



## **U.S. Army Corrosion Prevention and Control Program**

George Evans

Prospective Technology Incorporated

Office of the Assistant Secretary of the Army for Acquisition, Logistics and Technology

Environmental Support Office

703-695-7616

# Annual Corrosion Costs

OSD/LMI Corrosion Cost Studies

(\$ millions)

Study Focus	Data Year	Total Maintenance Cost				Total Corrosion Cost <sup>b</sup>				% Corr
		Depot	Field	ONR <sup>a</sup>	Total	Depot	Field	ONR <sup>a</sup>	Total	
Army ground vehicles	FY2004	1,956	6,980	1,784	10,720	274	1,045	693	2,012	14.8%
Navy Ships	FY2004	4,812	5,892	423	11,127	1,345	779	304	2,428	19.8%
Marine Corps ground vehicles	FY2005	520	1,862	362	2,744	119	379	171	669	20.8%
Army Aviation/missiles	FY2005	1,861	6,505	148	8,514	529	1,028	63	1,620	18.6%
Navy/Marine Corps Aviation	FY2006	3,369	5,847	116	9,332	1,458	1,443	63	2,964	31.5%
<b>Total</b>		<b>12,518</b>	<b>27,086</b>	<b>2,833</b>	<b>42,437</b>	<b>3,725</b>	<b>4,674</b>	<b>1,294</b>	<b>9,693</b>	<b>21.2%</b>
Study Focus	Data Year	Maintenance		Construction		Total Corrosion Cost				
		Non-family housing	Family housing	Non-family housing	Family housing	Non-family housing	Family housing	Non-family housing	Family housing	Total
DoD Facilities/Infrastructure	FY2005	9,153	1,063	7,537	1,512	1,361	185	173	32	1,751

<sup>a</sup> ONR is "Outside Normal Reporting" costs

<sup>b</sup> Totals do not reflect purchase card corrosion costs

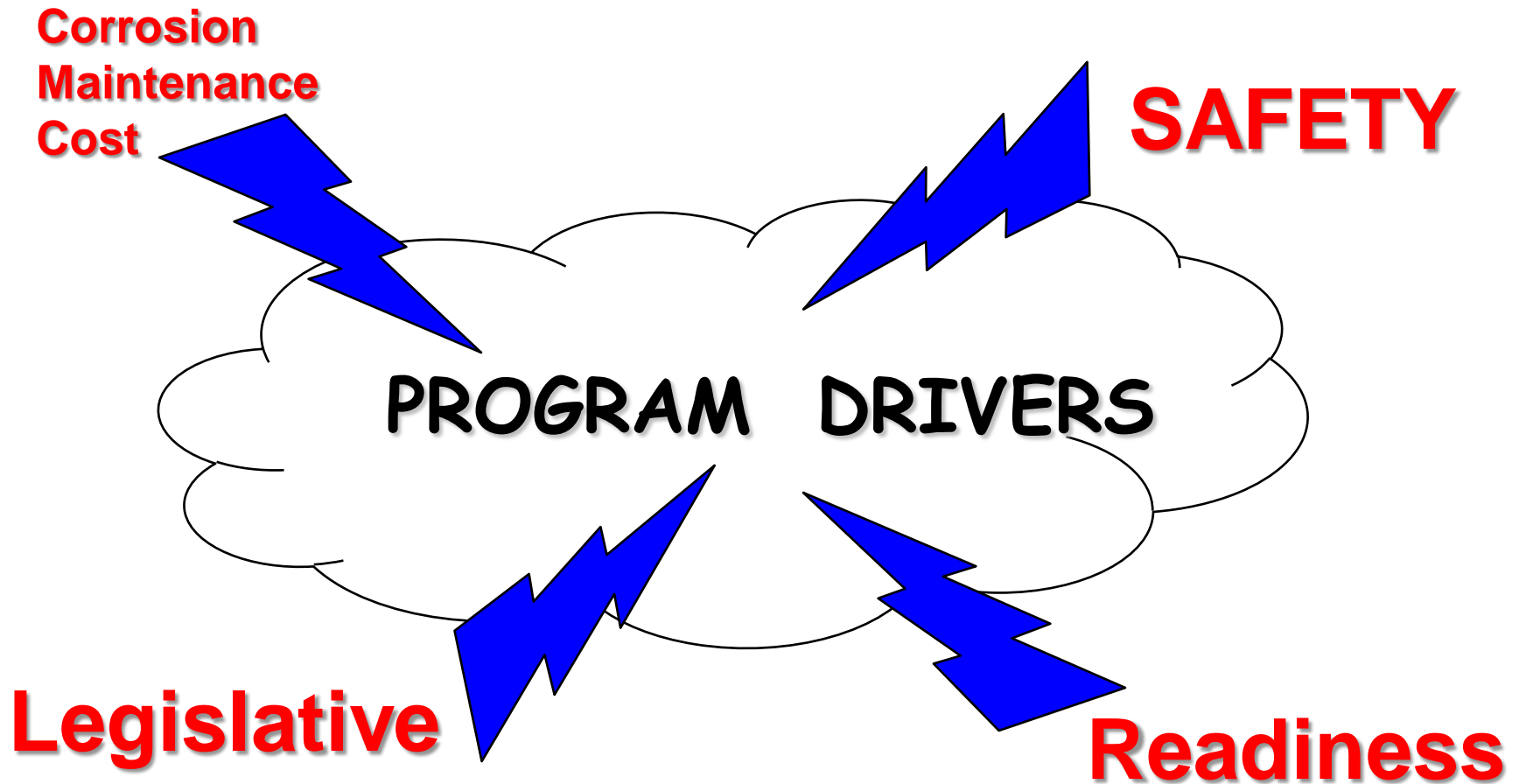
# Army Ground Vehicle Corrosion Cost (FY2004 Data)

