

# Evolving Maintenance Metrics

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**Stu Paul**

**OPNAV N43**

**13 November, 2012**



# A Typical Day in the Navy

**11 Sept 2001:**

- **316 Ships**
- **371K Sailors**
- **92 Ships Deployed**
- **2 of 12 CVNs Deployed**
- **Minimal Boots on the Ground**

*"All Ahead Full"*



**Today:**

- **288 Ships**
- **318K Sailors**
- **113 Ships Deployed**
- **4 CSGs Deployed**
- **25+ Ships in Theater**
- **Expeditionary Support**
- **Maritime Security Operations**
- **~ 1.2M Flt Hours**
- **And More...**

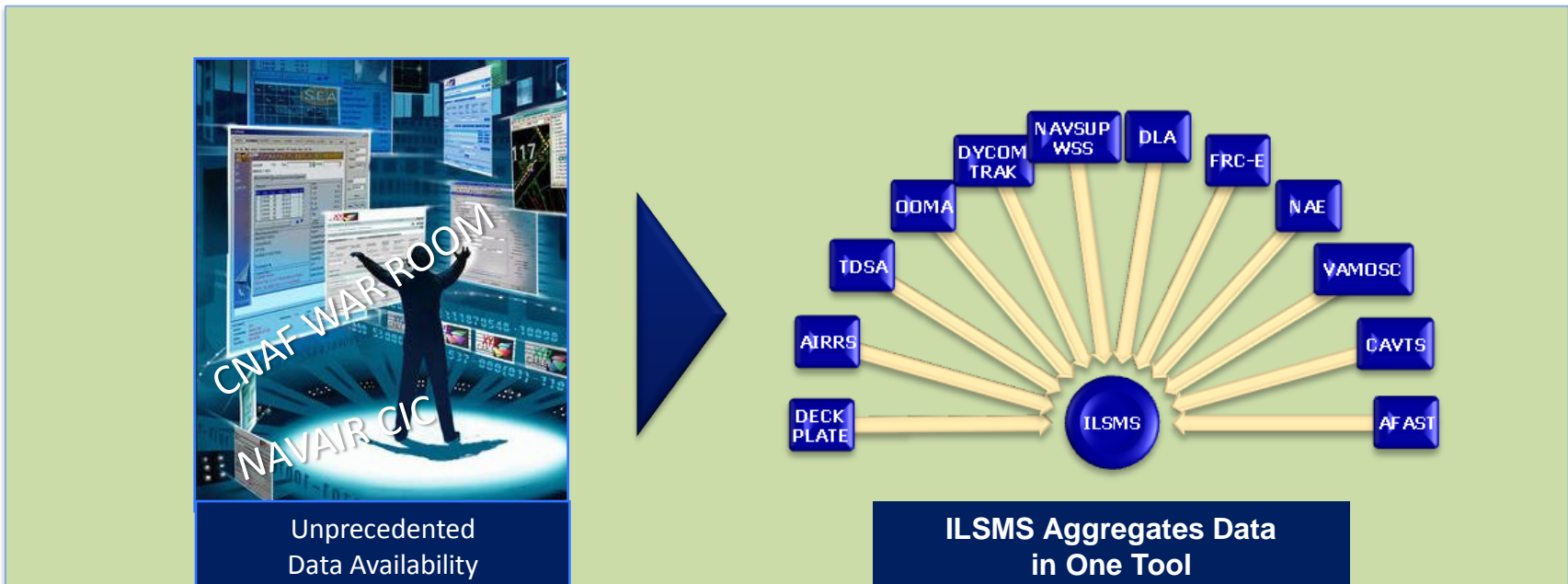
**Your Navy is Engaged Across the Globe and Busier Than Ever**



# Logistics Assessment Vision

(We're swimming in metrics, but ... )

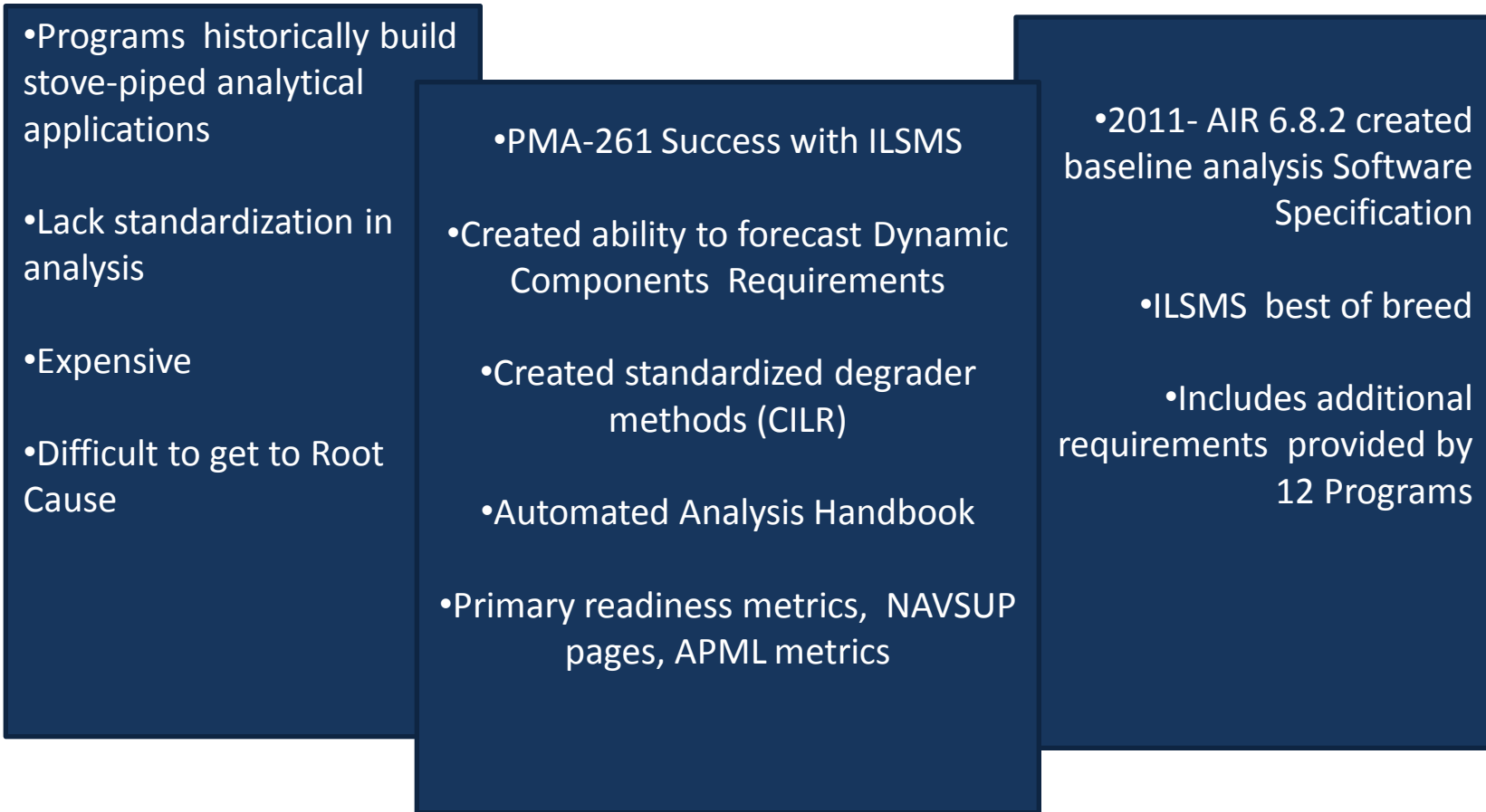
- Standardized Data Triage Process, Tools and Language
  - TMS Logistics Assessment enhanced by the implementation of Integrated Logistics Support Management System (ILSMS)
    - Exploit unprecedented access to maintenance and supply data
    - Advanced analytical and demand forecasting capability
- Improve Visibility of T/M/S Readiness & Cost Drivers
- Root Cause Analysis of Identified Issues
- Actionable Mitigation POA&M's with provider organizations



Logistics Assessment will be a key enabler in enhancing weapons system availability and reducing O&S cost



