



May 2013

# DEFENSE MANAGEMENT

## Additional Information Needed to Improve Military Departments' Strategies for Corrosion Prevention and Control

# GAO Highlights

Highlights of [GAO-13-379](#), a report to congressional committees

## Why GAO Did This Study

Corrosion costs DOD billions of dollars annually by taking critical systems out of action and creating safety hazards. Recognizing the need for coordinated corrosion prevention and control efforts and planning, House Report 112-78 directed the military departments to develop corrosion prevention strategies that support the *DOD Corrosion Prevention and Mitigation Strategic Plan*. The House Report directed GAO to evaluate the long-term strategies developed by the Corrosion Executive of each military department and to report the findings to both the Senate Armed Services Committee and the House Armed Services Committee. GAO assessed the extent to which the military departments (1) coordinated with the Corrosion Office to ensure consistency of their strategic plans with DOD's overarching goals and objectives and conformity with DOD Instruction 5000.67; and (2) included characteristics of a comprehensive strategic plan in their respective plans. GAO reviewed relevant legislation, the corrosion prevention strategic plans of DOD and the military departments, and interviewed DOD corrosion officials.

## What GAO Recommends

GAO is making two recommendations to improve future updates of the military departments' strategic plans for corrosion prevention and control. DOD did not concur with the recommendations. DOD stated that the military departments' plans linked to overarching goals and objectives and disagreed with the criteria GAO used to assess the plans. GAO continues to believe that these recommendations are valid as discussed in the report.

View [GAO-13-379](#). For more information, contact Zina Merritt at (202) 512-5257 or [merrittz@gao.gov](mailto:merrittz@gao.gov).

May 2013

## DEFENSE MANAGEMENT

### Additional Information Needed to Improve Military Departments' Strategies for Corrosion Prevention and Control

## What GAO Found

The military departments' Corrosion Control and Prevention Executives (Corrosion Executives) coordinated with the Department of Defense's (DOD) Corrosion Policy and Oversight Office (Corrosion Office) on reviews of their respective strategic plans. GAO's prior work has found that linking the goals of component organizations to departmental strategic goals is a practice that, if consistently applied, should improve the usefulness of plans to decision makers. However, the military departments varied in the extent that their strategic plans show clear linkage to the 10 goals and objectives included in the *DOD Corrosion Prevention and Mitigation Strategic Plan*. The Army's strategic plan showed clear linkage to all 10 of the goals and objectives. The Air Force's plan clearly linked to half of the goals and objectives and the Navy's plan clearly linked to 3 of the goals and objectives. GAO's review of the military departments' strategic plans found no inconsistencies with DOD Instruction 5000.67, which establishes policy, assigns responsibilities, and provides guidance for managing programs to prevent or mitigate corrosion. Without consistency or a clear linkage between the strategic plans of the military departments and the overarching goals and objectives in DOD's strategic plan, the military departments' strategies may not ensure that DOD achieves its overarching goals and objectives.

The military departments' strategic plans included or partially included the 6 key characteristics that aid in the development and implementation of a comprehensive strategic plan, but the military departments' plans do not fully include some associated elements for comprehensive strategic plans—such as performance measures. In prior work, GAO identified 6 characteristics and 31 associated elements that comprehensive strategic plans should include. The Army plan fully included 2 of the 6 characteristics related to problem definition and risk assessment—problems and threats the strategy is directed towards—and also integration of the strategy (i.e., how a strategy relates to other strategies). The Navy plan fully included 1 of the 6 characteristics related to the problem definition and risk assessment. The Air Force partially included all 6 of the characteristics. For example, the Air Force plan described some, but not all, aspects of the characteristic on organizational roles, responsibilities, and coordination—who will be implementing the strategy, what their roles will be compared to others, and mechanisms for them to coordinate their efforts. However, none of the military departments' plans included the elements on outcome-related performance measures used to gauge results or the limitations on performance measures. Of the 31 associated elements, the Army fully included 24 elements in its strategic plan; the Air Force, 8; and the Navy, 9. By relying on strategic plans that do not fully include the elements—such as performance measures—the military departments may not identify and communicate important information to corrosion stakeholders and decision makers to monitor and assess the departments' progress in preventing and mitigating corrosion.

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for Corrosion Prevention and Control

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#### Abbreviations

AT&L	Acquisition, Technology and Logistics
DOD	Department of Defense
FY	Fiscal Year
U.S.C.	United States Code

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May 16, 2013

The Honorable Carl Levin  
Chairman  
The Honorable James M. Inhofe  
Ranking Member  
Committee on Armed Services  
United States Senate

The Honorable Howard P. "Buck" McKeon  
Chairman  
The Honorable Adam Smith  
Ranking Member  
Committee on Armed Services  
House of Representatives

In 2013, the Department of Defense (DOD) reported that corrosion cost the department about \$20.8 billion annually<sup>1</sup> for military equipment and infrastructure.<sup>2</sup> Corrosion can negatively affect all military assets, including both equipment and infrastructure, and is defined as the deterioration of a material or its properties due to a reaction of that material with its environment.<sup>3</sup> Corrosion also affects military readiness by taking critical equipment and infrastructure out of action, and creates safety hazards.

Congress has taken a series of legislative actions aimed at enhancing DOD's ability to effectively address corrosion prevention and control and provide the Congress with greater transparency over the department's efforts. In 2002, Congress passed legislation that led to the creation of the

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<sup>1</sup>This estimate, which is based on data from fiscal years 2006 through 2010, is the latest estimate available on DOD's corrosion costs.

<sup>2</sup>Section 2228 of Title 10 of the United States Code defines military equipment as all weapon systems, weapon platforms, vehicles, and munitions of DOD and the components of such items. Infrastructure is defined as all buildings, structures, airfields, port facilities, surface and subterranean utility systems, heating and cooling systems, fuel tanks, pavements, and bridges.

<sup>3</sup>10 U.S.C. 2228(f)(1). The varied forms of corrosion include rusting, pitting, galvanic reaction, calcium or other mineral buildup, degradation due to ultraviolet light exposure, and mold, mildew, or other organic decay.

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Office of Corrosion Policy and Oversight (hereafter referred to as the Corrosion Office) within the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics (AT&L).<sup>4</sup> The Corrosion Office is responsible for the prevention and mitigation of corrosion of military equipment and infrastructure. In 2008, Congress directed the military departments (Army, Navy,<sup>5</sup> and Air Force) to designate a Corrosion Control and Prevention Executive (hereafter referred to as Corrosion Executive) to be the senior official in the department responsible for coordinating corrosion prevention and control activities with the Office of the Secretary of Defense and within the department.<sup>6</sup>

In House Report 112-78,<sup>7</sup> the House Armed Services Committee directed the Corrosion Executive of each military department to develop a long-term strategy by April 1, 2012, for addressing corrosion prevention and control within the military departments. The committee directed that the military departments' strategies should support the existing DOD-level strategy published by the Director of the Corrosion Office. Additionally, the committee directed that the military departments' strategies should include all areas of responsibility for the Corrosion Executive as described in section 2228 of Title 10 of the United States Code, and that each military department's Corrosion Executive should coordinate the long-term strategy with DOD's Corrosion Office to assure consistency<sup>8</sup> with overarching DOD strategies<sup>9</sup> and conformity to *DOD Instruction 5000.67, Prevention and Mitigation of Corrosion on DOD Military Equipment and*

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<sup>4</sup>Pub. L. No. 107-314, § 1067 (2002).

<sup>5</sup>The Navy's Corrosion Executive also is responsible for the Marine Corps' corrosion issues.

