



AFPCO Corrosion Program

Carl Perazzola
AFPCO, Chief
Air Force Research Laboratory



Overview



- **AFCPCO Overview**
- **Air Force Cost of Corrosion**
- **Corrosion Surveys**
- **Accomplishments and Initiatives**
- **Conclusion**



Office Personnel



300+ years!

- **AFCPCO**

- Vacant
- Carl Perazzola, DR-III
- CMSgt Terry Gabbert
- Dave Ellicks, DR-II
- Vacant
- SMSgt Scott Pagenkopf
- Capt Mary Gutierrez
- Capt Cindy Littleton-Hetzer
- Lt Nick Herr
- Lt Kevin Cheng
- Vacant

Office Chief
 Acting Office Chief
 Superintendent AF Corrosion Program Office
 Sr. Materials Engineer

AF Corrosion Program Manager
 Aerospace Engineer
 Chemical Engineer
 Materials Scientist
 Systems/Mechanical Engineer
 Management Assistant

- **Engineering and Technical Support Contractors (S&K Technologies)**

- Owen Jett (CMSgt Ret)
- Wes Barfield
- Mac McKenna (CMSgt Ret)
- Mark Foley (SMSgt Ret)
- Dan Mars (CMSgt Ret)
- Ruth Jett
- Beverly Dillard

Program Manager
 Senior Materials Engineer
 Senior Maintenance Analyst
 Senior Maintenance Analyst
 Logistician
 Senior Maintenance/Data Analyst
 Administrative Assistant

- **Liaison contractors**

- Jerry Powell (SMSgt Ret)
- Larry Cornwell (Cmdr Ret, USCG)

Air National Guard Liaison
 C-130/C-5 Corrosion Program Manager Ctr. Spt.

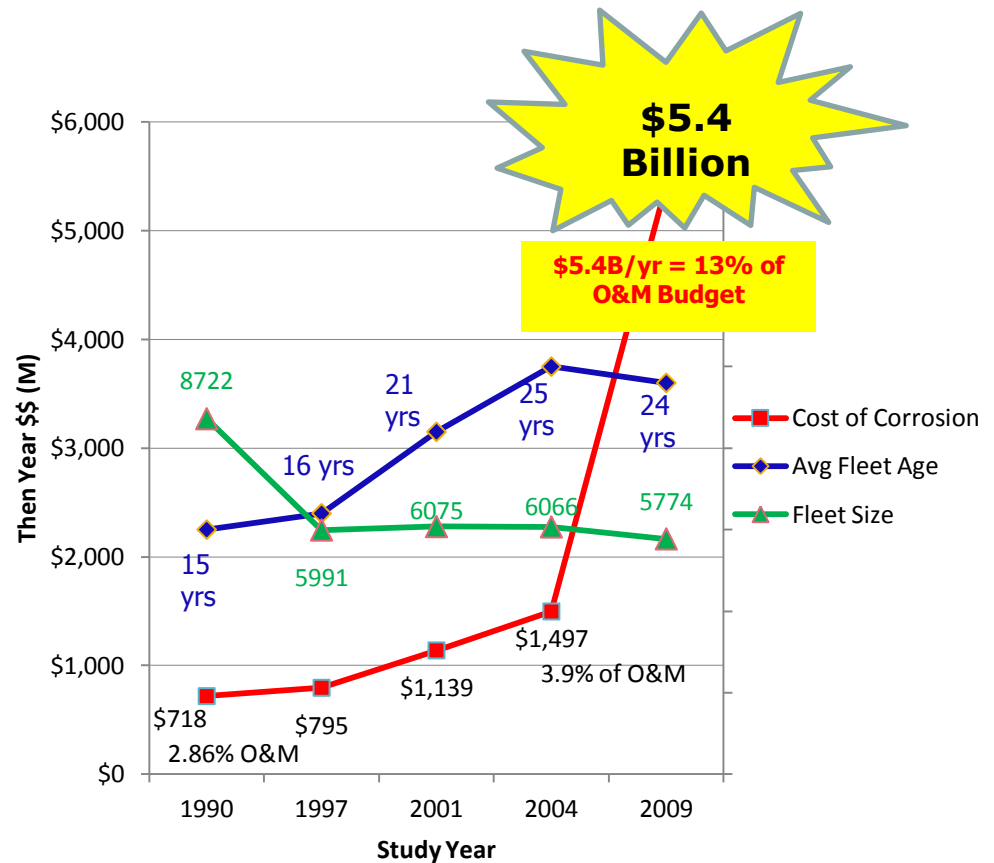
USAF's Corrosion Conscience & Corporate Knowledge



