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Top Stories

Meet the Players Leading the Department of Defense Corrosion Policy and Oversight Initiative

CorrDefense Panel Discussion

The U.S. Congress passed a law in 2003 requiring the Secretary of Defense to put a specific office in charge of corrosion prevention and control. The law's purpose was to enhance Department of Defense (DoD) efforts to improve the material selection and design of military equipment and to detect corrosion problems earlier on equipment and infrastructure.

In response, The Honorable Michael W. Wynne, former Under Secretary of Defense for Acquisition, Technology, and Logistics, created a Corrosion Policy and Oversight Office. One of his principal goals—to address DoD corrosion needs “during the earliest phases of the acquisition process and by decision authorities at every level”—is being managed by dedicated experts. They include the leaders of a team that works with an array of corrosion science and engineering experts from the U.S. Army, Navy, Air Force, Marines, Coast Guard, NASA (National Aeronautics and Space Administration), and the private sector.

CorrDefense posed questions to seven experts on this team, to help readers understand why the U.S. government needs a Corrosion Office and what it actually does.

Our panel members include Philip Grone, Deputy Under Secretary of Defense: Installations and Environment; David Pauling, Assistant Deputy Under Secretary of Defense: Materiel Readiness and Maintenance Policy; Dan Dunmire, Integrated Product Team Lead: Corrosion Policy and Oversight Office; Lew Slotter, Associate Director: Materials and Structures; David Erickson, Senior Analyst: Corrosion Policy and Oversight Office; Hal Amerau, Senior Analyst: Materiel Readiness and Maintenance Policy; and Larry Lee, Col., USAF (Ret.), Former Task Force Deputy Director: Corrosion Policy and Oversight Office.

CorrDefense: How did the 2003 law that engendered the new Corrosion Policy and Oversight Office originate and what was its intent?

- **Dan Dunmire:** The DoD has been at the forefront of corrosion-prevention research and mitigation, but the need arose to control the cost of acquiring, operating, and maintaining DoD vehicles, aircraft, ships, equipment, facilities, and materiel. Congress, in Title 10, United States Code, Section 2228, directed the Secretary of Defense to designate a responsible official or organization and to develop a long-term corrosion strategy for DoD. Until June of 2005, the Honorable Mr. Michael W. Wynne, former Under Secretary

Panel Members

Philip W. Grone serves as the Deputy Under Secretary of Defense for Installations and Environment. He oversees military installations worldwide and is responsible for developing installation capabilities, programs, and budgets. He also manages base realignment, military housing privatization, and the integration of installations and environment needs into the weapons acquisition process. Moreover, he supervises environmental needs and occupational health and safety.

David Pauling serves as Assistant Under Secretary of Defense for Maintenance Policy, Programs, and Resources as well as Principal Advisor for Materiel Readiness. He is responsible for DoD-wide maintenance and materiel readiness as it involves the value chain strategy for the readiness of major weapon systems and equipment.

Daniel J. Dunmire is the Special Assistant for Corrosion Policy and Oversight for the Department of Defense Office, located in Enterprise Development, a part of Systems Engineering, of the Defense Systems Directorate. Since 1987 he has served in several program and policy oversight posts in the DoD divisions of Acquisition Resources and Analysis,

of Defense of Acquisition, Technology, and Logistics, served as the first DoD Corrosion Executive. Then The Honorable Kenneth J. Krieg took that responsibility.

A DoD Corrosion Prevention and Mitigation Strategic Plan that articulates the long-term strategy mandated by Congress was developed and published in November 2004. The plan which provides the vision, mission, policy, objectives and action plans can be viewed on www.dodcorrosionexchange.org.

CorrDefense: Why has corrosion mitigation finally become an agenda item at the level of the Office of the Secretary of Defense (OSD)?

- **Dan Dunmire:** Congress understands that the DoD has many unfunded needs. Because corrosion is insidious and doesn't appear until five or 10 years on new equipment because it's invisible, it doesn't compete well against other near-term needs. With the pressure of scheduling and dollars, corrosion prevention and control hasn't fared well against other priorities.
- **Lew Sloter:** Corrosion has traditionally been an important part of DoD research within the military departments, but corrosion is one of those multi-disciplinary, cross-cutting areas of science and technology that impacts maintainability, operations, and readiness of defense systems. Greater emphasis and coordination at the Pentagon level improves our ability to take advantage of research products and researcher expertise.

CorrDefense: What are the mission and main goals of the Corrosion Policy and Oversight Office from the standpoint of materiel readiness, maintenance, and DoD installations?