<sup>6</sup>Pub. L. No. 110-417, § 903 (2008).

<sup>7</sup>H.R. Rep. No. 112-78, at 104-105 (May 17, 2011).

<sup>8</sup>For the purposes of this report, we defined "consistency" to mean that the military strategy links to the goals and objectives in the DOD strategic plan.

<sup>9</sup>These overarching strategies are reflected in the *DOD Corrosion Prevention and Mitigation Strategic Plan*. For example, one of the strategies is to attack corrosion early in the acquisition or construction cycle, such as during design, manufacture, and assembly. Throughout the remainder of this document we refer to these strategies as goals and objectives.

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*Infrastructure.*<sup>10</sup> The DOD instruction establishes policy, assigns responsibilities, and provides guidance for the establishment and management of programs to prevent or mitigate corrosion of DOD's military equipment and infrastructure.

The House Report directed GAO to evaluate the long-term strategies developed by the Corrosion Executive of each military department and to report the findings to the Senate Armed Services Committee and to the House Armed Services Committee. This report addresses (1) the extent that the military departments' long-term corrosion strategies were coordinated with DOD's Corrosion Office to ensure consistency with the goals and objectives contained in the *DOD Corrosion Prevention and Mitigation Strategic Plan* and conformity with DOD Instruction 5000.67; and (2) the extent that the military departments' strategies include characteristics for a comprehensive strategic plan.

To evaluate the extent to which the Corrosion Executives of the military departments (Army, Navy, and Air Force) coordinated with DOD's Corrosion Office to ensure consistency with the goals and objectives of DOD's strategic plan and conformity with DOD Instruction 5000.67, we used a combination of methodologies. To determine the degree of coordination between the military departments and the Corrosion Office in developing their respective strategic plans, we interviewed Corrosion Office and military department officials and also reviewed documentation related to coordination. To determine the extent of consistency between the strategic plans of the military departments<sup>11</sup> and the *DOD Corrosion Prevention and Mitigation Strategic Plan*, we analyzed DOD's strategic plan and met with Corrosion Office officials to identify their goals and objectives. Based on our analysis and discussions with Corrosion Office officials, we identified and DOD officials agreed on 10 corrosion goals and

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<sup>10</sup>Department of Defense, *Department of Defense Instruction 5000.67: Prevention and Mitigation of Corrosion on DOD Military Equipment and Infrastructure* (Washington, D.C.: Feb. 1, 2010).

<sup>11</sup>Navy officials included their strategic plan as an annex to the department's annual corrosion report because of DOD's Better Buying Power Initiative, an initiative which includes the streamlining of documentation and guidance where possible. To treat all departments consistently, we decided to assess only the portion of the document specifically identified as the Navy's Strategic Plan.

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objectives that were relevant to the military departments.<sup>12</sup> We then used a scorecard methodology to assess each military strategy for consistency with the goals and objectives we identified in the *DOD Corrosion Prevention and Mitigation Strategic Plan*. To determine the extent to which the military departments' strategic plans conform to DOD Instruction 5000.67, we analyzed the military strategies to determine whether they include a reference to DOD Instruction 5000.67 as DOD's corrosion prevention and mitigation policy. We also created a set of structured questions that asked how each military department's strategy conformed to the policies and responsibilities in the DOD instruction and submitted the questions to each military department. We reviewed the responses to determine the extent to which the military departments' strategies conform to DOD Instruction 5000.67, and conducted follow-up interviews with officials to obtain clarification.

To evaluate the extent to which the military departments' corrosion prevention strategies include key characteristics and associated elements for a comprehensive strategic plan, we assessed the military strategies using the characteristics and elements of comprehensive strategies developed in previous GAO work.<sup>13</sup> We used a scorecard methodology to assess the strategic plans and assign an overall assessment for each characteristic and associated element. After assessing the plans for the presence of these characteristics and elements, we then met with representatives from each of the military departments to discuss our assessments and gather further information from them on their strategic plans, including whether these characteristics and elements were described in other departmental corrosion documents. Based on these discussions, we revised our assessments when officials provided clarification and documentation to justify a change.

We found the information that we reviewed to be sufficiently reliable for the purposes of assessing consistency of plans with overarching departmental strategies and DOD instructions. We conducted this performance audit from September 2012 to May 2013 in accordance with

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<sup>12</sup>Corrosion Office officials stated that it would be reasonable to expect the military departments to be consistent with those goals and objectives. One of DOD's goals and objectives was specific to the Corrosion Office, so we did not assess the military departments for consistency with that goal.

<sup>13</sup>GAO, *Combating Terrorism: Evaluation of Selected Characteristics in National Strategies Related to Terrorism*, [GAO-04-408T](#) (Washington, D.C.: Feb. 3, 2004).



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generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Appendix I provides more details on our scope and methodology.

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## Background

### Guidance for Corrosion Activities

DOD submitted the first version of its long-term corrosion strategy to Congress in December 2003. DOD developed this long-term strategy in response to direction in the Bob Stump National Defense Authorization Act for Fiscal Year 2003.<sup>14</sup> In June 2004, we reviewed DOD's long-term corrosion strategy.<sup>15</sup> We found that the strategy generally addressed the requirements identified in the law (e.g., policy guidance, performance measures and milestones, and an assessment of the necessary funding and personnel), but it was not a comprehensive plan that officials could use successfully to implement strategy and to manage DOD's extensive corrosion problems in the future. We recommended that DOD address certain shortcomings in funding, performance measures, and policy that we identified in its plan, and DOD concurred with our recommendations. Appendix II provides more information on our recommendations and DOD's actions to implement them. In November 2004, DOD revised its long-term corrosion strategy and issued its *DOD Corrosion Prevention and Mitigation Strategic Plan*. This plan has been updated periodically, most recently in February 2011. According to DOD corrosion officials, they strive to update the plan every two years and intend to update the strategic plan in 2013. The purpose of the *DOD Corrosion Prevention and Mitigation Strategic Plan* is to articulate policies, strategies, objectives and plans that will ensure an effective, standardized, affordable DOD-wide approach to prevent, detect and treat corrosion and its effects on military equipment and infrastructure. The plan also includes the action plans for

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<sup>14</sup>Pub. L. 107-314, § 1067.

<sup>15</sup>GAO, *Defense Management: Opportunities Exist to Improve Implementation of DOD's Long-Term Corrosion Strategy*, [GAO-04-640](#) (Washington, D.C.: June 23, 2004).