Rank	LIN	Nomenclature	Corrosion Cost	Maintenance Cost	Number of Vehicles	Average Corrosion Cost per Vehicle
1	T61494	TRUCK UTILITY: CARGO/T	\$222,289,557	\$1,087,022,437	60,166	\$3,685
2	T13168	TANK CMBT 120MM M1AI	\$133,549,485	\$757,991,383	4,243	\$25,151
3	X40009	TRUCK CARGO: 2-1/2 TON	\$89,338,050	\$325,531,249	11,724	\$7,620
4	X40794	TRUCK CARGO: DROP SIDE	\$51,472,839	\$251,315,712	14,515	\$3,536
5	W95811	TRAILER CARGO: 1-1/2 T	\$50,298,230	\$84,735,719	23,016	\$2,185
6	X59326	TRUCK TRACTOR: 5 TON 6	\$49,089,973	\$177,812,507	9,162	\$5,334
7	T07679	TRUCK UTILITY: HEAVY V	\$47,415,526	\$187,578,619	12,179	\$3,766
8	T92242	TRUCK UTILITY: ARMT CA	\$46,421,932	\$245,649,505	8,187	\$5,667
9	T92446	TRK UTIL HMMWV M1114	\$45,466,238	\$119,987,781	8,069	\$2,934
10	W95537	TRAILER CARGO: 3/4 TON	\$38,819,673	\$55,575,084	17,965	\$2,161
11	F40375	FIGHTING VEHICLE: FULL	\$37,409,791	\$164,700,399	3,025	\$10,232
12	X40146	TRUCK CARGO: 2-1/2 TON	\$37,216,648	\$140,569,026	4,413	\$8,433
13	S70159	SEMITRAILER FLATBED: B	\$31,074,607	\$58,449,137	7,696	\$4,038
14	T60081	TRUCK CARGO: 4X4 LMTV	\$25,433,175	\$78,094,049	9,281	\$2,731
15	T05096	TRUCK UTILITY: TOW CAR	\$23,796,003	\$76,674,727	1,909	\$12,465
16	T59278	TRUCK CARGO: TACTICAL	\$23,159,714	\$91,166,794	1,784	\$12,982
17	T13305	TANK CBT 120MM M1A2	\$22,335,378	\$81,847,904	1,095	\$16,668
18	T05028	TRK UTIL 3/4T M1009	\$21,651,731	\$65,369,690	4,338	\$4,991
19	T58161	TRUCK TANK: FUEL SERVI	\$21,585,577	\$99,878,568	1,851	\$9,551
20	T59048	TRK TRACTOR HET M1070	\$21,476,512	\$65,758,247	2,356	\$8,327