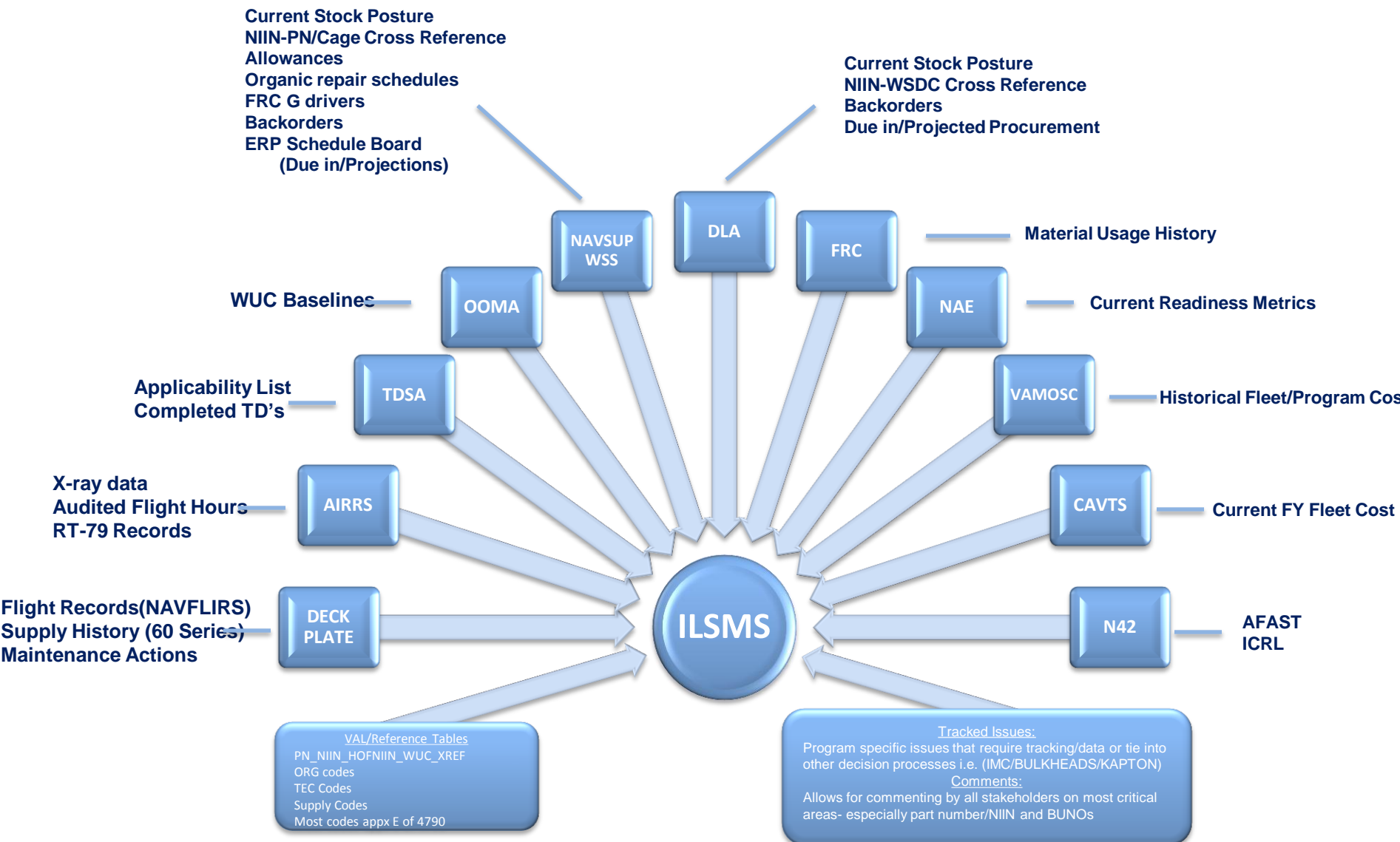
# Need for a common Aircraft Readiness & Cost Decision Support System





# ILSMS Data Sources

(We have the data, the metrics, now we add creativity)





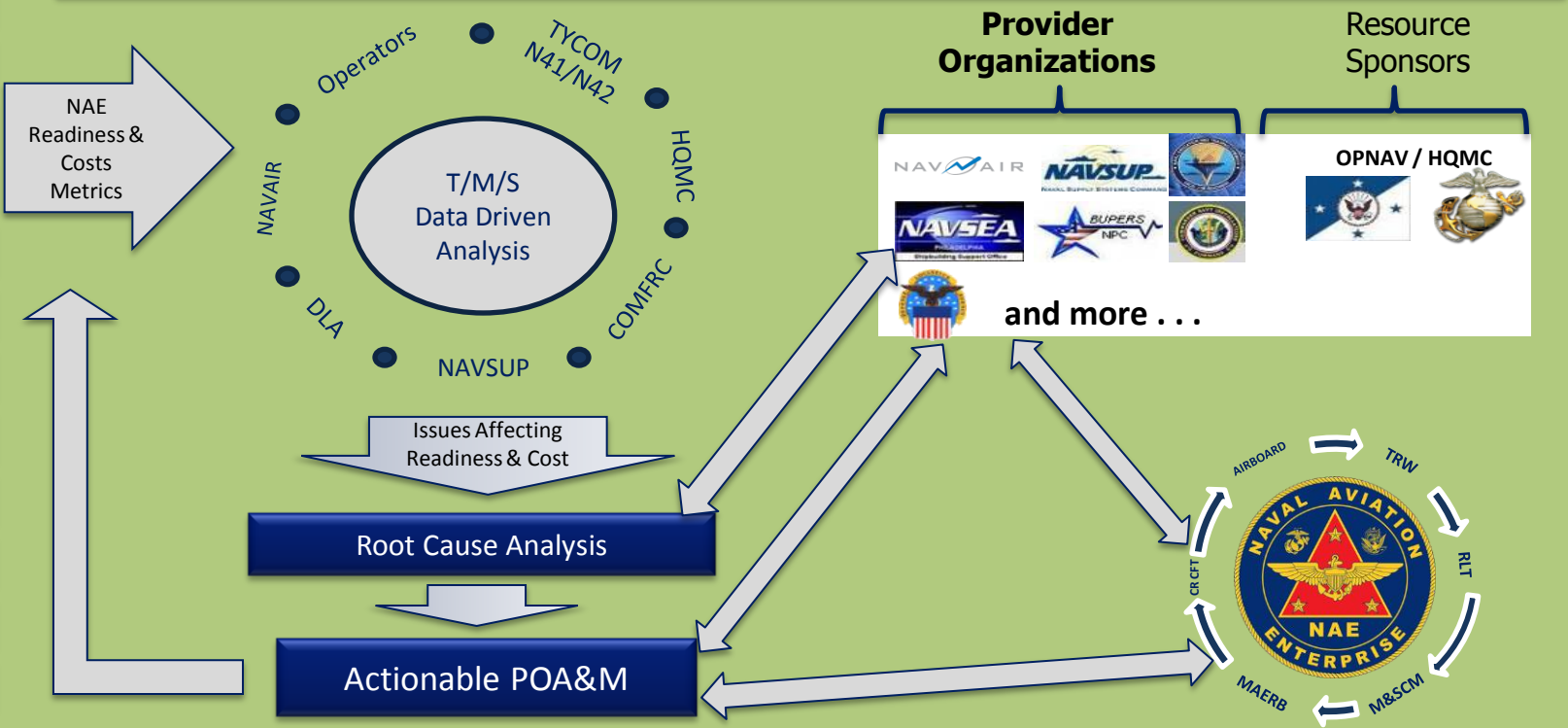
# Readiness "Kill Chain"

(A different perspective on what 'we' produce and why)



Logistics Impacts Each Link of the "Kill Chain"