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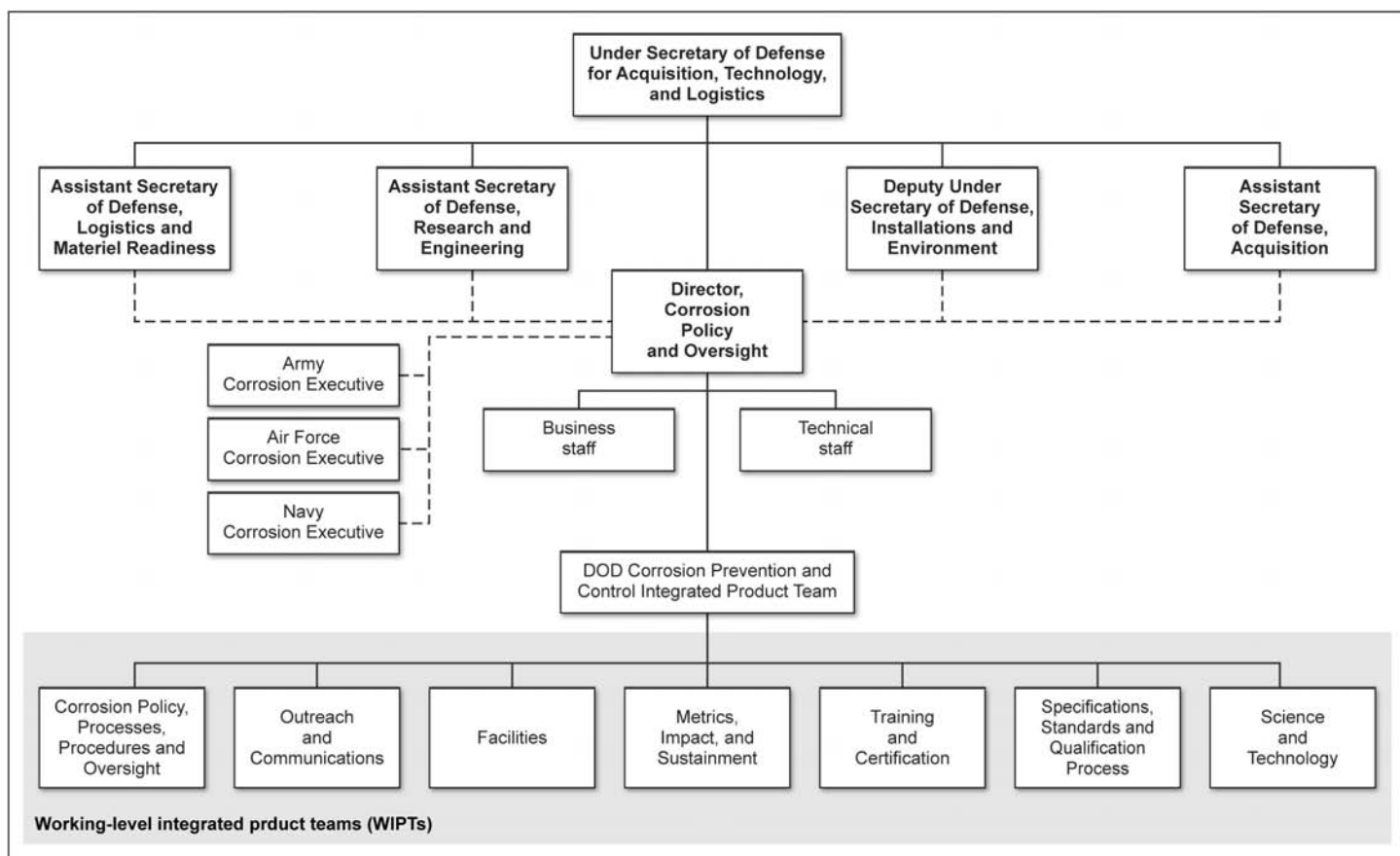
the various Working-level Integrated Product Teams.<sup>16</sup> Also, in February 2010, DOD reissued DOD Instruction 5000.67,<sup>17</sup> which provides specific guidance and responsibilities for the Corrosion Office and military departments to establish and manage corrosion-prevention programs. The responsibilities cited in the DOD instruction include, but are not limited to, those established in section 2228 of Title 10 of the United States Code. Figure 1 illustrates DOD's corrosion organization.

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<sup>16</sup>According to Corrosion Office officials, the strategies roughly link to the Working-level Integrated Product Teams. There are seven Working-level Integrated Product Teams: Corrosion Policy, Processes, Procedures and Oversight; Science and Technology; Outreach and Communications; Facilities; Training and Certification; Specifications, Standards and Qualification Process; and Metrics, Impact and Sustainment.

<sup>17</sup>DOD previously issued *DOD Instruction 5000.67, Prevention and Mitigation of Corrosion on DOD Military Equipment and Infrastructure*, in January 2008.

**Figure 1: DOD's Organization for Corrosion Prevention and Mitigation**



Source: DOD.

## Corrosion Executives' Duties

Congress prescribed the duties of the military departments' Corrosion Executives in Section 903 of the Duncan Hunter Defense Authorization Act for Fiscal Year 2009.<sup>18</sup> These duties include ensuring that corrosion prevention and control is maintained in each department's policy and guidance for management of (1) system acquisition and production, including design and maintenance; (2) research, development, test, and evaluation programs and activities; (3) equipment standardization

<sup>18</sup>Pub. L. No. 110-417 (Oct. 14, 2008) included as a note to 10 U.S.C. 2228.

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programs, including international standardization agreements; (4) logistics research and development initiatives; (5) logistics support analysis as it relates to integrated logistic support in the materiel acquisition process; and (6) military infrastructure design, construction, and maintenance. Also, the legislation states that the Corrosion Executives shall be responsible for identifying the funding necessary to accomplish their duties. Further, the legislation states that the Corrosion Executive must develop, support, and provide the rationale for resources to initiate and sustain an effective corrosion prevention and control program in the department; evaluate the program's effectiveness; and ensure that corrosion prevention and control requirements for materiel are reflected in budgeting and policies of the department for the formulation, management, and evaluation of personnel and programs for the entire department, including its reserve components. Finally, each Corrosion Executive must serve as the respective department's principal point of contact to the Director of the Corrosion Office, and submit an annual corrosion report to the Secretary of Defense.

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## Military Departments' Strategic Plans

To address direction from the House Armed Services Committee,<sup>19</sup> each military department submitted a strategic plan for corrosion prevention and control to the Corrosion Office. House Report 112-78 in May 2011 directed the military departments to coordinate with the Corrosion Office to ensure consistency of their respective strategic plans with DOD's overarching goals and objectives and conformity with DOD Instruction 5000.67. The Navy and Army submitted strategic plans that were revisions to existing corrosion prevention and control plans. In 2010, the Navy issued a strategic plan for corrosion control and prevention and included the plan in its annual corrosion report.<sup>20</sup> Navy officials revised this strategic plan and included it as an annex to their annual corrosion report for 2011. The Navy's annual report includes some specific Corrosion Executive duties and mentions section 2228 of Title 10 of the United States Code as the legislation that contains the Corrosion Executive's duties. Also, the Army first issued a strategic plan in March 2011 that the department used to guide its corrosion prevention and control efforts. Army officials revised the strategic plan and reissued it in April 2012. The Army's plan identifies all duties of the Corrosion

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<sup>19</sup>House Report 112-78, pp. 104-105.

<sup>20</sup>The Marine Corps is represented in the Navy's annual report and strategic plan.

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Executive as specified in section 2228 of Title 10 of the United States Code. Further, the Air Force issued its initial strategic plan in May of 2012, shortly after filling its vacant Corrosion Executive position. The Air Force's strategic plan includes a reference to section 2228 of Title 10 of the United States Code as the legislation that identifies the duties of the Corrosion Executive.

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## Military Departments Coordinated with the Corrosion Office on Reviews of Their Strategic Plans, but the Plans Varied in Their Consistency with DOD's Goals and Objectives

The military departments' Corrosion Executives coordinated<sup>21</sup> with DOD's Corrosion Office on reviews of their respective strategic plans; however, the military departments varied in the extent that their strategic plans show clear linkage to the 10 goals and objectives included in the *DOD Corrosion Prevention and Mitigation Strategic Plan*. Our comprehensive review found that only the Army's strategic plan linked to all of DOD's goals and objectives. The Air Force's and Navy's strategic plans linked to some, but not all, of DOD's goals and objectives. Without consistency and clear linkage between the strategic plans of the military departments and the overarching goals and objectives from DOD's strategic plan, the military departments' strategies may not ensure that DOD achieves its overarching goals and objectives. Additionally, our review of the military departments' strategic plans confirmed the Corrosion Office's determination that there were no inconsistencies with DOD Instruction 5000.67.