- **David Pauling:** Corrosion is a very significant cost driver for our systems. It is important to understand what, if anything, we can do about it. A goal of the new Corrosion Office is to understand the impact of corrosion, in both cost and materiel readiness, and what we can do to minimize that impact.
- **Philip Grone:** The Corrosion office's mission is to help work through issues, set broad corrosion-prevention and mitigation policy, and to maintain and execute the strategic plan. Also, to provide a central wheelhouse function to ensure we have a solid policy.
- **David Erickson:** The primary mission is to make corrosion an agenda item, to make it a significant concern externally and internally, with involvement from the GAO (Government Accountability Office), OSD (Office of the Secretary of Defense), Congress, and the Services. As an agenda item, corrosion will better compete for resources. The enhanced competition will somewhat offset the resourcing problems Dan Dunmire highlighted above.
- **Dan Dunmire:** The Corrosion Policy and Oversight activities for equipment and infrastructure are based on an expanded definition of corrosion (at airfields, on roads and bridges, of more than just metals) and are meant to establish an overarching and integrated policy so we have consistency in all military departments, the Coast Guard, and NASA. Our office is also trying to create public and private partnerships with NACE International and SSPC, The Society for Protective Coatings, for example, when it makes sense and where it's appropriate, within the confines of the law and regulations.
- **Larry Lee:** With the Congressional mandate, we're trying to come up with a

Defense Procurement and Acquisition Policy, and Defense Systems.

Lewis Sloter, II, serves as Associate Director of Materials and Structures in the Office of the Deputy Under Secretary for Science and Technology and Weapon Systems. As a senior materials technologist, he oversees DoD science and technology activities related to the Defense systems' materials, processes, and structures. He lends technical expertise to DoD management at all levels.

David Erickson serves as Senior Staff Analyst for corrosion prevention and control in the Office of the Under Secretary of Defense for Acquisition, Technology, and Logistics, where he is assigned to the Systems Engineering directorate. He has more than 35 years of experience in the design, development, test, evaluation, and acquisition of weapons systems and their supporting command, control, and communications.

Hal Amerau serves as a Maintenance Policy Analyst in the Office of the Assistant Deputy Under Secretary of Defense for Maintenance Policy, Programs, and Resources. He develops and promulgates DoD-wide policies governing the maintenance of DoD weapon systems and equipment.

Retired Col. Larry Lee is former Deputy Director for the Corrosion Policy and Oversight Office. He had oversight of 60 DoD civilians and military personnel in carrying out the directives of the Corrosion Executive in the Office of the Under Secretary of Defense for Acquisition, Technology, and

plan for tackling corrosion as a team, to know what all of the Services are doing, and to avoid duplication of efforts. To help us carry out that mission, Mr. Wynne has created an oversight committee—called the Corrosion Prevention and Control Integrated Product Team (CPC IPT), and its membership includes the Office of the Under Secretary of Defense for Acquisition, Technology and Logistics, Joint Staff, The Services, Coast Guard, and National Aeronautics and Space Administration representatives. The CPC IPT meets three times a year to conduct strategic reviews, monitor the progress of corrosion-related activities, and to develop and recommend policy guidance. The team developed the DoD Corrosion Prevention and Mitigation Strategic Plan where specific action and milestone schedules are tracked and continuously updated.

Logistics. Currently, he is responsible for implementing a long-term strategic plan for preventing and mitigating corrosion of DoD weapon systems and infrastructure. He serves as a key support contractor in charge of tracking corrosion projects and activities.

CorrDefense: What important questions are being raised by the Corrosion initiative?

- **David Pauling:** Corrosion is pervasive, and to those of us in the Office of Materiel Readiness and Maintenance Policy, the big question is ‘what is the cost of preventing, or at least mitigating, corrosion and what is the benefit in both total ownership cost and weapon system/equipment readiness of doing so?’

Also, clearly there is a need for data collection, analysis, and trending. This initiative raises questions about how well we do this across the services. For example, when you contrast what we know about Navy aviation equipment that is flown in corrosive environments routinely, with the data we collect on Army ground systems, it raises questions about the rigor in how we inspect, collect data, and trend for corrosion impact across the Department. It’s beneficial to invest into data collection and trending. And when you tie the effect of corrosion to readiness as well as cost, its importance goes to an even higher level.

- **David Erickson:** One of the biggest challenges of the Corrosion Executive is to come up with a Cost of Corrosion baseline study that will tell us how much the DoD is spending on corrosion. Presumably that number would help us understand the marginal cost and marginal investment of corrosion at this time. Much of the corrosion budget comes from operation and maintenance (O&M) funds. Thus, if you increase O&M spending, you raise the amount that you spend on corrosion. However, we do not know the marginal benefit of this increased funding.

CorrDefense: What kind of vision will the two OSD offices—Materiel Readiness & Maintenance Policy and Installations & Environment—bring to the new Corrosion Office and the efforts of the Integrated Product Team?

- **David Pauling:** From the materiel readiness and maintenance perspective under our cognizance, corrosion clearly has cost impacts. But the question is, how much can we reasonably do something about? If corrosion causes us to spend \$30 billion today, what should that cost really be? Is it \$25 billion, or what, with the employment of better/aggressive corrosion preventative measures? We’d also like to identify and reconcile the impact of corrosion on readiness. Is corrosion causing our weapons systems to be less ready than they should be and, if so, what can we reasonably do to mitigate its impact? We need to create a culture where we’re not just going in and doing projects, but where we’re being smart buyers. We need the necessary data and predictive cause-and-effect assessments in order to know which projects will make a difference. Dan is leading that effort.