**Logistics Assessment**





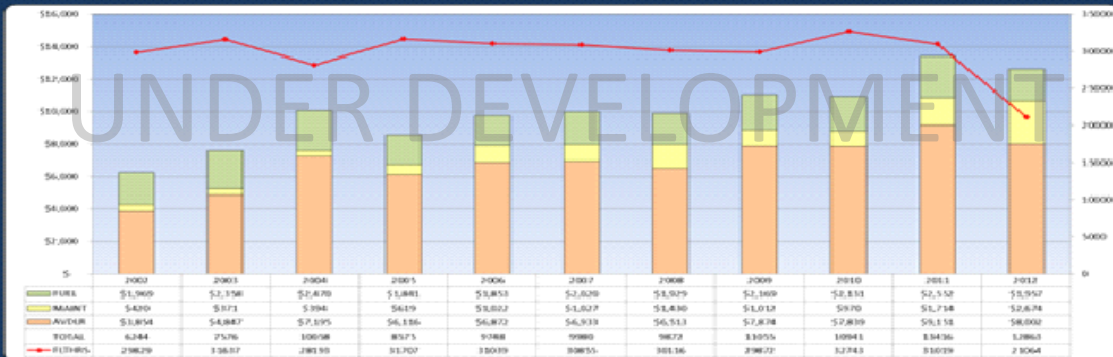
# ILSMS-Cost Module

## FLEET COST Page

Integrated Logistics Support Management System Version 2.0  
FLEET COST PER FLIGHT HOUR

Version 2.001.a1111

FLEET COST PER HOUR BY FISCAL YEAR



● TY \$  
● CURFY \$

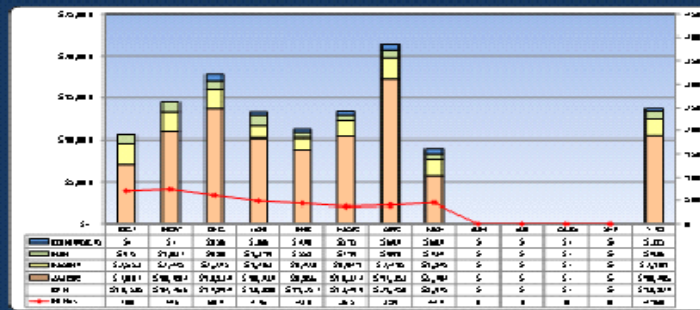
### FILTERS

Select TM/TMS  
 ALL H53  
 CH-53D  
 CH-53E  
 MH-53E

CURRENT FY FLEET COST TOTAL



CURRENT FY FLEET COST PER HOUR



**UNDER DEVELOPMENT**



# ILSMS-Readiness Module

## UTILIZATION Page

### MODULES

[Readiness Module](#)

[Cost Module](#)

[Trending Module](#)

[System Analysis](#)

[Component Detail](#)

[Supportability](#)

[Configuration Mgmt](#)

[Canned Reports](#)

[Canned Exports](#)

[Main Menu](#)

[MC / FMC](#)

[RBA / RFT](#)

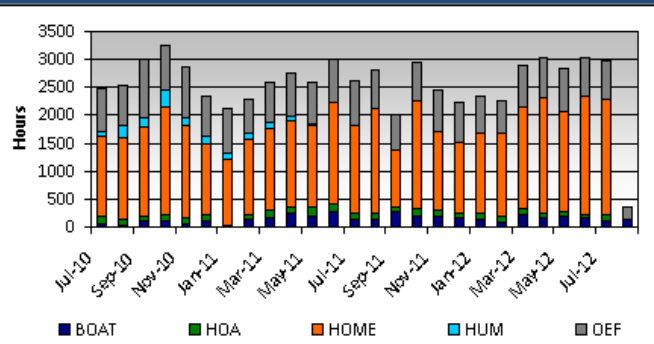
[Utilization](#)

Integrated Logistics Support Management System

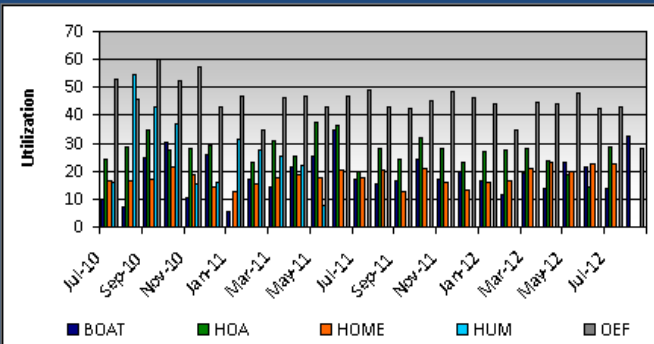
Version 2.001.a1111

### CH-53E UTILIZATION

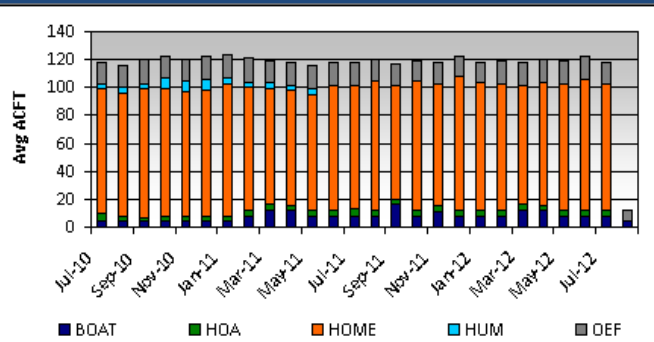
CH-53E Flight Hours past 24 Months/Location



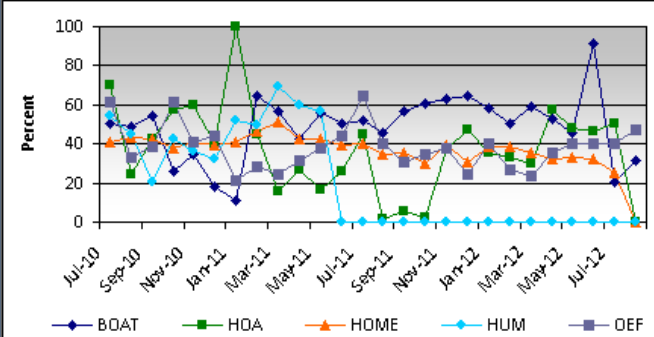
CH-53E Utilization past 24 Months/Location



CH-53E Average Aircraft past 24 Months/Location



CH-53E Utilization past 24 Months/Location



Select TMS

Select Date Range

- Fiscal Year(10 years)
- Past 24 Months
- Current Fiscal Year





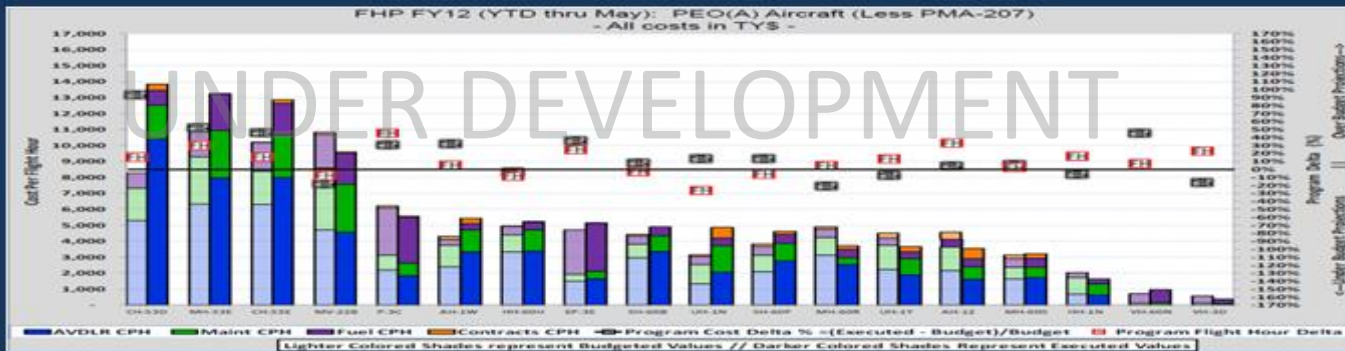
# ILSMS-Cost Module

## TMS CPI FLEET COST Page

TMS FLEET COST  
PERFORMANCE  
SYSTEM COST  
COMP COST

Integrated Logistics Support Management System Version 2.0  
TMS CURRENT FY PERFORMANCE INDICATORS

Select :  
● ALL  
● PEO(A)  
● PEO(T)