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## Military Departments' Corrosion Strategies Varied in Their Degree of Consistency with DOD's Goals and Objectives

We found that the military departments' strategic plans differed in their extent of consistency and linkage to DOD's overarching goals and objectives. Our prior work has found that linking the goals of component organizations to departmental strategic goals is a practice that, if consistently applied, should improve the usefulness of plans to congressional and other decision makers.<sup>22</sup> Between December 2011 and May 2012, the Corrosion Executives of the military departments submitted their plans to the Corrosion Office, and the Corrosion Office reviewed each of those plans and determined that there were no inconsistencies with DOD's overarching goals and objectives. For

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<sup>21</sup>For this report, we define "coordination" as the military departments submitting the respective military strategy to Corrosion Office officials for their review.

<sup>22</sup>GAO, *Agency Performance Plans: Examples of Practices That Can Improve Usefulness to Decisionmakers*, [GAO/GGD/AIMD-99-69](#) (Washington, D.C.: Feb. 26, 1999).

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example, one overarching goal and objective in the *DOD Corrosion Prevention and Mitigation Strategic Plan* is conducting focused corrosion prevention and mitigation training tailored to learning requirements at each management and technical level in the military department. According to Corrosion Office officials, had there been some aspect of a military department's plan that contradicted DOD's goal of providing corrosion prevention and mitigation training, that would have been unacceptable.

We found the following in our assessment of consistency between the military departments' strategic plans and the overarching goals and objectives in the DOD strategic plan:

- The Army's strategic plan is consistent with and links with all 10 of DOD's goals and objectives and cites the *DOD Corrosion Prevention and Mitigation Strategic Plan* as part of the guidance that influenced the content of the Army's plan. For example, the plan is consistent with and links with DOD's goal of corrosion research and development efforts on material and manufacturing processes because the Army's plan clearly cited the need to adapt commercial technologies to prevent or reduce the incidence and effects of corrosion.
- The Air Force's strategic plan is consistent with and links with 5 of 10 of DOD's overarching goals and objectives, and is partially consistent with 4 of 10 goals and objectives. For example, the plan is consistent with and links with DOD's goal of attacking corrosion early in the acquisition or construction cycle because the plan clearly described that its focus is to incorporate corrosion prevention, control, and mitigation in the weapon system and infrastructure life cycle. In addition, we found that the Air Force's plan is partially consistent with some of DOD's goals and objectives. For example, the Air Force's plan acknowledges a general need for training and technology, but the plan does not state the specific level at which the training should be accomplished. Lastly, the Air Force's plan did not describe DOD's goal on modernizing corrosion specifications, standards, and other requirements. Air Force officials acknowledged that the department could benefit from more military corrosion specifications.
- The Navy's strategic plan is consistent with and links with only 3 of 10 of DOD's overarching goals and objectives, and is partially consistent with 2 of 10 goals and objectives. For example, the Navy's plan is consistent with and links with DOD's goal to attack corrosion early in the acquisition cycle because the plan clearly described how the most proactive approach to mitigating corrosion is a commitment to corrosion prevention and control early in the acquisition cycle. We

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also found that the Navy's plan is partially consistent with some of DOD's goals and objectives. For example, the Navy's plan acknowledges DOD's goal of establishing communication channels on all aspects of corrosion from every organization within the military and industry communities. We found that this was partially consistent because the Navy's plan did not include goals to establish communication channels for the national and international communities. Also, the Navy's strategic plan did not contain evidence of consistency with 5 of DOD's goals and objectives. For example, the Navy's plan did not mention modernizing corrosion specifications and standards.<sup>23</sup> Also, focusing research and development efforts on coatings, treatments, and other applications to prevent corrosion was not mentioned.

Figure 2 summarizes the extent to which the military departments' long-term strategic plans for corrosion prevention and control are consistent with and link with the goals and objectives of DOD's strategic plan.

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<sup>23</sup>The Navy's Corrosion Executive stated that the Office of the Secretary of Defense has a requirement to determine specifications and standards, but the Navy does not have such a requirement. However, all military departments acknowledged that their departments work on developing or influencing corrosion specifications and standards.

**Figure 2: Extent to Which the Military Departments' Strategic Plans Are Consistent with the Goals and Objectives of DOD's Corrosion Prevention and Mitigation Strategic Plan**

Areas of consistency	Army	Air Force	Navy
<b>DOD goals and objectives</b>			
Attacking corrosion early in the acquisition or construction cycle during design, manufacture and assembly	●	●	●
Focusing life-cycle corrosion research and development efforts on materials and manufacturing processes that prevent or reduce the incidence and effects of corrosion	●	●	○
Focusing life-cycle corrosion research and development efforts on detection of the incidence, nature, and severity of corrosion in fielded systems and facilities; and prognosis of the expected growth progression, potential impact and predicted effects of mitigation actions	●	◐	○
Focusing life-cycle corrosion research and development efforts on coatings, treatments and other applications to prevent, arrest or retard corrosion	●	◐	○
Focusing life-cycle corrosion research and development efforts on repair processes that restore corroded materials to an acceptable level of structural integrity and functionality	●	●	○
Establish or convey communication channels to receive and convey all aspects of corrosion – nature, impact, approaches and results – from and to every organization within the military department and industry sectors as well as national and international communities	●	◐	◐
Modernizing corrosion specifications, standards and other requirements and developing standard, streamlined product introduction processes for suppliers of corrosion-prevention technologies and products	●	○	○
Conducting studies and surveys, collecting data and analyzing results to determine the impact of corrosion, pinpointing critical areas for concentration of prevention and mitigation efforts, and developing metrics to measure impact of corrosion and results of prevention and mitigation efforts	●	●	◐
Publishing and distributing direction and guidance that provides adequate details and instructions regarding implementation of corrosion prevention and mitigation policies and strategies and applies to all levels of leadership and management in the military department	●	●	●
Conducting focused corrosion prevention and mitigation training tailored to learning requirements at each management and technical level in the military department	●	◐	●

- Consistent
- ◐ Partially consistent
- Not consistent

Source: GAO analysis of DOD data.

Note: We considered a military department's plan to be "consistent" when the plan explicitly described all parts, "partially consistent" when the plan described some aspects, and "not consistent" when the plan did not explicitly cite any part of a DOD goal and objective in its strategic plan.

In interviews during our review, Corrosion Office officials stated that they did not provide guidance to the departments while they were developing their strategies because it is the policy of the Under Secretary of Defense for AT&L to allow the military departments the freedom to manage any issue not specifically identified as a responsibility of AT&L pursuant to section 133 of Title 10 of the United States Code. In interviews, the Corrosion Executives also stated that the military departments' strategic plans should not have to be consistent with DOD's strategic plan because



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they have not been given the opportunity to provide input to DOD's plan. However, Corrosion Office officials stated that representatives from the military departments reviewed the *DOD Corrosion Prevention and Mitigation Strategic Plan* when it was initially issued, and that the Corrosion Executives can provide input to DOD's plan at any time. Without consistency and clear linkage between the strategic plans of the military departments and the overarching goals and objectives in DOD's strategic plan, the military departments' strategies may not ensure that DOD achieves its overarching goals and objectives.