# Army Aviation/Missile Corrosion Cost (FY2005 Data)

WBS	Description	Corrosion cost (in thousands)	Rank
A91	Helicopter (Frames)	954,592	1
A92	Helicopter Engine	170,983	2
A94	Helicopter Electronics and Communications Equipment	80,755	3
A95	Helicopter Armament	36,831	4
F11	Ballistic Basic Missiles (Frame)	22,315	5
F21	Other Missile Basic Missiles (Frames)	16,449	6
A96	Helicopter Support Equipment	15,798	7
F15	Ballistic Missiles Guidance System and Components	12,727	8
F14	Ballistic Missiles Support and Launch Equipment	10,632	9
F25	Other Missiles Guidance System and Components	6,861	10
F16	Ballistic Missiles Surface Communications and Control Systems	5,521	11
F26	Other Missiles Surface Communication and Controls Systems	3,661	12
F24	Other Missiles Support and Launch Equipment	3,178	13
A97	Helicopter Other	1,799	14
F12	Ballistic Missiles Propulsion Systems and Components	1,551	15
A31	Cargo and/or Transport Aircraft Frame	620	16
F28	Other Missiles Other	616	17
F23	Other Missiles Missile Accessories and Components	252	18
F27	Other Missiles Payload System and Components	186	19
A71	Patrol Aircraft Frame	65	20

# Army Corrosion Prevention and Control Program



# Army CPC Program

- Corrosion Executive - DASA(APL)
- Program Strategy - Under Construction
  - Installations/Facilities - ACSIM Lead
  - Weapon Systems - AMC Lead
  - Program Build - RDTE/O&M/Proc/MilCon
  - Support to OSD Director of Corrosion Policy and Oversight

# Army CPC Program

## Acquisition Policy Foundation

- KPP for Sustainment
  - KSAs for Reliability and Ownership Cost
- DoDI 5000.02 Compliance
  - Corrosion Prevention and Control Planning
  - Risk Management and Cost/Performance Trades
- Program Documentation
  - CDDs/ICDs/CPDs
  - Acquisition Strategy/Program Baseline
  - Test and Evaluation Management Plan
  - Sustainment Strategy
- Procurement Support
- Technology Insertion

# Army CPC Program

## Logistics Policy Foundation

- Update Army Regulations
- Support On-going Work
  - Storage and Protection
  - Dehumidification
  - Cleaning and Preservation
  - Treatment and Repair
  - Maintenance Procedures
  - Training

# Army CPC Program

## Program Build

- Great Start with Great Initiatives
  - OSD Funding - Army Matching Funds
  - Army Funding - Installations/PMs/Depot/Field
  - Earmarks - Leveraged with Good Results
- Army Program Build
  - FY10 Program Management Start
  - POM 12 Program Build
    - S&T (6.1 -6.3)
    - Technology Transition (6.4 TRL 6 to 8)
    - PEO/PM Buy-in (6.5 System Engineering)
    - O&M
    - Procurement

# Final Thoughts

- Corrosion Prevention and Environment
  - Emerging Contaminants/REACH/GCC
  - Occupational Health
  - System Safety
- Corrosion Prevention and Energy?
  - Energy Productivity
- Corrosion Prevention Performance as a System Requirement
  - Leverage Safety
  - Leverage Reliability
  - Trade-offs Impact Life Cycle Cost



## Questions?

George Evans

703-695-7616

[george.h.evans@us.army.mil](mailto:george.h.evans@us.army.mil)