



# 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.

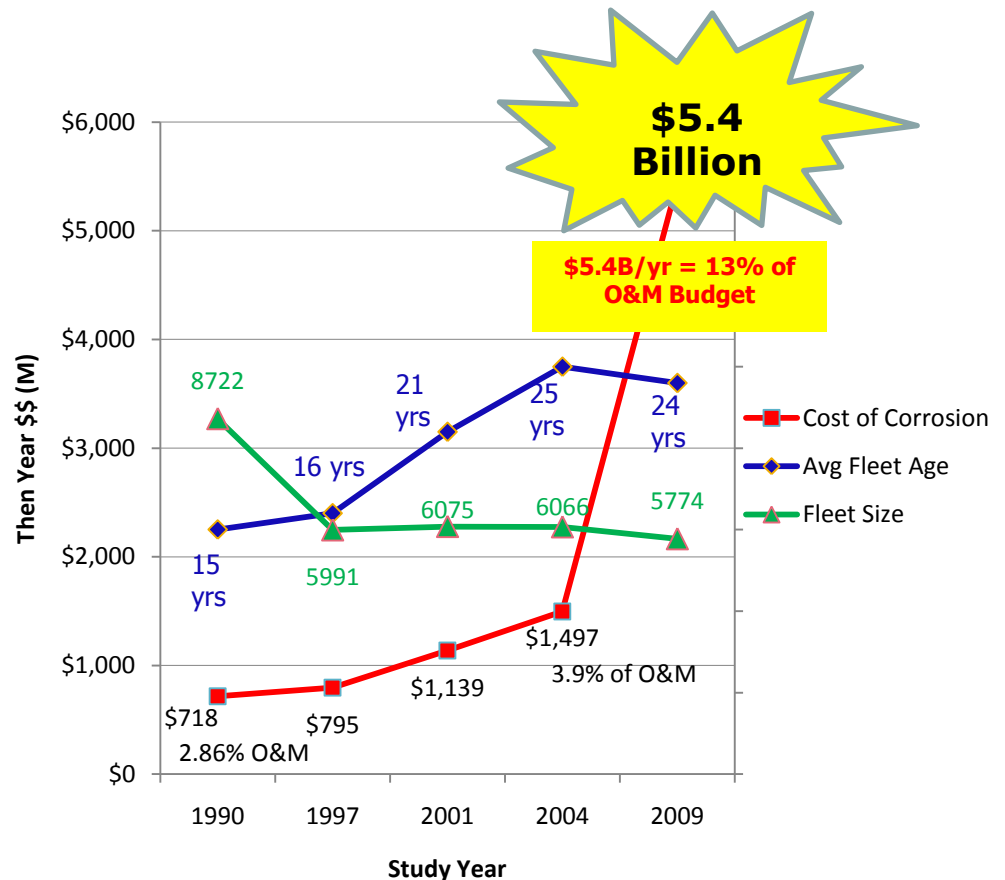
**USAF's Corrosion Conscience & Corporate Knowledge**



# 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



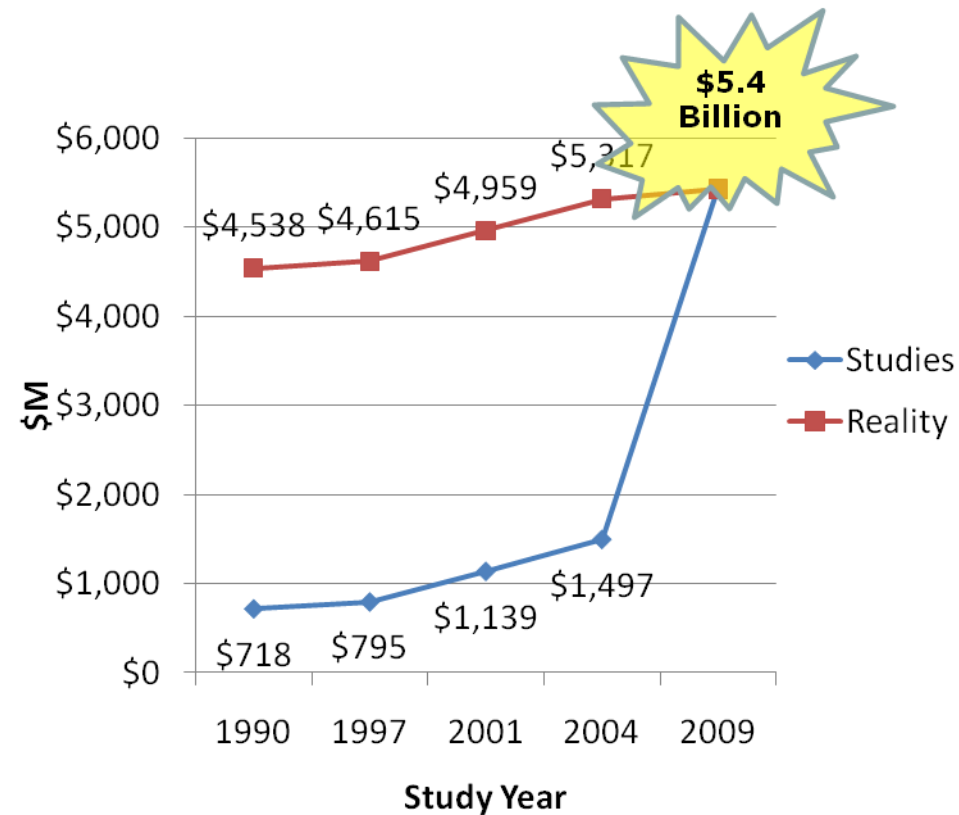
**Corrosion Costs = 32% of Depot Costs**  
**Aircraft Corrosion = \$1 M/AC**