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**Military Corrosion  
Prevention Strategies  
Conform to DOD  
Instruction 5000.67**

The Corrosion Office reviewed the military departments' strategic plans and found no inconsistencies between any department's plan and *DOD Instruction 5000.67, Prevention and Mitigation of Corrosion on DOD Military Equipment and Infrastructure*. DOD Instruction 5000.67 establishes policy, assigns responsibilities, and provides guidance for managing programs to prevent or mitigate corrosion. For example, the instruction states that it is DOD policy that corrosion prevention and control programs and preservation techniques shall be implemented throughout the life cycle of all military equipment and infrastructure. It further states that it is the responsibility of the Corrosion Executives to support the Corrosion Office's Integrated Product Team process. We reviewed the military departments' strategic plans for references to the instruction as DOD's corrosion policy, and also obtained input from the Corrosion Executives regarding specific areas of conformity. We did not find any inconsistencies with DOD Instruction 5000.67. For example, we found

- The Army and the Air Force plans included a reference to DOD Instruction 5000.67 as DOD's guiding policy on corrosion. The Navy also acknowledged that DOD Instruction 5000.67 is DOD policy with which it must comply.
- All of the plans described how each military department will support the Corrosion Office's Integrated Product Team process, which is one of the responsibilities identified in the DOD instruction.
- All of the plans described actions—corrosion prevention and control programs and preservation techniques—that the military departments are taking to address corrosion throughout the life cycle of military equipment and infrastructure.

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## Military Departments’ Strategic Plans Included or Partially Included 6 Key Characteristics for Comprehensive Strategic Plans, but Do Not Include Many Elements Related to Measuring Performance

The military departments’ strategic plans fully included or partially included the 6 key characteristics that aid in the development and implementation of a comprehensive strategic plan, but the departments’ plans do not include many of the associated elements for comprehensive strategic plans—specifically, elements relating to performance measures. Based on our previous work, we have identified 6 key characteristics that comprehensive strategic plans should address, including 31 elements within those characteristics.<sup>24</sup> The 6 key characteristics are: (1) purpose, scope, and methodology; (2) problem definition and risk assessment; (3) goals, subordinate objectives, activities, and performance measures; (4) resources, investments, and risk management; (5) organizational roles, responsibilities, and coordination; and (6) integration. These characteristics and elements are intended to aid responsible parties in further developing and implementing the strategies—and to enhance their usefulness in resource and policy decisions and to better assure accountability.<sup>25</sup>

We assessed the extent to which the military departments’ strategic plans included, partially included, or did not include the 6 key characteristics. Our assessment of the departments’ plans found that:

- The Army fully included 2 and partially included 4 key characteristics. For example, the Army plan described the characteristic regarding problem definition and risk assessment, as well as the characteristic of integration. However, the Army plan described only some aspects of 4 key characteristics. For instance, regarding the purpose, scope, and methodology characteristic—why the strategy was produced, the scope of its coverage, and the process by which it was developed—the Army plan described only partially what organizations or offices drafted the strategy or were consulted in its development. Also, the Army plan described only partially the characteristic related to organizational roles, responsibilities, and coordination—who will implement the strategy, what their roles will be compared to others, and the mechanisms for them to coordinate their efforts. For example, the Army plan describes how it will coordinate within the department,

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<sup>24</sup>[GAO-04-408T](#).

<sup>25</sup>GAO uses these characteristics and elements to assess government strategic plans, but we also acknowledge that the plans do not have to provide all the details on every characteristic and associated element.

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but describes only partially how it will coordinate with other departments.

- The Air Force partially included all 6 key characteristics. For example, the Air Force partially included the characteristic on goals, subordinate objectives, activities, and performance measures. Specifically, the plan included activities to achieve results, but did not include performance measures to gauge results. Also, we found that the Air Force plan described some, but not all, aspects of organizational roles, responsibilities, and coordination. For example, we found that the Air Force plan identifies the lead, support, and partner roles for corrosion prevention, but it does not identify the responsibilities of each department or office that it cited.
- The Navy fully included 1 and partially included 5 key characteristics. For example, the Navy plan described the problem definition and risk assessment characteristic by specifically citing the problems the strategy is intended to address, the causes of the problems, and the operating environment which are elements of this characteristic. We also found that the Navy partially included the characteristic on goals, subordinate objectives, activities, and performance measures. For example, the plan included specific activities to achieve results, but did not include performance measures to gauge results. Also, the Navy plan described only partially the key characteristic regarding integration—how a strategy relates to other strategies’ goals, objectives and activities—because the plan described only some aspects of how the corrosion strategy related to DOD’s overarching strategies, goals and objectives.

Additionally, using our scorecard methodology,<sup>26</sup> we determined the extent to which the military departments included the 31 associated elements and found that:

- The Army’s corrosion plan included 24 of the 31 elements, partially included another 5 elements, and did not include 2 elements.
- The Air Force’s corrosion plan included 8 of the 31 elements, partially included 17 elements, and did not include 6 elements.
- The Navy’s corrosion plan included 9 of 31 elements, partially included 12 elements, and did not include 10 elements.

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<sup>26</sup>Appendix I provides more information on our scope and methodology.

Figure 3 summarizes the extent to which the military departments' strategic plans for corrosion prevention and control include the 6 key characteristics and the 31 associated elements for strategic plans.

**Figure 3: The Extent to Which Key Characteristics and Elements Are Included in the Military Departments' Strategic Plans for Corrosion Prevention and Control**

Key characteristics and elements	Army	Air Force	Navy
<b>Purpose, scope, and methodology:</b> <i>Why the strategy was produced, the scope of its coverage, and the process by which it was developed.</i>	●	●	●
1. The impetus that led to the strategy being written, such as a statutory requirement, mandate, or key event.	●	●	●
2. The strategy's purpose	●	●	●
3. Key terms, major functions, mission areas, or activities the strategy covers	●	●	●
4. The process that produced the strategy, (e.g., what organizations or offices drafted the document, whether it was the result of a working group, or which parties were consulted in its development)	●	●	○
<b>Problem definition and risk assessment:</b> <i>The particular problems and threats the strategy is directed towards.</i>	●	●	●
5. The problems the strategy intends to address	●	●	●
6. The causes of the problems	●	●	●
7. The operating environment	●	●	●
8. The threats the strategy is directed towards	●	●	●
9. The quality of data available, e.g., constraints, deficiencies, and "unknowns"	●	●	●
<b>Goals, subordinate objectives, activities, and performance measures:</b> <i>What the strategy is trying to achieve, steps to achieve those results, as well as the priorities, milestones, and performance measures to gauge results.</i>	●	●	●
10. The overall results desired, i.e. an end state	●	●	●
11. Strategic goals and subordinate objectives	●	●	●
12. Specific activities to achieve results	●	●	●
13. Priorities	●	●	●
14. Milestones	●	○	○
15. Output-related performance measures	●	○	○
16. Outcome-related performance measures	○	○	○
17. The process to monitor and report on progress	●	●	○
18. The limitations on performance measures	○	○	○

● Included  
 ● Partially included  
 ○ Not included

**Figure 3 (cont.): The Extent to Which Key Characteristics and Elements Are Included in the Military Departments' Strategic Plans for Corrosion Prevention and Control**

Key characteristics and elements	Army	Air Force	Navy
<b>Resources, investments, and risk management:</b> <i>What the strategy will cost, the sources and types of resources and investments needed, and where resources and investments should be targeted by balancing risk reductions and costs.</i>	●	●	●
19. The cost of the strategy	●	●	○
20. The sources (e.g., federal, international, and private) of resources or investments needed	●	●	●
21. The types of sources or investments needed (e.g. budgetary, human capital, information technology, research and development, contracts)	●	●	●
22. Where resources or investments should be targeted to balance risks and costs	●	●	●
23. Resource allocation mechanisms	●	●	●
24. How risk management will aid implementing parties in prioritizing and allocating resources	●	○	○
<b>Organizational roles, responsibilities, and coordination:</b> <i>Who will be implementing the strategy, what their roles will be compared to others, and mechanisms for them to coordinate their efforts.</i>	●	●	●
25. Who will be implementing the strategy	●	●	●
26. Lead, support, and partner roles and responsibilities of specific federal agencies, departments, or offices	●	●	●
27. Which organizations will provide the overall framework for oversight and accountability	●	●	●
28. How they will coordinate within their department	●	●	○
29. How they will coordinate with other departments	●	●	●
30. The process for how conflicts will be resolved	●	○	○
<b>Integration:</b> <i>How a strategy relates to other strategies' goals, objectives and activities – and to subordinate levels of government and their plans to implement the strategy.</i>	●	●	●
31. Addresses how the corrosion strategy relates to the department's overarching strategies, goals and objectives	●	●	●

- Included
- Partially included
- Not included

Source: GAO analysis of DOD data.