RESERVED FOR  
OUTPUTS



UNDER DEVELOPMENT



# ILSMS-Supportability Module

## NAVSUP REPAIR CALCULATOR Page

### Integrated Logistics Support Management System Version 2.0 Repair Calculator

#### ROTOR BRAKE MANIFOLD

FGC	WUC	LRC	COG	SMR	AAC	NET PRICE	UNIT PRICE	Assoc NIIN	H/M	LRC	Associated Part	NAVICP APP
EX8B	2606100	XTB	7R	PRODD	M	\$9,018	\$24,513	011298634	M	XTB	09-007	3CH53EK
PROC Lead	PROD Lead	ADMIN Lead	DMD-QTR	SCRAP	MCO	RTAT-C	RTAT-O	013155690	H	XTB	09-007A	3MH53EJA
555.0	451.3	103.8	19.4	0.01	E	44.1	44.1				00-007B	3LME26V

**REPAIR CALCULATOR:**

RFI	RFI	DUE-IN	DUE IN	E-M	E/M	G	G FACT	NRFI	NRFI	SURV
RETAIL	WHSLE	REP	SPARE	FACT	FACT					RATE
42	0	54	3	38	37.8	3	3.0	100	99	0.990
<b>TOTAL ASSETS: 139.79</b>										

**REPAIR SIMULATOR:**

RFI	RFI	DUE-IN	DUE IN	E-M	E/M	G	G FACT	NRFI	NRFI	SURV
RETAIL	WHSLE	REP	SPARE	FACT	FACT					RATE
42	0	54	3	38	37.8	3	3.0	100	99.5	1.0
<b>TOTAL ASSETS: 139.79</b>										

**Schedule Board**  
Repair rec:   
QTY: 89

Add To Schedule

Sites:

NIIN:

Pricing:

Schedule: Q1 Q2 Q3 Q4

Comments:

MIN	SITE	1st Half	2nd Half
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

**PROJECTED FLEET DEMAND**

**PROJECTED I LEVEL REPAIRS**

**PROJECTED NAVSUP DMD**

**PROJECTED POSTURE/PRE AND POST SCHEDULE**

**RECOMMENDATION:**

REPAIR PRICE	TOTAL	TOTAL COST	1ST HALF	1ST HALF COST	2ND	2ND HALF COST
RQMT	RQMT	RQMT	RQMT	HALF	HALF	
\$7,231	21	\$151,849	21	\$151,849	0	\$0

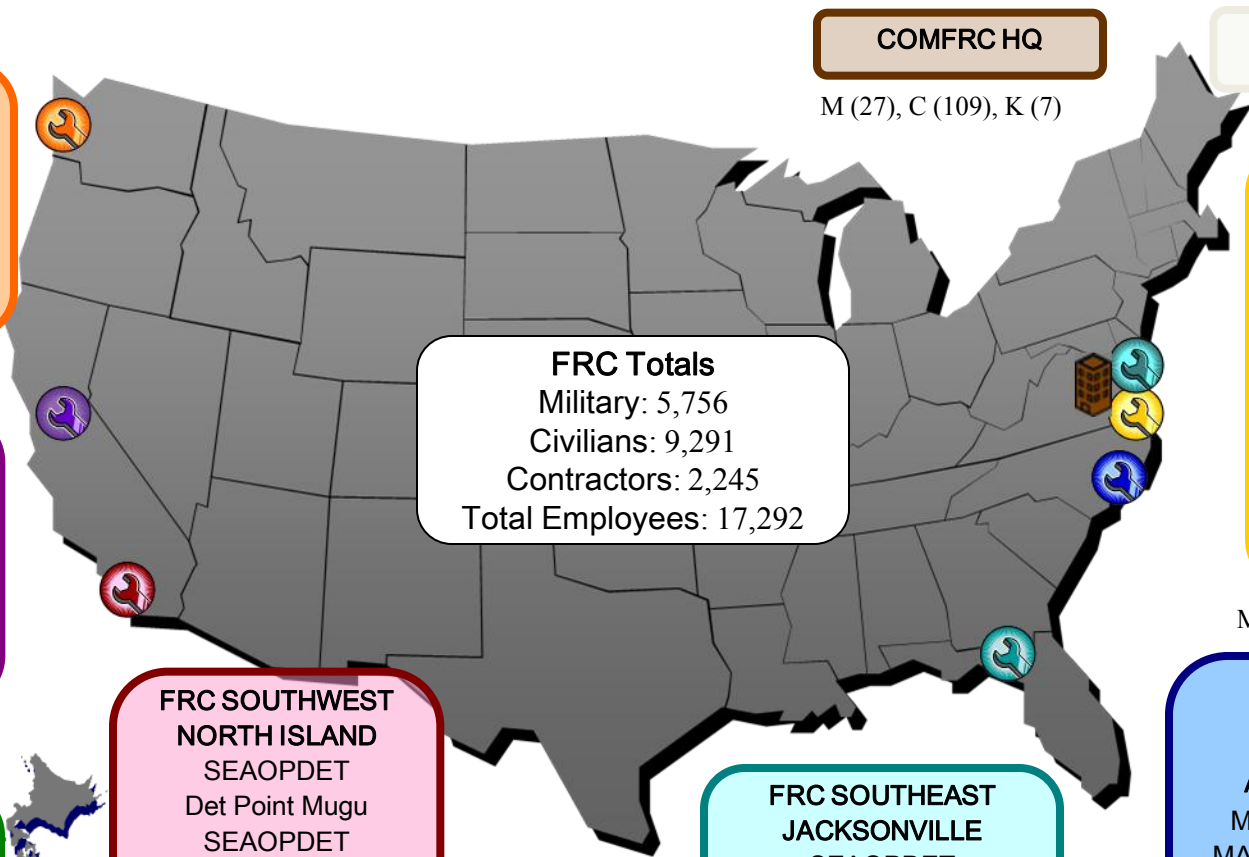
**CARCASS CONSTAINED RECOMMENDATIONS**

AVAIL	TOTAL COST	1ST HALF	1ST HALF COST	2ND HALF	2ND HALF COST
CARCASS	RQMT	RQMT	RQMT	RQMT	RQMT
21	\$151,849	21	\$151,849	0	\$0

UNDER DEVELOPMENT

# FRC MUSTER REPORT

## SEPTEMBER 2012



**FRC NORTHWEST  
WHIDBEY ISLAND**

ELU Det  
P3 OPDET  
SEAOPDET  
VANOPDET  
Det Everett  
FRCSW Det

M (744), C (84), K (49)

**FRC WEST  
LEMOORE**

SEAOPDET Lemoore  
Det Fallon  
FRCSW Det  
Det Fort Worth  
Det China Lake

M (1,072), C (115), K (94)

**FRC WESTPAC**

NAF Atsugi  
Det Guam  
Det Okinawa  
Det Singapore  
Det Korea  
Det Iwakuni

M 34, C (73), FNK (83)

**FRC SOUTHWEST  
NORTH ISLAND**

SEAOPDET  
Det Point Mugu  
SEAOPDET  
Det NAVCAL Lab  
Futenma  
Det NAVCAL Lab  
Iwakuni

**AFFILIATION WITH:**  
MALS-39 Pendleton  
MALS-13 Yuma

M (875), C (2,560), K (695)

**COMFRC HQ**

M (27), C (109), K (7)

**FRC SEFAC  
SOLOMON'S ISLAND**

M (0), C (25) K (528)

**FRC MID-ATLANTIC  
OCEANA**

Det Oceana  
SEAOPDET Oceana  
Det Norfolk  
SEAOPDET Norfolk  
Det Pax River  
Det New Orleans  
Det Washington  
Aircraft Dept  
(Oceana/Norfolk)  
Voyage Repair Team  
(Norfolk/Mayport)

M (1,894), C (327), K (186)

**FRC SOUTHEAST  
JACKSONVILLE**

SEAOPDET  
P-3 OPDET  
Det Mayport  
Det Key West

M (986), C (2,790), K (305)

**FRC EAST  
CHERRY POINT**

Det McGuire  
**AFFILIATION WITH:**  
MALS-14 Cherry Point  
MALS-26 & 29 New River  
MALS-31 Beaufort  
HMX-1 Quantico  
MALS-49 Stewart

M (124), C (3,208), K (298)