AF Cost of Corrosion



- Corrosion Costs are growing and impact all systems
- Includes Aircraft, Vehicles, Equipment, Munitions, Space Systems
- Costs Includes
 - Touch Labor
 - Mx Material Costs
- Doesn't include
 - Aircraft Availability Impacts
 - MILCON & Infrastructure Mx
 - Training



~3000 fewer airframes than '90

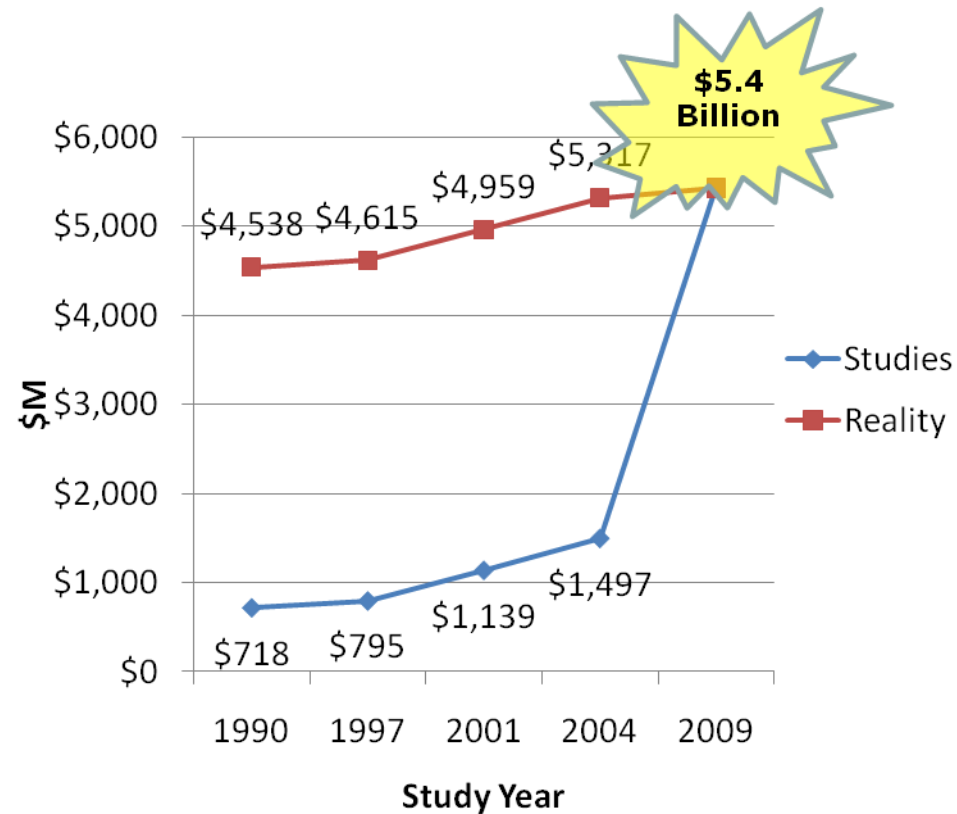
Corrosion Costs = 32% of Depot Costs
Aircraft Corrosion = \$1 M/AC



Apples to Apples



- **Latest CoC study funded by OSD, released in June 2009**
 - Total AF Cost of Corrosion for a/c & missiles (FY 2007): \$5.43B
 - \$3.93B difference bw last AF-funded study and OSD-funded study
- **Cost of Corrosion under-reported in first 4 studies**
 - AF-funded studies did not include:
 - Commercial depot costs (\$1.33B)
 - Indirect labor costs (\$1.62B)
 - Growth of labor rates (\$.65B)
 - Top 3 areas account for \$3.44B or 88% of the \$3.93B difference.
- **Corrosion/fatigue are main issues for a/c retirement**





“Top 20”