Notes: We determined that a military department's strategy "included" the key characteristic or element if the plan described all the characteristics and elements. We assessed a characteristic or element as "partially included" if the plan described some aspects of the characteristic or element. If a plan did not explicitly describe any aspect of the characteristic or element, we determined that the characteristic or element was "not included" in the military department's strategy.

In assessing the integration characteristic, we used our results from assessing the consistency, if any, between a military department's strategic plan and DOD's overarching goals and objectives (See fig. 2).

All military departments' strategic plans included the elements on key terms, major functions, mission areas, or activities that the strategies cover, the purpose, the threats the strategy is directed toward, the problems the strategy is intended to address, and the causes of these problems. Further, each department's plan partially included 3 additional

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elements. For example, each plan partially included the element describing how the department will coordinate with other departments.

However, no departmental plan included the 2 elements describing outcome-related performance measures<sup>27</sup> and their limitations. Based on our prior work, outcome-related measures are an assessment of the results of a program activity compared to its intended purpose. Also, performance measurement is the ongoing monitoring and reporting of program accomplishments—in particular progress toward preestablished goals. Further, another element is output-related measures, which are the direct products and services delivered by a program. These measures include tabulations, calculations, or recording of activities or efforts, and can be expressed in a quantitative or qualitative manner. The Army's plan included output-related performance measures. Specifically, the Army's plan included an output-related performance measure to review and update the corrosion prevention aspects of at least 10 percent of its publications each year. Also, the Army's plan identified several other performance metrics, but some of these metrics are not expressed in measurable form. For example, one metric that the Army's plan identified is to develop a standard process for conducting corrosion surveys and executing pilot surveys for both equipment and infrastructure. The Air Force and Navy plans did not include output-related performance measures.

In interviews, the Air Force's Corrosion Executive stated that the department did not have an appointed Corrosion Executive for over a year, so the department did not have leadership in place to develop a long-term strategic plan that contained all of the elements. The Navy's Corrosion Executive stated that the Navy did not include many of the elements in its strategic plan because those elements are contained in other departmental documentation, such as the Navy's annual corrosion report. In reviewing the Navy's annual report and other documentation, we found that some of the elements were present, such as how the Navy will coordinate corrosion issues within the department; however, some elements were not present, such as performance measures.<sup>28</sup> An Army

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<sup>27</sup>GAO, *Performance Measurement and Evaluation: Definitions and Relationships*, [GAO-11-646SP](#) (Washington, D.C.: May 2011). Performance measures may address outputs or outcomes.

<sup>28</sup>To treat all military departments consistently, we decided to assess only what the Navy identified specifically as its strategic plan.

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official representing the Corrosion Executive stated that the Army's plan did not include outcome-related performance measures because of difficulty in developing them. By relying on strategic plans without performance measures, resource allocations, and other elements for effective strategic plans, the military departments may not identify and communicate important information to corrosion stakeholders and decision makers to monitor and assess the departments' progress in preventing and mitigating corrosion.

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## Conclusions

For about a decade, Congress has required additional oversight and transparency for DOD's spending of billions of dollars a year on corrosion prevention and control activities. For example, in House Report 112-78, the House Armed Services Committee directed the Corrosion Executive of each military department to develop a long-term strategy for addressing corrosion prevention and control and to align each strategy with the goals and objectives of the *DOD Corrosion Prevention and Mitigation Strategic Plan*. Our review found that the military departments varied in the extent that their respective strategic plans clearly linked with the goals and objectives of the *DOD Corrosion Prevention and Mitigation Strategic Plan*. Prior GAO work has found that aligning departmental goals with agency-wide goals and objectives is a key practice that could improve the usefulness of plans to DOD in its efforts to effectively prevent and mitigate corrosion. Without consistency and clear linkage between the strategic plans of the military departments and the overarching goals and objectives in the *DOD Corrosion Prevention and Mitigation Strategic Plan*, the military departments' strategies may not succeed in helping DOD achieve its overarching goals and objectives.

In addition, the military departments' strategic plans for corrosion prevention and control included some of the 6 key characteristics and 31 associated elements of a comprehensive strategic plan, but were missing some aspects of some key characteristics and elements. For example, none of the plans contain outcome-related performance measures or limitations of performance measures, which our prior work has shown are elements to aid responsible parties to fully develop and implement their strategies. Prior GAO work has found that these measures can provide decision makers with insights on the accomplishments of the military departments' corrosion programs. By executing strategic plans without elements such as performance measures, the military departments may not be able to determine the success or gauge the progress of their activities to prevent and to mitigate corrosion.

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## Recommendations for Executive Action

To ensure that the military departments' future strategic plans to address corrosion demonstrate consistency and a clear linkage to DOD's corrosion goals and objectives, we recommend that the Secretary of Defense direct the Secretaries of the Air Force and Navy to direct the Corrosion Executives to include in their next update of their strategic plans clear linkage to DOD's overarching goals and objectives as described in DOD's strategic plan.

To ensure that the military departments' strategic plans to address corrosion include key characteristics of a comprehensive strategic plan, we recommend that the Secretaries of the Army, Air Force, and Navy direct the Corrosion Executives to develop and include all six key characteristics of a comprehensive strategic plan, including but not limited to elements relating to performance measures.

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## Agency Comments and Our Evaluation

We provided a copy of a draft of this report to DOD for comment. In its written comments, which are reprinted in appendix III, DOD did not agree with our two recommendations.

DOD did not concur with our recommendation that the Air Force and Navy Corrosion Executives include in their next update of their strategic plans clear linkage to DOD's overarching goals and objectives as described in DOD's strategic plan. DOD responded that the Director, Corrosion Policy and Oversight reviewed the military departments' corrosion strategic plans and determined their strategies were sufficiently linked to specific performance goals and consistent with DOD's overarching goals and objectives. During our review, Corrosion Office officials told us that they reviewed the military departments' plans only for consistency with the DOD strategic plan. For example, Corrosion Office officials stated that one overarching goal and objective in the DOD strategic plan is related to training and had there been some aspect of a military department's plan that was antitraining that would have been unacceptable. However, we found that the Corrosion Office's review did not ensure the military departments' plans linked with all of DOD's overarching goals and objectives. Specifically, we found that the military departments' strategies differed in their extent of consistency and linkage to the 10 overarching goals and objectives in DOD's strategic plan. Our assessment found the Air Force's plan was consistent with and linked with 5 of 10 of DOD's overarching goals and objectives, and was partially consistent with 4 of 10 goals and objectives. We also found the Navy's plan was consistent with and linked with only 3 of 10 of DOD's overarching goals and objectives, and was partially consistent with 2 of