# 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”

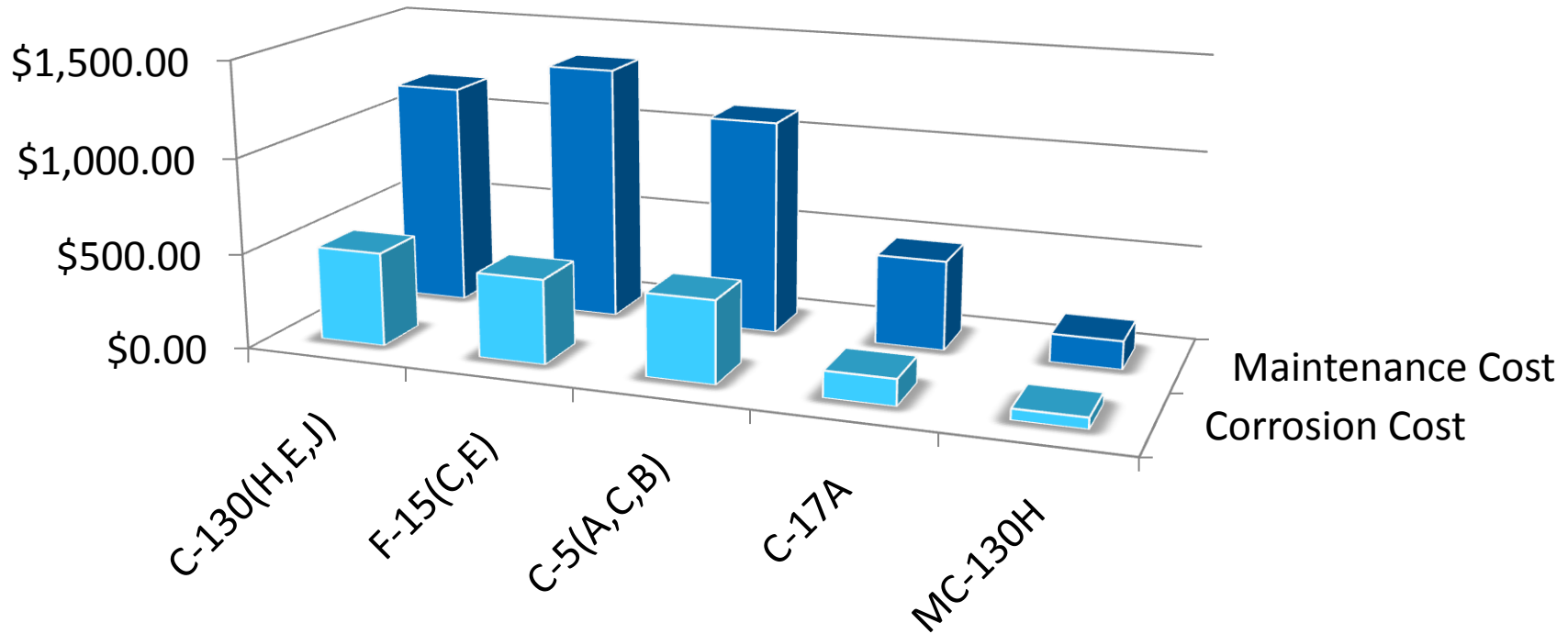


Rank	MDS	Mx Cost (\$M)	Corr Cost (\$M)	% Mx Costs
1	F-16C	\$1,761	\$489	28%
2	KC-135R	\$1,302	\$451	35%
3	A-10A	\$851	\$276	32%
4	C-130H	\$623	\$274	44%
5	B-1B	\$845	\$251	30%
6	B-52H	\$698	\$240	34%
7	F-15C	\$742	\$240	32%
8	F-15E	\$597	\$204	34%
9	C-5A	\$576	\$204	35%
10	C-5C	\$330	\$147	44%
11	C-130E	\$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

