant Coatings (CARC). Painting at unit level is limited to touch-up/spot painting using aerosols, brushes, or rollers with the following guidelines:

a. Remove corrosion, prepare the substrate, and apply CARC epoxy primers and polyurethane topcoats per TB 43-0242 or TM 1-1500-345-23.

b. Immediately spot paint any areas that have become bare and exposed due to deterioration or damage to provide protection and prevent further deterioration.

c. If unable to spot paint, apply a coat of corrosion preventive compound to the damaged area until repair is accomplished.

d. Complete repainting is prohibited at unit level. Request support maintenance to refurbish the paint system if more than 25 percent of the entire surface is affected per AR 750-1.

Figure B-1. Unit CPC Program SOP Template Example – continued

11. Aviation Associated Equipment.

a. Corrosion Inspections. Aviation Ground Support Equipment and Aviation Life Support Equipment shall be scheduled for CPC inspections per the applicable TM. When no TM has been developed for the item, or if a CPC inspection interval is not included, a CPC inspection is required every 180 days and must be documented on DD Form 314 (Preventive Maintenance Schedule and Record) per DA Pamphlet 750-8. More frequent inspections are encouraged in severe environments or in response to severe operational requirements.

b. Preservation and Storage. Frequently, equipment excess to immediate needs is placed in storage. GSE shall be stored in buildings, under cover and off the floor. Keep the equipment as dry as possible and accessible for inspection and servicing during the time it is in storage. Equipment not used for over 90 days shall be processed for storage. Reprocess equipment when removed from storage. (See TM 1-1500-204-23-9.)

(1) An essential first step in the preservation of AGSE is cleaning and drying. Cleaning removes corrosive deposits such as soil, chemicals, bird droppings and exhaust residue and materials such as oil and grease that will attract corrosive deposits. After cleaning, dry the item thoroughly by draining and/or blowing with compressed air. AGSE will be thoroughly cleaned and dried prior to the application of the preservation procedures in the applicable TM.

(2) Prior to preserving a piece of equipment for storage perform the next scheduled major preventative maintenance service (quarterly, semi-annual, etc.) in accordance with applicable technical manuals, lubrication orders, and technical bulletins. Equipment discrepancies will be listed on DA Form 2404 in accordance with DA Pam 750-8.

(3) Inspect surfaces for corrosion and treat in accordance with the procedure in TM 1-1500-204-23 applicable to the type of metal affected. Coat unpainted metal areas such as frames, rods, springs, and pintle assemblies with corrosion preventative compound MIL-C-16173, Grade 3. Coat light metal surfaces such as the inside of cowlings and access panels with lubricating oil MIL-PRF-21260, Type I, grade 10.

c. Equipment preserved in accordance with TM 1-1500-204-23-9 paragraph 9-7 shall have an in-storage inspection conducted at 90-day intervals. Inspect equipment in storage for:

- (1) Cracked, chipped, or damaged painted surfaces.
- (2) Effectiveness of preservatives applied.
- (3) Evidence of rust or corrosion.
- (4) Shortages of parts or accessories (other than those listed in DD Form 1577-2, if applicable.)
- (5) Tire pressures.
- (6) Fluids/Lubricant Leakage.

d. Review and update all applicable forms and records. Enter on material condition tag, in pencil, "Inspected" followed by the date and the initials of the inspector.

Figure B-1. Unit CPC Program SOP Template Example – continued

e. Equipment preserved for long term storage in accordance with TM 1-1500-204-23-9 paragraph 9-7 and inspected in accordance with paragraph 9-6e shall be de-preserved, exercised and re-preserved within 12 months of preservation date.

f. Calibration of Equipment in Storage. Ground support equipment in storage does not require periodic calibration. Enter "CBU" (Calibrate Before Use) on the DA Label 80 either at the time the equipment is placed in storage or on the date indicated on the label as the calibrated due date.

g. Re-preservation. Repair any deterioration noted during inspection and re-preserve the affected area. Annotate damage or pilferage on DA Form 2404 as appropriate and report in accordance with local procedures.