**FRC Totals**

Military: 5,756  
Civilians: 9,291  
Contractors: 2,245  
Total Employees: 17,292

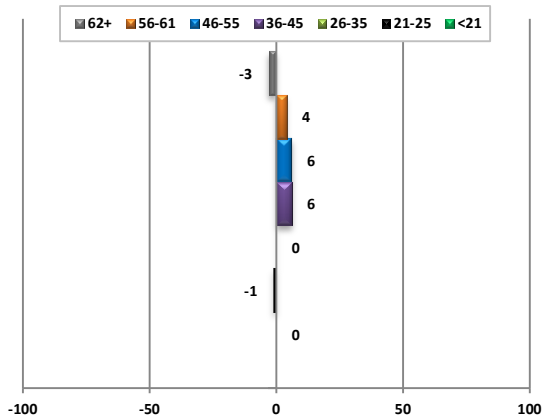
# Civilian Demographic Executive Dashboard

## FRC Southeast

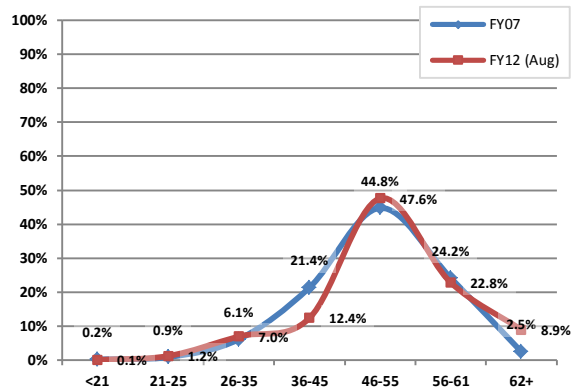
FY07 OB: 64  
 FY12 OB: 52  
 NET G/L: -12

FY07 AVG AGE: 51.1  
 FY12 AVG AGE: 51.6  
 NET CHG: +0.5

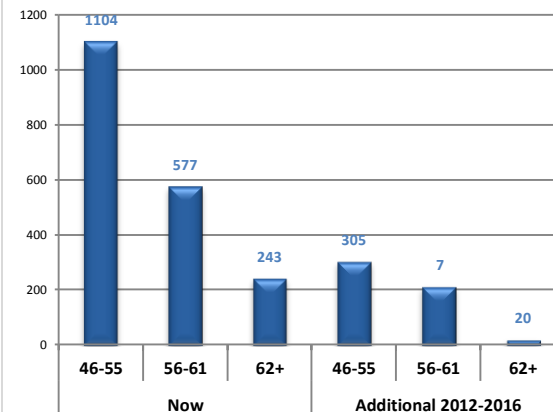
Age Group On Board Count Differences  
 FY07 vs FY12 (Oct)



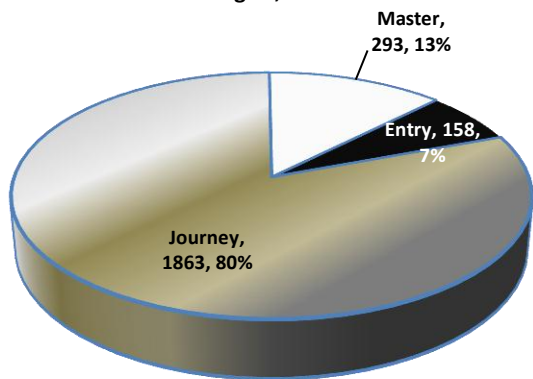
Age Group As Percent of On Board Population  
 FY07 vs FY12



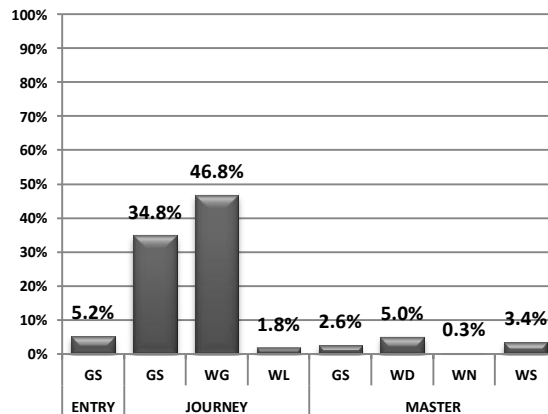
Optional Retirement Eligibility  
 Eligible Now Thru 2016, Age 46+



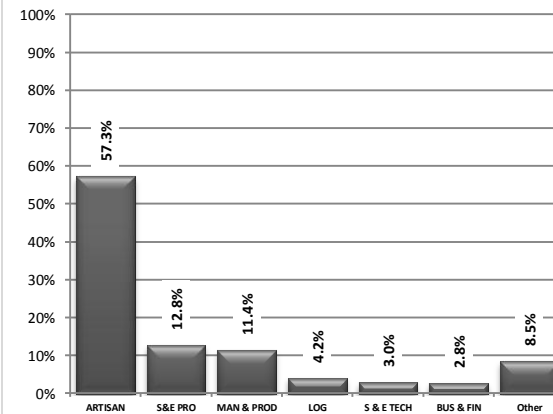
Proficiency Level Distribution  
 Aug 30, 2012



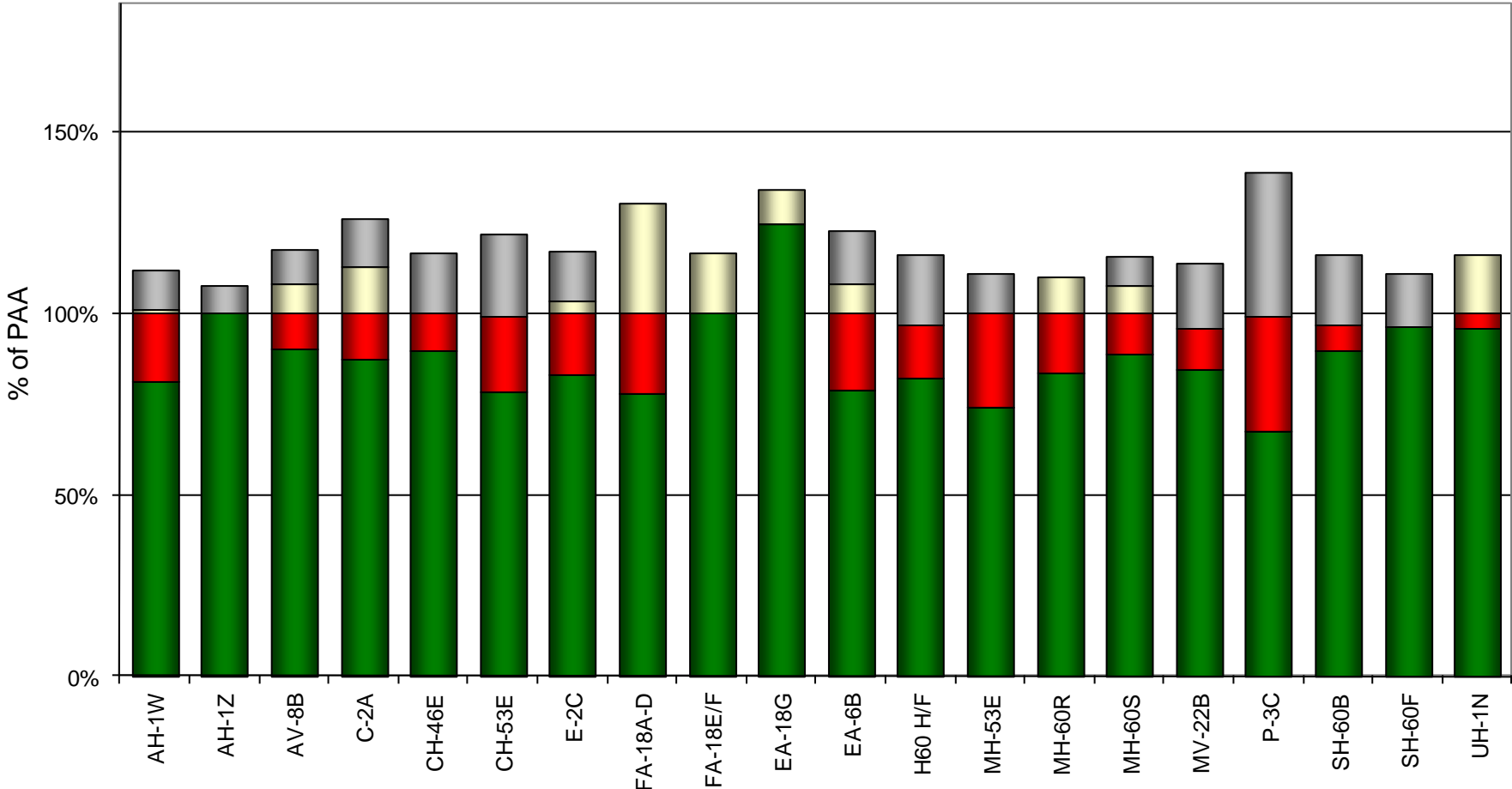
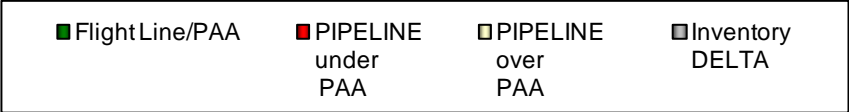
Grade Level Distribution  
 Aug 30, 2012