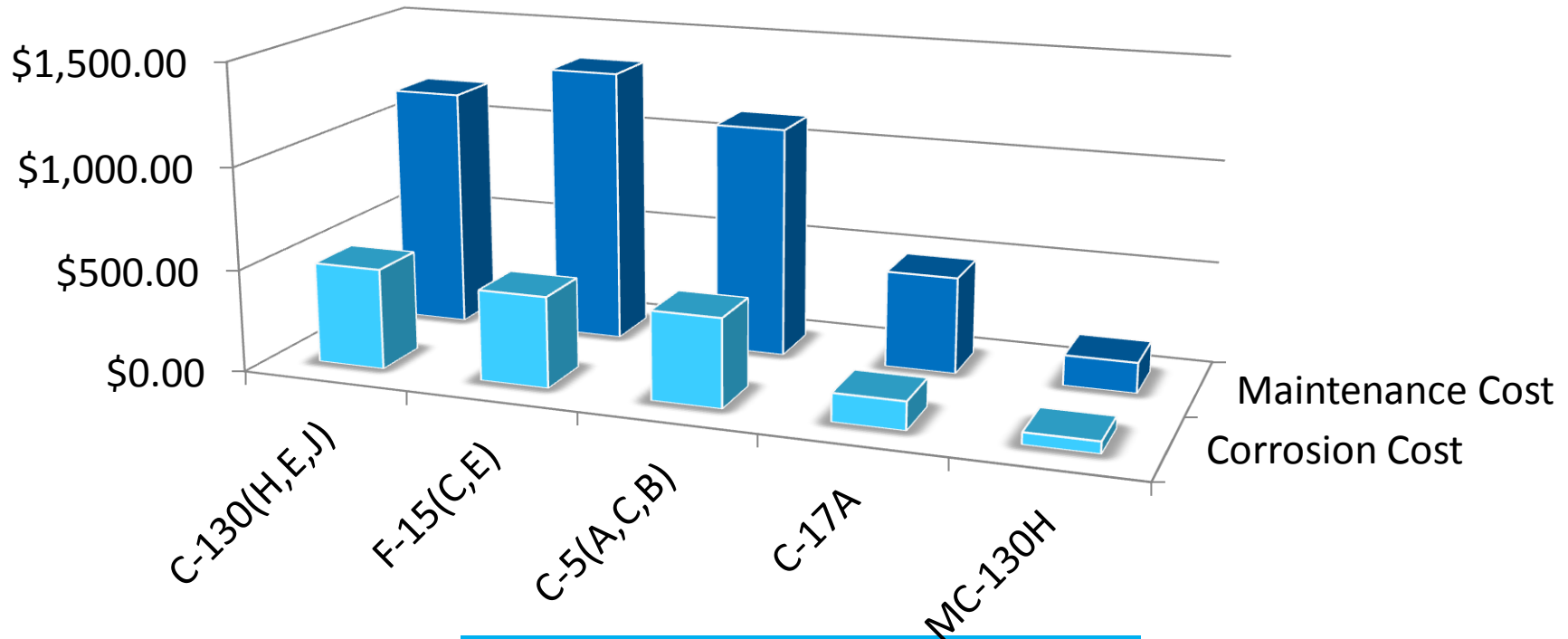


Rank	MDS	Mx Cost (\$M)	Corr Cost (\$M)	% Mx Costs
1	F-16C	\$1,761	\$489	28%
2	KC-135R	\$1,302	\$451	35%
3	A-10A	\$851	\$276	32%
4	C-130H	\$623	\$274	44%
5	B-1B	\$845	\$251	30%
6	B-52H	\$698	\$240	34%
7	F-15C	\$742	\$240	32%
8	F-15E	\$597	\$204	34%
9	C-5A	\$576	\$204	35%
10	C-5C	\$330	\$147	44%
11	C-130E	\$368	\$139	38%
12	C-17A	\$472	\$138	29%
13	C-5B	\$217	\$81	37%
14	C-130J	\$186	\$80	43%
15	F-16D	\$309	\$77	25%
16	LGM-30G	\$327	\$72	22%
17	HH-60G	\$190	\$64	34%
18	B-2A	\$204	\$63	31%
19	MC-130H	\$149	\$58	39%
20	T-38C	\$139	\$55	40%



AF Cost of Corrosion

MX and Corrosion Cost Comparison (\$M)



Corrosion Cost per Aircraft:

C-130 = \$1,080K

F-15 = \$800K

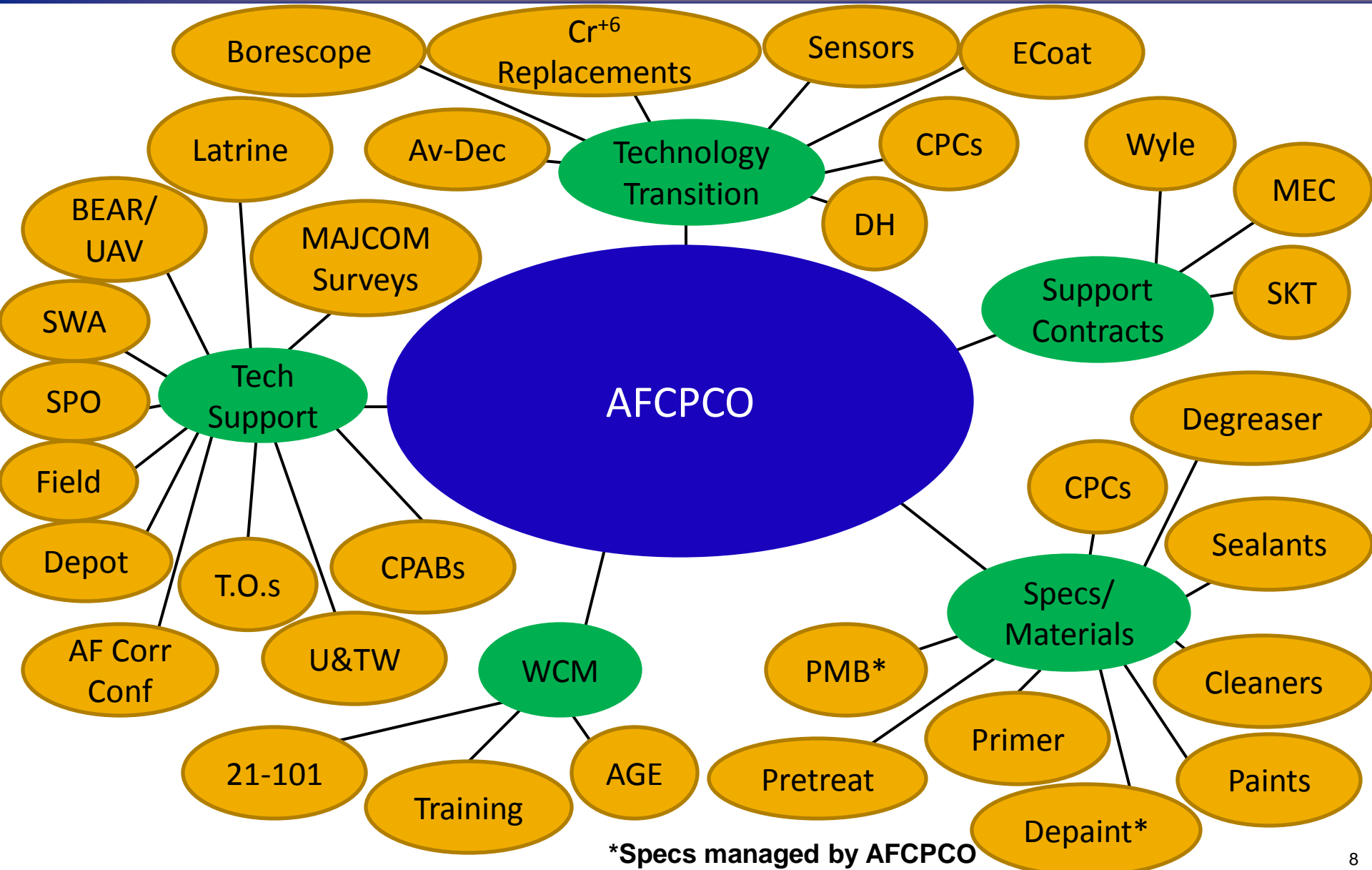
C-5 = \$4,000K

C-17 = \$840K

MC-130H = \$2,900K



AFCPCO Core Functions





Corrosion Surveys



- **MAJCOM surveys: assess overall health of programs**
 - Evaluation using TO guidance and command instruction
- **2009-2010 Surveys**
 - United States Air Forces in Europe (USAFE) Corrosion Survey
 - Pacific Air Forces (PACAF) Corrosion Survey
 - Latrine Corrosion Survey
- **2011 Surveys**
 - Air Force Reserve Command
 - Air Force Space Command
 - Basic Expeditionary Airfield Resource (BEAR)



Accomplishments and Initiatives



- **Non-Chromium Efforts**
 - Joint test on non-chrome substitutes
 - On Aircraft test protocols with SPOs
- **Borescope Technology**
 - for FIELD USE on minor corrosion repair/mitigation tools
- **Support Equipment**
 - Scoring system/Maintenance program
 - Wash Programs/procedures
 - CPC usage



Accomplishments and Initiatives



- **Corrosion Sensors**
 - First Generation Environmental Exposure Sensors
 - Corrosion hotspots in hidden areas
 - Second Generation
- **Dehumidification**
 - Green Shelters
 - Mobile units
- **Basic Expeditionary Airfield Resource (BEAR)**
 - Lack of emphasis
 - Survey (Aug/Sept)



Conclusions



- **AFI 20-114 status (released 7 June 2011)**
 - Replaces AFI 21-105
 - MAJCOMs need to keep and update Supplements
- **New Cost and Impact of Corrosion**
 - LMI Impact of corrosion damage/maintenance on aircraft availability
- **Corrosion Surveys**
- **Accomplishments and Initiatives**



Questions?



- AFCPCO
- “AFRL/RXSSR All Personnel”
in the Global
- AFRL.MLSOLR.Allpersonnel@robins.af.mil
- 468-3284
- <http://afcpo.com/>
- AF Portal, Search for RXSSR