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10 goals and objectives. We maintain that linking the goals of component organizations to departmental strategic goals is a practice that should improve the usefulness of plans to Congress and other decision makers, if consistently applied.<sup>29</sup>

DOD did not concur with our recommendation that the military departments develop and include all six key characteristics of a comprehensive strategic plan, including, but not limited to, elements relating to performance measures. DOD stated that the key characteristics and associated elements of a comprehensive strategic plan that we reference in this report were developed by GAO after our review of several national strategies and not applicable to the military departments' corrosion strategic plans.<sup>30</sup> DOD stated that the military departments' corrosion strategic plans are agency-specific strategic plans that should be tailored to departmental requirements and not necessarily include the six key characteristics. However, these key characteristics and elements were used by GAO to assess and make recommendations for improvement to an early version of DOD's long-term corrosion strategic plan. Specifically, in 2003, we recommended that DOD's long-term corrosion strategic plan include clearly defined goals, measurable outcome-oriented objectives, and performance measures.<sup>31</sup> DOD concurred with this recommendation and in its 2005 update to the DOD corrosion strategic plan, DOD included a revised list of metrics for cost, readiness and safety and the associated outcomes that would result from the implementation of these metrics. We maintain that the key characteristics and associated elements, such as performance measures, are applicable to strategies at all levels, including the military departments because the elements help monitor progress toward preestablished goals and are designed to aid responsible parties in further developing and implementing the strategies—and to enhance their usefulness in resource and policy decisions and to better assure accountability.

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We are sending copies of this report to the appropriate congressional committees; the Secretary of Defense; the Under Secretary of Defense

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<sup>29</sup>[GAO/GGD/AIMD-99-69](#).

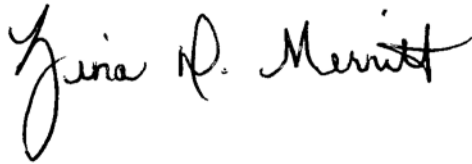
<sup>30</sup>[GAO-04-408T](#).

<sup>31</sup>GAO, *Defense Management: Opportunities to Reduce Corrosion Costs and Increase Readiness*, [GAO-03-753](#) (Washington D.C.: July 7, 2003).

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(Acquisition, Technology and Logistics); the Secretaries of the Army, Navy, and Air Force and the Commandant of the Marine Corps; and other interested parties. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-5257 or [merrittz@gao.gov](mailto:merrittz@gao.gov). Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix IV.

A handwritten signature in black ink, reading "Zina D. Merritt". The signature is fluid and cursive, with the first name "Zina" being the most prominent.

Zina D. Merritt  
Director  
Defense Capabilities and Management

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# Appendix I: Scope and Methodology

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To evaluate the extent to which the Corrosion Executives of the military departments (Army, Navy, and Air Force) coordinated with DOD's Corrosion Office to ensure consistency with the goals and objectives of DOD's strategic plan and conformity with DOD Instruction 5000.67, we used a combination of methodologies. To determine the degree of coordination between the military departments and the Corrosion Office in developing their respective strategic plans, we interviewed Corrosion Office and military department officials and also reviewed documentation related to coordination. To determine the extent of consistency between the strategic plans of the military departments<sup>1</sup> and the *DOD Corrosion Prevention and Mitigation Strategic Plan*, we analyzed the DOD strategic plan and met with Corrosion Office officials to identify the goals and objectives with which the military departments' plans should be consistent. We then used a scorecard methodology to assess each military strategy for consistency with the goals and objectives we identified in the *DOD Corrosion Prevention and Mitigation Strategic Plan*. We considered a military department's plan to be "consistent" when the plan explicitly described all parts, "partially consistent" when the plan described some aspects, and "not consistent" when the plan did not explicitly cite any part of a goal and objective in its strategic plan. To determine the extent to which the military departments' strategic plans conform to DOD Instruction 5000.67, we analyzed the military strategies for references to or citations of the instruction as DOD's corrosion prevention and mitigation policy. We also created a set of structured questions that asked how the respective military department's strategy conformed to the responsibilities in the DOD instruction and submitted them to the military departments. We reviewed their responses to determine the extent to which the military strategies are consistent with DOD Instruction 5000.67 and conducted follow-up interviews with officials to obtain clarification.

To evaluate the extent to which the military departments' corrosion prevention strategies included characteristics and elements for a comprehensive strategic plan (31 elements grouped into 6

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<sup>1</sup>Navy officials included their strategic plan as an annex to the department's annual corrosion report because of DOD's Better Buying Power Initiative, an initiative which includes the streamlining of documentation and guidance where possible. To treat all military departments consistently, we made the decision to assess only the portions of documents that were identified as strategic plans; therefore, for the Navy we assessed a report section identified as the Navy's Strategic Plan, and did not assess the Navy's entire annual corrosion report.

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characteristics), we relied on the work of previous GAO teams and engagements that identified those characteristics and elements<sup>2</sup> and used a scorecard methodology to review the military departments' strategic plans. We reviewed the military departments' plans and assessed whether each included, partially included, or did not include the characteristics and elements identified in our prior work. We determined that a military department's strategy "included" the characteristics and elements when the plan described all the characteristics and elements and "partially included" when the plan described some characteristics and elements. When a plan did not explicitly cite any of the characteristics and elements, we determined that the characteristic and elements that aid in the development and implementation of a comprehensive strategic plan were "not included" in the military department's strategy. We then met with representatives from each of the military departments to discuss our assessments and gather further information from them on their strategic plans and the characteristics and elements, including whether the characteristics and elements were addressed in other departmental corrosion documents. Based on these discussions we changed our assessments when officials provided clarification to justify a change.

For each objective, we assessed the reliability of the information that we analyzed by reviewing existing documentation related to the information sources and interviewing knowledgeable agency officials about the information that we used. We found the information sufficiently reliable for the purposes of this report.

We conducted this performance audit from September 2012 to May 2013 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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<sup>2</sup>GAO, *Combating Terrorism: Evaluation of Selected Characteristics in National Strategies Related to Terrorism*, [GAO-04-408T](#) (Washington, D.C.: Feb. 3, 2004), and *Managing for Results: Critical Issues for Improving Federal Agencies' Strategic Plans*, [GAO/IGD-97-180](#) (Washington D.C.: Sept. 16, 1997).

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# Appendix II: Prior GAO Work on the Department of Defense's Corrosion Prevention and Mitigation Strategic Plan

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In 2004, we reported<sup>1</sup> that the Department of Defense's (DOD's) long-term corrosion strategy generally addressed the requirements in the congressional mandate;<sup>2</sup> however, it fell short of representing a comprehensive plan needed to successfully implement the strategy and manage DOD's extensive corrosion problems in the future. Specifically, we found that:

- the strategy did not identify the level of funding and personnel resources needed to implement the corrosion reduction plan in the near- or long-term;
- the strategy included some performance measures and milestones, but they were not the results-oriented metrics needed to successfully monitor the program's progress; and
- the strategy strengthened DOD's policy guidance on corrosion prevention and mitigation, but improvements could be made.

We recommended that the Under Secretary of Defense for Acquisition, Technology and Logistics take several actions related to improving the long-term corrosion strategy, including identifying funding and personnel resources to implement the DOD strategy, and completing a study to establish priorities and performance measures to monitor progress in reducing corrosion.<sup>3</sup> Table 1 details the three recommendations we made in our 2004 report that are relevant to this review of the military departments' strategic plans, and the respective actions taken by DOD.

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<sup>1</sup>GAO, *Defense Management: Opportunities Exist to Improve Implementation of DOD's Long-Term Corrosion Strategy*, [GAO-04-640](#) (Washington, D.C.: June 23, 2004).

