Moving Technical Knowledge into Decision Making

US Army Corrosion Summit
February 9, 2010
### Moving Technical Knowledge into Decision Making

**Title and Subtitle**

**Dates Covered**

00-00-2010 to 00-00-2010

**Performing Organization Name(s) and Address(es)**

NACE International, 1440 South Creek Dr, Houston, TX, 77084

**Sponsoring/Monitoring Agency Name(s) and Address(es)**

**Distribution/Availability Statement**

Approved for public release; distribution unlimited

**Supplementary Notes**

Outline

• Who is NACE
• Why this matters
• Impact of Corrosion on the Department of Defense
• Communication Gap
• Training & Certification Review
Mission

To protect people, assets, and the environment from the effects of corrosion
History of NACE

• Since 1943 we've been dedicated to a single mission – to protect people, assets, and environment from the effects of corrosion.

• From just 11 engineers, our association has grown to more than 20,000 members in 100 countries.

• Built upon decades of knowledge and expertise from dedicated members all around the world, NACE International is involved in every industry and area of corrosion prevention and control, from chemical processing and water systems to transportation and infrastructure protection.
What We Do

- Set technical standards
- Disseminate the latest technology worldwide through peer-reviewed journals and technical papers
- Host and manage international conferences, exhibits and topical meetings
- Enhance programs, services and connections with the corporate community
- Promote the interests of the corrosion science and engineering industry through government relation activities
- Offer education and certification programs internationally
What We Do

 бю Over 60 years of leading the industry
 бю Over 20,000 members worldwide
 бю 16,000+ certified
 бю 400+ Publications
 бю 350+ Technical Committees
 бю 200+ Standards and reports

Continued…
What We Do

We are the Training and Certification body for the profession

Programs include CIP, CIP Bridges, CIP Marine, CP, CP Marine, Basic, Designing for Corrosion Control

New courses and standards for Bridges, Nuclear, Water Supply and Treatment, DoD

Public Voice for the Corrosion Profession
15,000 Sq Ft Education and Training Center

1,000 Sq Ft Coatings Lab

- Spray Booth
- Blast Booth

Coatings Prep Lab

Cathodic Protection Test Field
Cathodic Protection Program

CP 1—Cathodic Protection Tester

CP 2—Cathodic Protection Technician

CP 2 – Cathodic Protection Marine Technician (developed for NAVSEA)

CP 3—Cathodic Protection Technologist

CP 4—Cathodic Protection Specialist
Coatings Inspection Program

Over 25 Years of Excellence

NACE Coating Inspector Level 1-Certified
NACE Coating Inspector Level 2-Certified
NACE Certified Coating Inspector Level 3
NACE CIP One Day Bridge Course
NACE CIP Marine
Publications

- Materials Performance
- Corrosion Journal
- CoatingsPro
- InspectThis!
- Stay Current
- NACE Advocate
- CorrDefense
Why This Matters

Aging Infrastructure
Why This Matters

Leaking Above and Underground Storage Tanks
Why This Matters

Steel Reinforced Concrete
Why This Matters

Aging Water & Wastewater

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Why This Matters
Why This Matters

$276* Billion Dollars Lost due to Corrosion

*NACE Study with U.S. Federal Highways Administration, 2002
Study available at www.nace.org
Industry Sector Analysis

• 26 Sectors in 5 Categories:
  – Infrastructure
  – Utilities
  – Transportation
  – Production and Manufacturing
  – Government
Impact to the US Department of Defense
Why This Matters

Harsh environments
Army Equipment in Transit
Aircraft Examples

Why This Matters
Impact of Corrosion

• Over $20 Billion per year
• Readiness
• Troop Safety
• Environment
Communication Gap
Communication Gap

• Corrosion is a very technical issue
• Slow developing challenge
• Not well understood by decision makers
• Easy to put off the needed investment
• Need to address early
• Corrosion focus on the parts and not the big picture
Communication Gap

• Proving a negative
• Corrosion Professional feels a need to justify their position
• Management asks what to do with all the data
• How to manage the assets that they are responsible for
Changing the Dialogue

• Moving beyond maintenance
• Design for corrosion prevention
• Asset Preservation
• Life cycle cost
• Corrosion Management
• Total cost of ownership
Changing the Dialogue

• Cradle to grave consideration for key assets
• Educating decision makers in terms that they understand
• Developing technical and non-technical teams to address corrosion
• Adding corrosion to the discussions in the design phase and the long term use of the asset
Corrosion Training to Reduce the Cost of Corrosion within DoD Weapon Systems and Infrastructure
Background

  – Trained assessors
  – O / I / D level training
  – Trained materials engineer for PM
  – Prerequisite for IPT leadership
  – Match expertise and job function

• OSD Strategic Plan (2008)
  • “Education and training...vital to the...CPC Program”
  • Foundation of the DoD Program
  • Address weapons and infrastructure
  – Properly train individuals who measurably prevent or mitigate the Department’s equipment and infrastructure corrosion.
  – Verify that individuals are effectively educated and capable of performing
Background

• 2009 Contract with NACE International
  – 24 month effort

• Phase I – Gap Analysis
  – Identify potential training areas
  – Identify internal & external available training
  – Resolve gaps in training needed

• Phase II – USMC Pilot Program
  – Resolve applicability of training (field / acquisition)
  – Note “certifiable” personnel

• Will not provide training or develop curricula
Current Project Phase

• Identify most significant areas which might “measurably impact” system corrosion.
• These are embodied in system specifications and TM's concerned about corrosion control and existing OSD strategic plans.
• Review:
  – Specifications and TM’s
    • Reflect key CPC technologies and processes
    • Collect similar / unique requirements
  – DoD / Service CPC training strategies
Current Project Phase

• Review results via survey with DoD
• Detailed process discussion
  – NACE SME meeting on 12 Aug
    • Focus: methodology to validate survey process
    – Next SME Meeting at CORROSION 2010
• Surveys are available in the NACE booth this week
  – Surveys will be performed on on-line and in print
  – Will cover both infrastructure and weapon systems
Project SME Group

Subject Matter Expert Group
Chairman: Dr. Oliver Moghissi

Michael Carpenter
Vincent Hock
Col. Frank Dement
Dick Kinzie
Matt Koch

Sean Morefield
Forrest Pilgrim
Greg Redick
David Schramm
Mike Baach

Steve Spadafora
Tom Tehada
Dr. Neil Thompson
Dan Zarate
Roger Hammerlinck
Questions?
Thank you!

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