- **Philip Grone:** We are assessing and rebalancing our asset portfolio, including a complete life cycle asset analysis, and examining the environmental, safety, and health aspects of managing facilities. By identifying the most cost-effective corrosion-mitigation procedures from within the new Corrosion Office, we can bring insights back into our specific programs in the Office of Installations and Environment. We'll be in a position to take the lessons learned from the Corrosion Office and bring them into our strategic planning process.

CorrDefense: What are the advantages of tackling corrosion prevention and control from a joint perspective, across all the military services, rather than within individual agencies?

- **Lew Slotter:** There is a place for both Service-specific and joint projects. In the joint initiative we emphasize making good projects and concepts from one Service more broadly applicable. We also focus on bringing useful technology into the DoD from small and large businesses. We support projects that tailor, test, and validate technology from any source to meet DoD needs, and then make the products and results broadly available through procedures and policy.
- **Hal Amerau:** The Services do not have budget line items for corrosion. Thus, it's easy for some to rationalize that corrosion may just be the cost of doing business. Dan Dunmire's group is pulling all the corrosion experts and offices together and looking at the joint issues. Projects with a large joint flavor are favored because they are probably the most cost effective. We don't want the Corrosion office to fund projects that the individual services should be funding themselves.
- **Philip Grone:** Having a strategic focus is always helpful. In looking toward technical innovation, even with the differences in missions, there are things that can be learned and shared. Having a joint focus is helpful to ensure that the programs are successful. To the extent that you can prevent corrosion, you can avoid more egregious problems later on.
- **Dan Dunmire:** Tackling corrosion jointly is the only way it's going to work. You can't have stovepipes—it has to be one effort. It is evident that Corrosion Prevention and Control is beyond equipment. It works in Infrastructure, Research and Engineering, and Logistics consistently, at all levels. You can't re-engineer cathodic protection and coatings into systems. You have to develop them when you're putting things together. We've got to do it smartly and the only way to do it smartly is to do it jointly.
- **David Erickson:** The physics of corrosion isn't broken down into the Army, Navy, or Air Force. Second, each service agency has different funding constraints. You don't want the Army to have to reduce corrosion funding because they're actively involved in the Iraq war, and then find that the Air Force has plenty of money to do corrosion-control because their Iraqi expense poses less of an investment constraint.

CorrDefense: How does the Corrosion Office's selection team go about choosing individual project awards?

- **Lew Slotter:** We rely on the proposers to have done their documentary and technical homework. The packages we see provide a good presentation of a good general, technological baseline, the proposed technical approach, and

an estimation of benefits. If that information is insufficient, we consult more specific experts in some aspect of technology. It is an open approach and dialogue between the Service principals and the Pentagon selection team. The team then prioritizes and recommends the highest-rated projects to the corrosion executive.

- **Larry Lee:** If it's a safety problem, most likely it's already been addressed by the various Service program offices. Otherwise, we take a balanced scorecard approach. In awarding new projects, aside from favoring joint projects and an evaluation based on established selection criteria, ROI (return on investment) is balanced with mission criticality.

CorrDefense: As members of the project selection team, what joint activities do you consider worthy of OSD Corrosion Office funding?

- **Low Sloter:** The projects we select demonstrate an intelligent, viable approach to the utilization of new funds. For example, our funding of corrosion-resistant antenna gaskets arose from small business and was evaluated in a previous Service program. Supported by the OSD initiative, we've made it more transportable to other aircraft and systems. We've helped transfer technology associated with aviation applications, such as coatings, surface treatment, and CPC compounds to other Service aircraft and even other types of equipment.
- **Dan Dunmire:** For Fiscal Year 2006 (FY 06), the Services submitted 79 candidate projects. These projects, initially screened by the Services, must meet a set of guidelines for the application process. We have initially approved 27 projects for FY 06 based on a budget of \$14.6 million. Several projects were rejected for not meeting the guidelines. However, there were many projects that met the selection criteria that were not included in FY 06 because of the limited budget. These projects will be deferred or on stand-by for FY 07 project selection. The FY 06 projects and activities were approved by the DoD Corrosion Executive, Mr. Krieg on August 17, 2005.

CorrDefense: Without sounding partial to a particular project, are there any '05 projects related to the Office of Installations and Environment which you consider a high priority in terms of safety, environmental protection, or occupational health?

- **Philip Grone:** We'd like to think they're all important, but in particular we're looking at those projects that contribute to a strategic focus, such as the use of cathodic protection in a fuel-line environment, which offers better environmental safety for our people. If you're not taking fuel lines off-line, you're serving the goals of readiness and safety. In our own strategic planning process, which is summed up in our vision, "Combat Power Begins at Home," we support projects that contribute to our ability to have combat power available. We also support large and small projects that contribute to where we must take the DoD facilities planning process.