12. Ground Vehicles.

a. Ground vehicles shall be inspected per equipment specific TM's and those general practices cited in TB 43-0213.

b. All ground vehicles will be inspected at the required TM's interval, if no interval is given the vehicle will be inspected every 180 days.

c. All inspections will be documented on a DD 314.

d. All damaged or missing paint will be repaired as soon as possible, and all corrosion found will be removed using the least abrasive methods possible.

13. Weapons.

Shall be inspected per the weapon specific TM, if no inspection interval is given the weapon will be inspected every 180 days.

14. Munitions.

a. JMC Regulation 702-2, Ammunition Surveillance Procedures for U.S. Army Joint Munitions Command (JMC) Organizations contains an appendix that provides guidance for GOGO storage depot locations in the identification, removal, prevention, and reporting of corrosion on munitions materiel.

b. In accordance with DA Pam 385-64 and AMC-R 700-107, each depot will ensure they have a documented SOP for the identification, removal, prevention, and reporting of Corrosion on munitions materiel.

This SOP will include, at a minimum:

- (1) How personnel report corrosion identification.
- (2) Who determines how corrosion removal is handled.
- (3) Who is responsible for removing munitions materiel from an identified corrosive environment.
- (4) Where Corrosion removal will be accomplished.
- (5) Individuals or sections responsible to perform corrosion removal.
- (6) The Personal Protective Equipment (PPE) required for corrosion removal.
- (7) Individual or office responsible for verifying that corrosion has been removed from munitions materiel and is acceptable to be shipped or stored.

c. Each depot will ensure all staff who handle munitions are properly trained and have read their SOP for the identification, removal, prevention, and reporting of corrosion on munitions materiel, and understand

Figure B-1. Unit CPC Program SOP Template Example – continued

how to report all incidents to the necessary personnel so that it is reported to the Corrosion Incident Log (CIL).

(1) Each depot will ensure all staff who handle munitions understand that all munitions should be dry prior to loading. If containerization cannot be accomplished in dry conditions, the incident will be reported on the CIL. All containers will also be inspected to ensure they are as dry as possible and in an acceptable condition prior to munitions loading.

(2) For every OCONUS shipment, the depot will report **both** wet and dry conditions at the time of containerization utilizing the CIL.

d. Each depot will ensure they have a corrosion mitigation POC who shall be notified of all incidents regarding the identification, removal, and prevention of corrosion on munitions materiel. The POC will ensure all incidents are reported to the CIL on the HQ, JMC Quality Directorate SharePoint site at <https://jmc.aep.army.CIL/mlrc/QA/CORROSIONIL/Home.aspx>, and that the information on this site is updated for their depot NLT the end of each month.

15. Checklist for effective Unit CPC Program. Tools and resources exist to support implementation of unit CPC program for Commanders Discipline Maintenance Program Currently per DA-Pam 750-1.

Where existing CPC information sources are insufficient, command POCs should coordinate with the Army (Corrosion Control and Prevention Executive) CCPE to identify the need for new or revised materials.

a. Identify your unit CPC POC to your command CPC POC and the Army CCPE per AR 11-42.

b. Inform your command CPC POC of your Program Objective Memorandum CPC resource requirements and ensure your requirements are represented.

c. Align unit CPC Program with your command CPC Program and Army CPC Strategic Guidance.

d. Contact the AMCOM Program Office for Aviation Corrosion Prevention and Control. Center of Excellence (CPC CoE) provides a Corrosion Monitor Course that will help prepare designated Corrosion Monitors to comply with the duties and responsibilities included with this designation. Contact the CoE at DSN 897-0209, Commercial (256) 313-0209.

e. Contact the AMCOM Program Office for Aviation Corrosion Prevention provides an on-site informational briefing and hands-on demonstration covering basic corrosion identification and removal and repair techniques. The Forces Command Aviation Resource Management Survey (FORSCOM ARMS) team accepts a visit by the CoE as meeting the requirement for annual training. Contact at DSN 897-0209, Commercial (256) 313-0209.

f. Contact the TACOM Program Office for Army Tank-automotive and Armaments Corrosion Prevention. TACOM provides an on-site informational briefing and hands-on demonstration covering basic corrosion identification and removal and repair techniques. Contact TACOM CPC at usarmy.detroit.tacom.mbx.ilsc-corrosion@mail.mil.

g. TACOM Corrosion Unit Corrosion Monitor Course is available through the Army Learning Management