Community Distribution  
 Aug 30, 2012



# Aircraft Inventory Status (TMS)

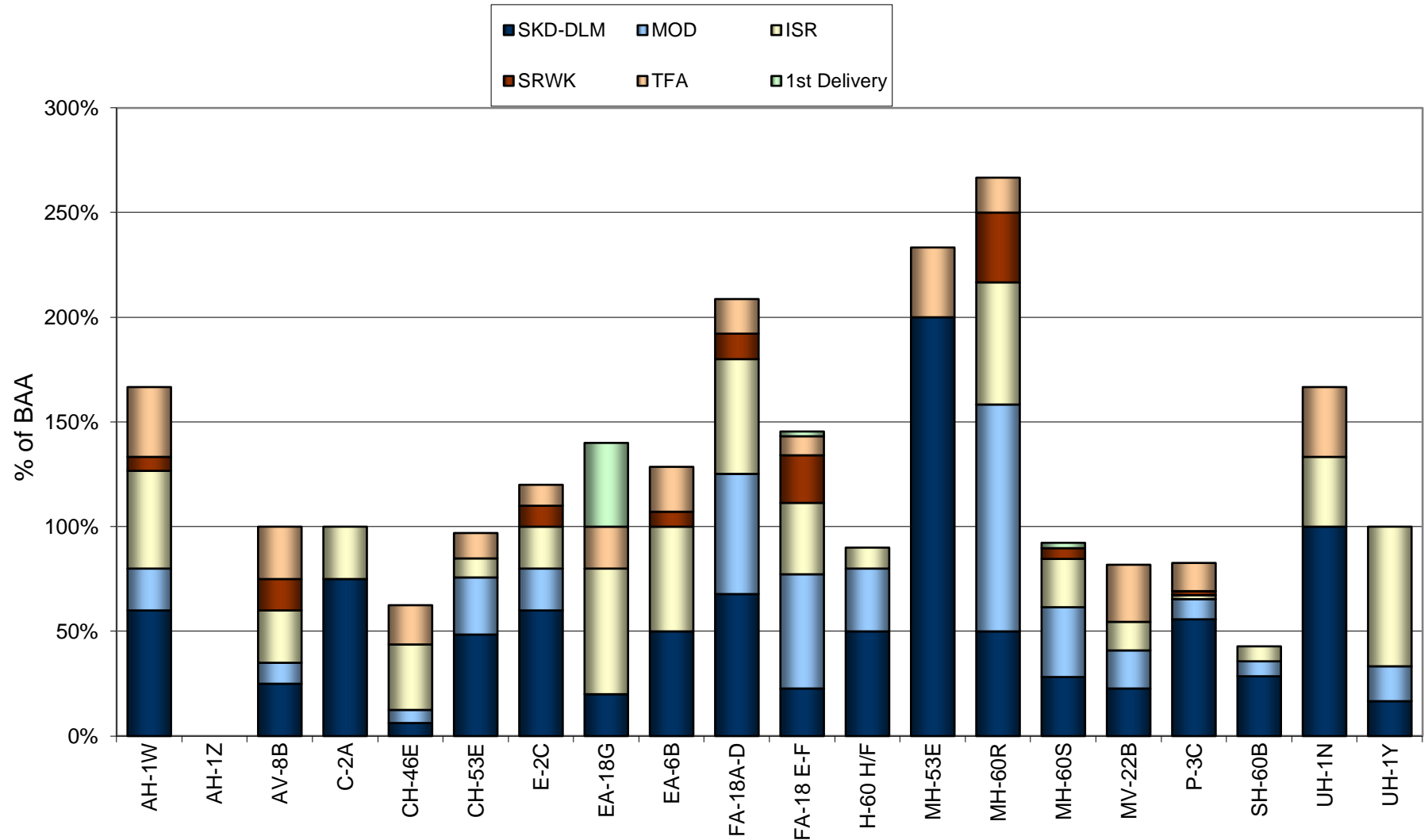


- Data was pulled from AIRRS as of 8/30/2012.

- Requirements data is based on the Aircraft Inventory Budget Exhibit (A-II) version 77.

POC: Chris Chisler, COMFRC 6.8.2.4, 301-757-8824

# Pipeline Breakout (TMS)



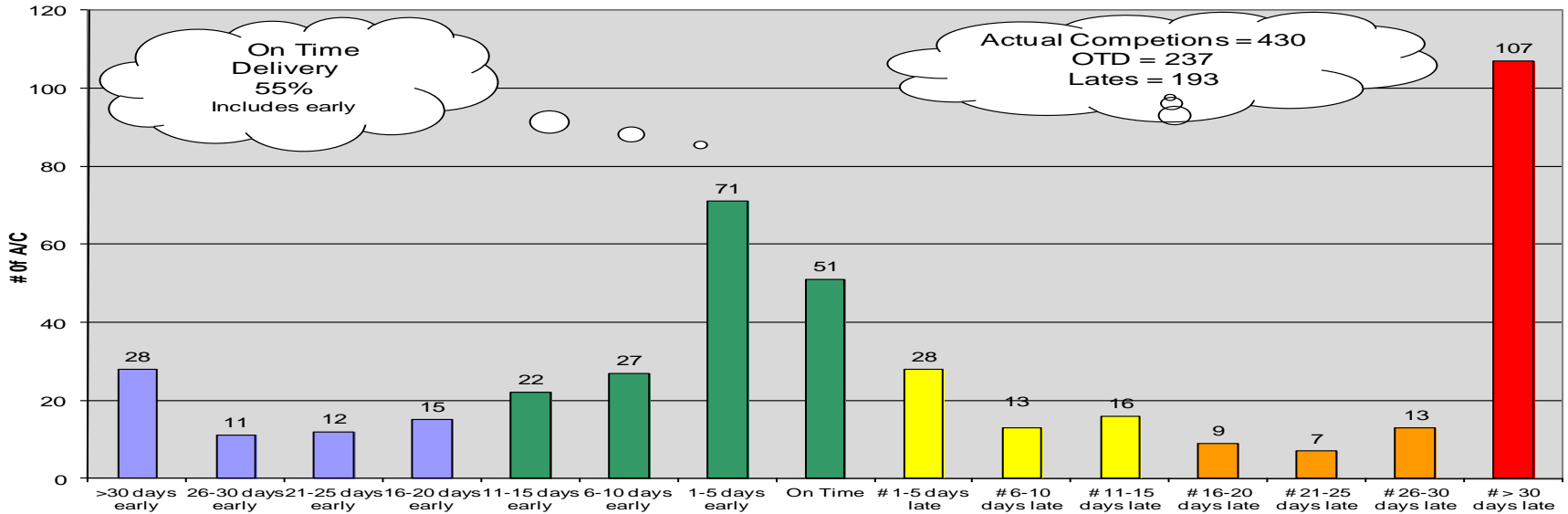
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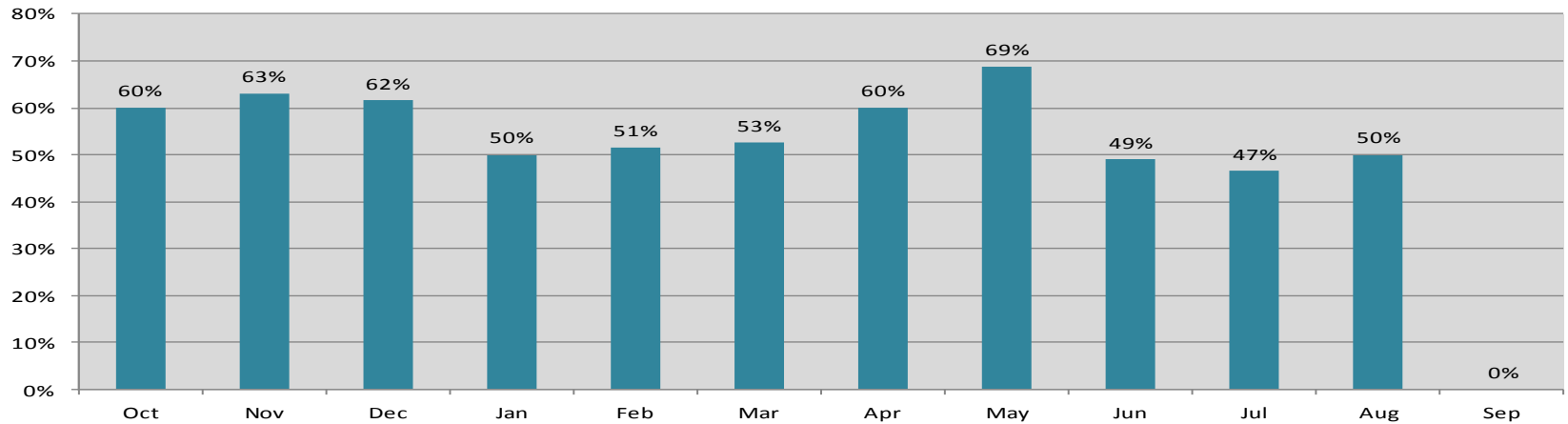
# COMFRC AIRCRAFT PFR DATA