<sup>2</sup>Bob Stump National Defense Authorization Act for Fiscal Year 2003, Pub. L. 107-314, § 1067 (Dec. 2, 2002).

<sup>3</sup>We also made recommendations to the Secretaries of the military departments and the Chairman of the Joint Chiefs of Staff, but these recommendations were not related to strategic planning.

**Appendix II: Prior GAO Work on the  
Department of Defense's Corrosion Prevention  
and Mitigation Strategic Plan**

**Table 1: GAO's Recommendations in 2004 and DOD's Actions to Improve Its Long-Term Corrosion Strategy**

Recommendation <sup>a</sup>	Actions Taken
To provide better assurances that the Department of Defense's long-term corrosion strategy is successfully implemented as envisioned by Congress, the Secretary of Defense should instruct the Undersecretary of Defense for Acquisition, Technology and Logistics, in consultation with the DOD Comptroller, to submit to Congress, as part of the fiscal year 2006 budget submission, a report identifying the long-term funding and personnel resources needed to implement the strategy, a status report of corrosion reduction projects funded in fiscal year 2005, and the status of a baseline study.	Implemented—As part of the FY 2006 budget submission, DOD submitted a report identifying the long-term funding and personnel resources needed to implement the strategy. A list of candidate corrosion reduction projects was included, as was the status of the baseline study. In addition, the May 2005 Corrosion Prevention Report to Congress also addresses this recommendation.
To provide better assurances that the Department of Defense's long-term corrosion strategy is successfully implemented as envisioned by Congress, the Secretary of Defense should instruct the Undersecretary of Defense for Acquisition, Technology and Logistics, in consultation with the DOD Comptroller, to establish a funding mechanism to implement the corrosion strategy that would be consistent with the strategy's long-term focus.	Implemented—In FY 2006, the Corrosion Policy and Oversight Office began submitting its annual funding requests through the planning, programming and budgeting, and execution process. These funding requests are identified in a separate Office of the Secretary of Defense Program Element.
To provide better assurances that the Department of Defense's long-term corrosion strategy is successfully implemented as envisioned by Congress, the Secretary of Defense should instruct the Undersecretary of Defense for Acquisition, Technology and Logistics, in consultation with the DOD Comptroller, to establish a date to complete the corrosion baseline study well before its original estimated completion date of 2011 in order that cost-effective resource priorities and results-oriented performance measures can be established to monitor progress in reducing corrosion and its impacts on equipment and infrastructure.	Implemented—In April 2007, we reported that DOD completed cost-study segments for Army ground vehicles and Navy ships in 2006, and planned to complete in 2007 the segments for DOD facilities, Army aviation and missiles, and USMC ground vehicles. The remaining segments—Navy and Marine Corps aviation and Coast Guard aviation and ships—have been completed.

Source: GAO.

<sup>a</sup>GAO reported five recommendations, including one that was reported to the Secretary of each of the three military departments. We included only three recommendations because they are related to improving DOD's long-term corrosion strategy.

# Appendix III: Comments from the Department of Defense



ACQUISITION,  
TECHNOLOGY  
AND LOGISTICS

OFFICE OF THE UNDER SECRETARY OF DEFENSE  
3000 DEFENSE PENTAGON  
WASHINGTON, DC 20301-3000

APR 29 2013

Ms. Zina D. Merritt  
Director, Defense Capabilities and Management  
U.S. Government Accountability Office  
441 G Street, NW  
Washington, DC 20548

Dear Ms. Merritt:

This is the Department of Defense (DoD) response to the GAO Draft Report, GAO-13-379, "DEFENSE MANAGEMENT: Additional Information Needed to Improve Military Departments' Corrosion Prevention Strategies" dated April 1, 2013 (GAO Code 351643).

We have reviewed GAO Draft Report, GAO-13-379 and non-concur with both recommendations. Written comments addressing each recommendation are provided as an enclosure to this letter. Although we non-concur with both recommendations, we have found this engagement beneficial and will consider the information contained in the GAO draft report when developing new or revising existing DoD corrosion prevention strategies in the future.

Sincerely,

A handwritten signature in black ink, appearing to read "Daniel J. Dunmire".

Daniel J. Dunmire  
Director,  
DoD Corrosion Policy and Oversight

Enclosure:  
As Stated

**GAO DRAFT REPORT DATED APRIL 1, 2013  
GAO-13-379 (GAO CODE 351643)**

**“DEFENSE MANAGEMENT: Additional Information Needed to Improve Military  
Departments’ Corrosion Prevention Strategies”**

**DEPARTMENT OF DEFENSE COMMENTS  
TO THE GAO RECOMMENDATION**

**RECOMMENDATION 1:** To ensure that future military departments’ corrosion strategic plans demonstrate consistency and a clear linkage to DOD’s corrosion goals and objectives, we recommend that the Secretary of Defense direct the Secretaries of the Air Force and Navy to direct the Corrosion Executives to include in their next update of their strategic plans clear linkage to DOD’s overarching goals and objectives as described in DOD’s Strategic Plan.

**DoD RESPONSE:** The DoD Director, Corrosion Policy and Oversight reviewed the military departments’ corrosion strategic plans and determined their strategies are sufficiently linked to specific performance goals and consistent with DoD’s overarching goals and objectives. The military departments are given the freedom to establish goals and objectives that will ensure an effective approach to prevent, detect, and treat corrosion for their respective equipment and infrastructure. Therefore, we believe that the plans developed by the military departments should be tailored to establish an effective corrosion control program, but remain consistent with the overarching goals and objectives established by DoD.

**RECOMMENDATION 2:** To ensure that the military departments’ corrosion strategic plans include key characteristics of a comprehensive strategic plan, we recommend that the Secretaries of the Army, Air Force, and Navy direct the Corrosion Executives to develop and include all six key characteristics of a comprehensive strategic plan, including but not limited to associated elements relating to performance measures.

**DoD RESPONSE:** Non-concur. The six key characteristics of a comprehensive strategic plan identified by GAO were developed after GAO’s review of several national strategies (report GAO-04-408T). National strategies are complex, cut across multiple levels of government and sectors, and are not governed by a single, consistent set of requirements. According to the hierarchy of national strategies established in Figure 1 of GAO-04-408T, the military departments’ corrosion strategic plans are agency-specific strategic plans that provide details, guidance, and instruction related to corrosion prevention and control. Based on the differences between national strategies and agency-specific strategic plans as described by GAO, the Military Departments’ strategic plans should be tailored to departmental requirements and not necessarily include the six key characteristics. Further, GAO acknowledges in footnote 25 that “the plans do not have to provide all the details on every characteristic and associated element.” The DoD Director, Corrosion Policy and Oversight has reviewed the military department strategic plans and determined that they are comprehensive, provide appropriate strategic guidance for implementing corrosion prevention and control programs within their respective departments, and are consistent with requirements established in DoD Instruction 5000.67, “Prevention and Mitigation of Corrosion on DoD Military Equipment and Infrastructure.”



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# Appendix IV: GAO Contact and Staff Acknowledgments

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## GAO Contact

Zina D. Merritt, (202) 512-5257 or [merrittz@gao.gov](mailto:merrittz@gao.gov)

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## Staff Acknowledgments

In addition to the contact named above, Carleen Bennett, Assistant Director; Elizabeth Curda; Mark Dowling; Dawn Godfrey; Richard Powelson; Terry Richardson; Matthew Spiers; Amie Steele; Thomas Twambly; and John Van Schaik made key contributions to this report.

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