Figure B-1. Unit CPC Program SOP Template Example – continued

System (ALMS) @ <https://www.lms.army.mil>. In addition, TACOM has a series of Instructional Aid Videos that can be accessed via Unit Training Assistance Program (UTAP), the TACOM Corrosion Website <https://tacom.aep.army.mil/sites/ilsc/Public/CPC/SitePages/Home.aspx>, or MilTube <https://www.milsuite.mil>.

h. Contact the JMC Program Office for Joint Munitions Command Corrosion Prevention. Contact AMC, G-3 or Army CCPE to identify the Point of Contact.

i. Contact the CECOM Program Office for Communications-Electronics Corrosion Prevention. Contact AMC, G-3 or Army CCPE to identify the Point of Contact.

j. Contact the Army Corrosion Control and Prevention Executive (CCPE) for any matter related to addressing corrosion. Army CCPE provides instruction and guidance for units to prepare for audits and inspections and can prepare the unit for at least and not limited to maintenance, training, funding, general support and unit CPC Program. Contact Army CCPE at usarmy.pentagon.hqda-asa-alt.list.saal-lp@mail.mil.

k. Schedule CPC Survey of equipment per AR 750-59 and AR 11-42 with appropriate Life Cycle Management Command (e.g., AMCOM, TACOM, CECOM, JMC).

16. CPC Training requirements.

a. CPC refresher training will be conducted annually and will cover corrosion theory, CPC publications, cleaning, inspection, preservation, storage, mitigation, and reporting.

b. CPC initial training will be given to all new employees/soldiers within 90 days of reporting.

c. Make up training will be conducted within 45 days of missed scheduled training.

Figure B–1. Unit CPC Program SOP Template Example – continued

Glossary of Terms

Army Corrosion Prevention and Control Program

A planned and organized effort to limit the damage to Army equipment owing to exposure to corrosive conditions, during its operational life cycle including transportation and storage, both short-term and long-term.

Army equipment

Includes all weapon systems, weapon platforms, vehicles, and munitions of the Army, and the components of such items.

Corrosion/deterioration

The impairment, degradation, or damage of materials (metallic and nonmetallic) as a result of exposure to a natural or induced environment owing to the individual or combined effects of chemical, electrochemical, biological, or physical attacks on the material.

Corrosion/deterioration control

The effort to reduce or prevent the damage of materials from corrosion by proper and timely identification, isolation, documentation, and implementation of appropriate corrective action.

Corrosion/deterioration prevention

Those efforts to deter or resist the development of corrosion through—

- a.* The use of effectual equipment design, materials selection, finishes, and processes.
- b.* The application and maintenance of protective coating systems during the entire life cycle of the equipment or system.
- c.* The implementation of a thorough test program aimed at identifying corrosion-prone materials/designs and making suggested improvements during the acquisition cycle, to include exposure and operation in natural field/accelerated environments where corrosion is most likely to occur.
- d.* The implementation of regular corrosion inspections, to include the cleaning and the maintenance painting of systems and equipment.
- e.* The awareness of the need to avoid conditions that induce corrosion, such as preventing water retention or exposure to particulates, acids, or dissimilar metals, plus chemical compound treatments.
- f.* The prompt treatment and maintenance of corroded equipment.
- g.* The use of protective packaging and preservation techniques during the shipping and storage of equipment and component systems.

Infrastructure

All buildings, structures, airfields, port facilities, surface, and subterranean utility systems, heating and cooling systems, fuel tanks, pavements, and bridges.

Installation

An aggregation of contiguous, real property holdings commanded by a centrally-selected commander. An installation may be made of one or more sites.

SUMMARY

DA PAM 11–42

Army Corrosion Prevention and Control Program Procedures

This new publication, dated 19 January 2022—

- Establishes DA PAM 11–42 as the guide to carrying out policies in AR 11–42 (throughout).
- Sets forth procedures for Corrosion Action Memorandum Process (chapter 2).
- Creates Procedures for Risk-based Approach to Corrosion Prevention and Control Planning for Program Executive Officers, Program, Project and Product Managers and Materiel Developers (chapter 2).
- Prescribes Procedures for Command Corrosion Prevention and Control Programs (chapter 2).

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