All Aircraft TMS Days Early/Days On Time/Days Late



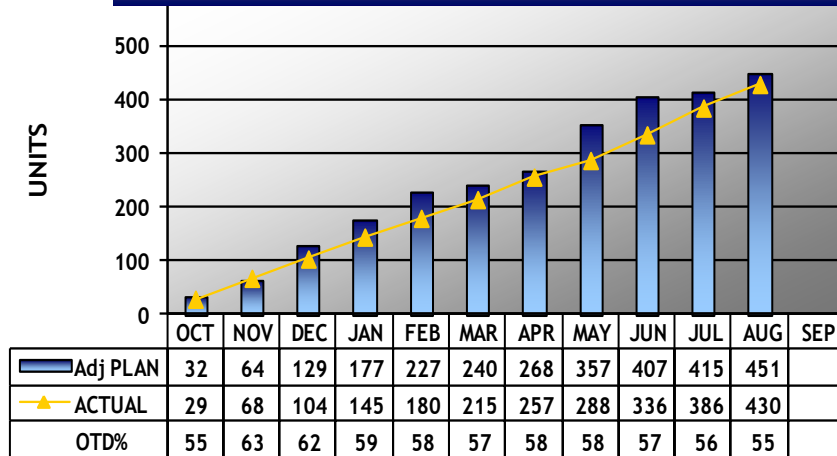
Late/Early/On Time  
Data Represents Oct 1, 2011 - Aug 31, 2012

## FY-12 OTD% by Month



# FY12 Production Plan vs Actual

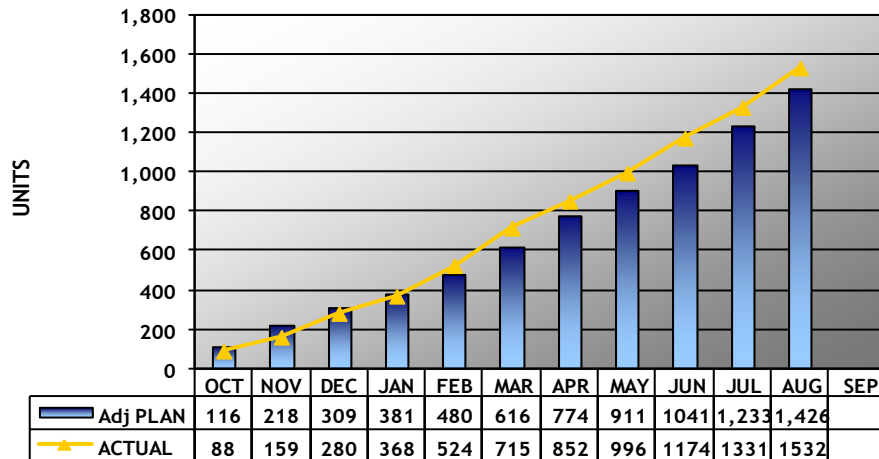
## Airframes Production



### • Airframes

- FA-18A-D: 50 Basic, 35 Rev A, total 85 complete; 8 of these completed by Boeing Cecil and released for 600 hour flight extension. 88 HFH IW; High variability in material and stress corrosion cracking is significantly effecting TAT. .
- H-1: Working with SW, E and PMA-276 on establishing H-1 IMC field event capability at Kbay & New River.
- E-2: There has been a bi-weekly supply SYNC telecon since February 2012 to track/discuss/resolve material and production concerns. Supply SYNC successes: White boards at each cell to capture constraints and Identify leading & lagging measures. FRC and class deck working to prioritize ISR(s) to help the FRC utilize man power better.

Source: PSR/Open Plan



### • Engines & Modules

- F414: No change. Production continue to track ahead of get well plan (Mar to Sep ERG improvement from -182 to -75). COMFRC TFM/Contracts working to augment AZ rating personnel at FRCW due to new heights in engine production requirements
- J52: Deficiencies on new 2<sup>nd</sup> stage shrouds & thermostats affects on-time-delivery at FRCSE
- T64: Piston Rings/Air Seal, Piston Spacer and Turbine Seals impacting production at FRCE & FRCMA. DLA & Program Office working with vendor for delivery.

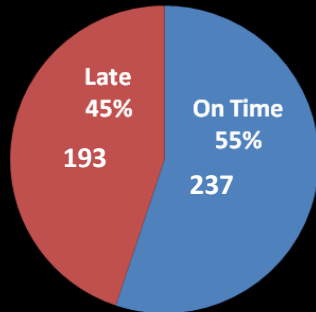
Source: PSR/Open Plan





# COMFRC ON-TIME DELIVERY PERFORMANCE

## FY-12 On Time Delivery



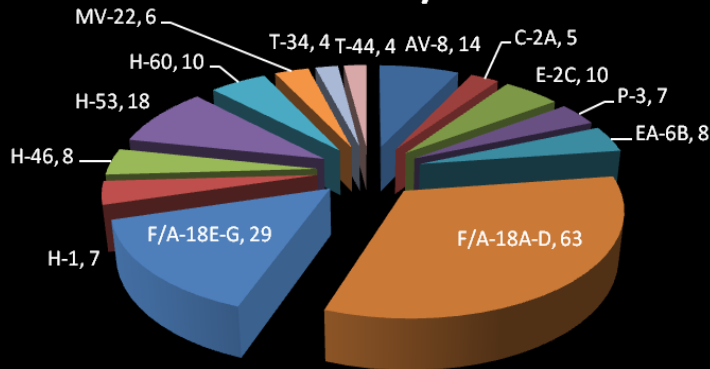
## FY-12 On-Time-Delivery Performance

- FY-12 Aircraft Completions Oct-Aug: 430
- FY-12 On-Time-Delivery Target: 70 Percent (301)
- FY-12 On-Time-Delivery Actual: 55 Percent (237)
- FY-12 Late Deliveries Actual: 45 Percent (193)