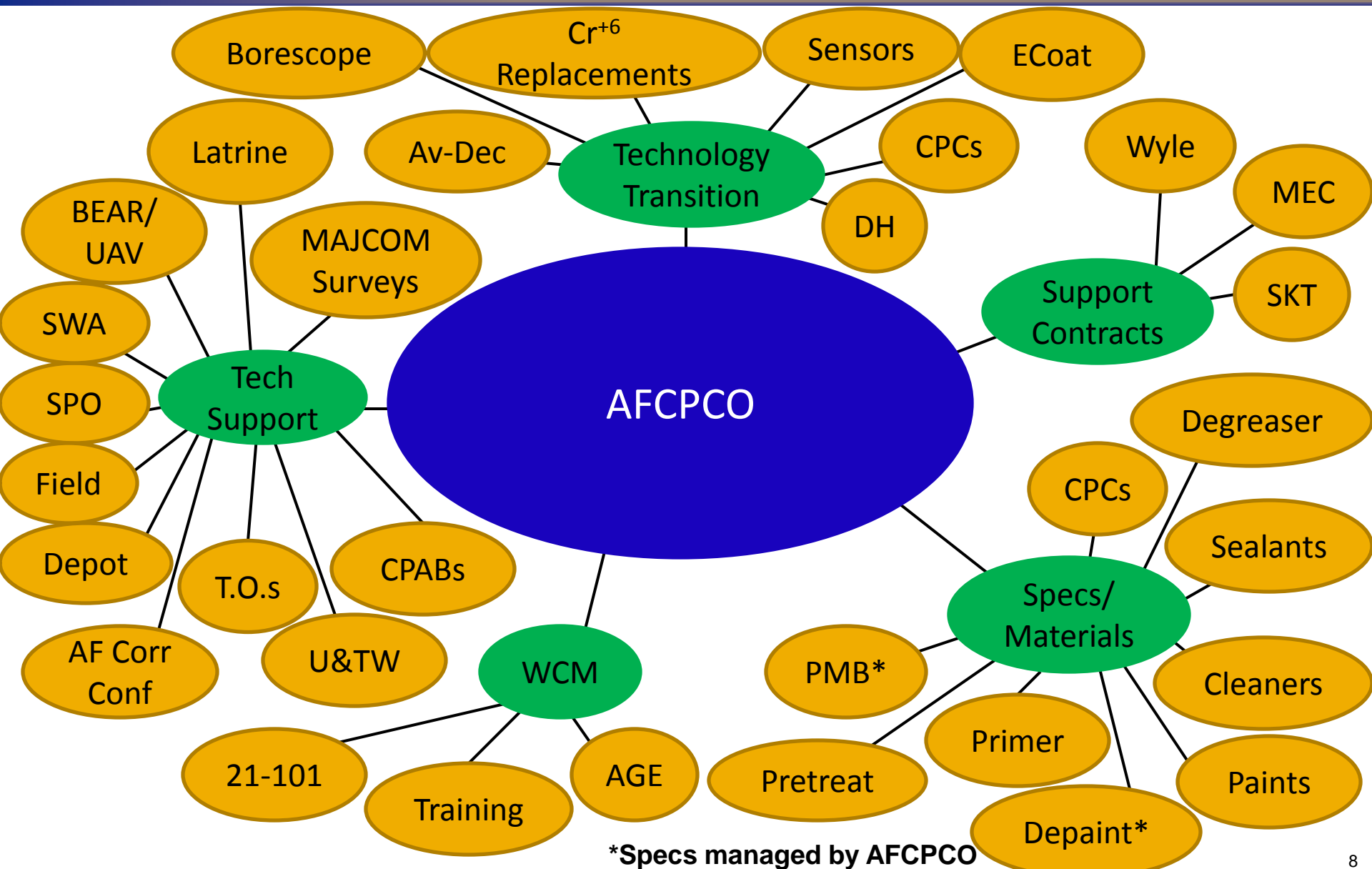
## MX and Corrosion Cost Comparison (\$M)



**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](mailto:AFRL.MLSOLR.Allpersonnel@robins.af.mil)
- 468-3284
- <http://afcpo.com/>
- AF Portal, Search for RXSSR