## FY-12 Late Delivery Drivers by TMS

- F/A-18 A-D (Represents 33 percent of COMFRC Late Deliveries)
  - FY-12 Units Processed: 82
  - On-Time-Delivery Target: 70 Percent (58)
  - On-Time-Delivery Actual: 23 Percent (19)
  - Late Deliveries Actual: 77 Percent (63)
  - Impact to Flight Line Gap: 23.1
- **Primary Driver: HFH Inspection Engineering/Material**
- F/A-18 E-G (Represents 15 percent of COMFRC Late Deliveries)
  - FY-12 Units Processed: 59
  - On-Time-Delivery Target: 70 Percent (41)
  - On-Time-Delivery Actual: 51 Percent (30)
  - Late Deliveries Actual: 49 Percent (29)
  - Impact to Flight Line Gap: 00.0
- **Primary Driver: 7R Components/Flight Surfaces, Landing Gear**

## Late Delivery TMS





# COMFRC COST AND ON-TIME DELIVERY PERFORMANCE

Aircraft	Plan (M\$)	Actual (M\$)	Cost Delta (\$)	OTD
AV-8	12.1	15.5	-3.40	42%
C-2A	10.9	12.3	-1.40	62%
E-2C	28.2	26.9	1.30	38%
P-3	10.4	9.6	0.80	30%
EA-6B	10.9	10.7	0.20	65%
F/A-18A-D	50.5	47.5	3.00	23%
F/A-18E-G	8.6	9.3	-0.70	51%
H-1	17.3	15.6	1.70	87%
H-46	26.7	30	-3.30	50%
H-53	45.3	46	-0.70	42%
H-60	34.4	33.1	1.30	88%
MV-22	4.1	4.6	-0.50	45%
T44	2.9	3.1	-0.20	0%
Total	262.3	264.2	-1.90	
			<b>Pearson r = 0.04916</b>	

## FY-12 Cost Performance

- FY-12 Aircraft Completions Oct-Aug: 430
- FY-12 Total Planned Cost: \$262.3M
- FY-12 Total Actual Cost: \$264.2M
- FY-12 Total Overall Cost Delta: - \$1.9M

## FY-12 Negative Cost Drivers by TMS

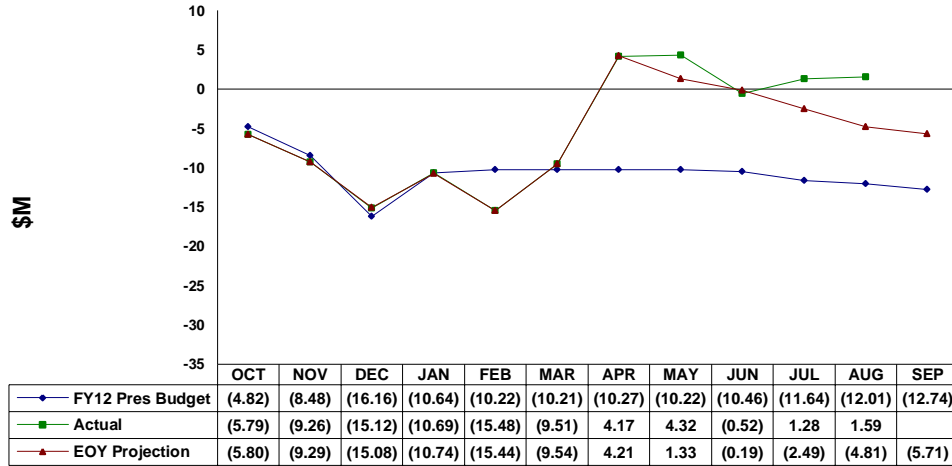
- AV-8: (- \$3.4M) 28 percent above plan
  - Labor associated with concurrent and Stand-alone Modifications
- H-46: (- \$3.3M) 12 percent above plan
  - Labor associated with concurrent modifications
- C-2A: (- \$1.4M) 13 percent above plan
  - Labor associated with tail surface material condition, cannibalization costs

## FY-12 Cost VS OTD Correlation

- Pearson correlation coefficient  $r = .04916$ 
  - Indicates no relationship between OTD and Cost
  - Data shows poorest "cost" performers have better OTD than best "cost" performer (F/A-18A-D)

# FRC NOR

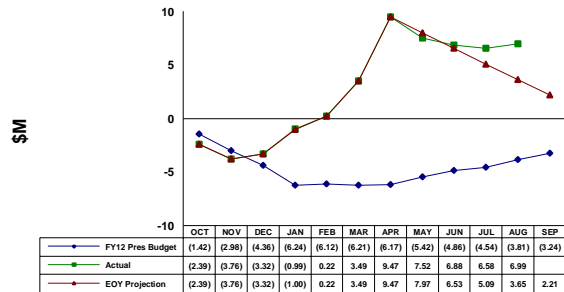
## TOTAL FRC



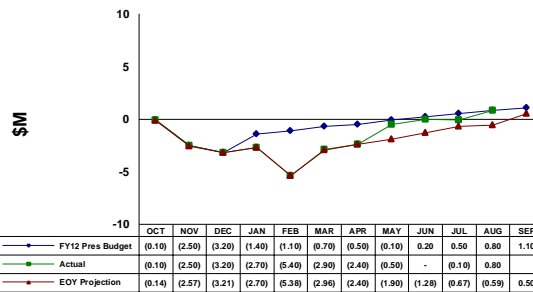
## \$13.6M ABOVE PRES BUDGET

- FRCE **\$10.8M variance** Aircraft: Experiencing gains of \$2.0M primarily related to CH53 and H1 platforms. Components: Not experiencing losses from prior year inductions (G condition) as anticipated in the budget. Year-to-date losses are \$2.1M versus \$8.6M a year ago. Other Support & Manufacturing: Experiencing gains of \$2.6M due to increase in workload.
- FRCSW **\$2.8M variance** due to NSF Component rate gains.

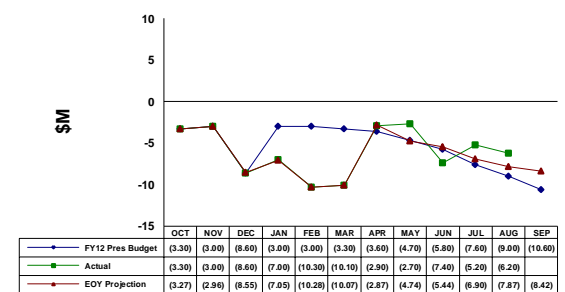
## FRC EAST



## FRC SOUTHEAST



## FRC SOUTHWEST



## BLUF DESCRIPTION

### Fleet

#### Green

-Flight Line Gap  $\leq$  RBA Gap and Flight Line Gap  $\leq$  Late FRC WIP

#### Yellow

- One of the above criteria is not true

#### Red

- Both of the above criteria are not true

### Production

#### Green

-OTD  $\geq$  70% and Late FRC WIP  $\leq$  Flight Line Gap and Year to Date Completions (Plan - Actual)  $\leq$  0

“when Flight Line Gap is 0 then this measure would be true even if we have late WIP. If the fleet does not have a gap then why penalize the FRC if they are late”.





























#### Yellow

- One of the above criteria is not true

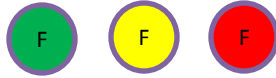
#### Red

-Two or more of the above criteria are not true

# TMS AIRCRAFT

Fleet Status	Prod Status	T/M	Comments
		AV-8B	Inventory constrained aircraft with OSD extended from 2026 to 2030. TAT increased by parts shortages, concurrent & stand alone MOD requirements.
		C-2A	Material constraints and cannibalization. Looking at black belt on Dissy/E&E phase. Bi-weekly Supply Synch telecom being held to track/discuss/resolve material and production issues. Current OWP (Outer Wing Panel) are approaching life limit. The fleet will purchase new OWP.
		E-2C	Material constraints and cannibalization. Looking at black belt on Dissy/E&E phase. Bi-weekly Supply Synch telecom being held to track/discuss/resolve material and production issues. Current OWP (Outer Wing Panel) are approaching life limit. The fleet will purchase new OWP.
		P-3C	Concurrent MODs are driving increased TAT. Inventory constraint will continue to be a problem until P-8 comes on board.
		EA-6B	No production issues / Fleet: Inventory draw down. Red because flight line gap is greater than RBA.
		F/A-18A-D	Material shortages for HFH, standard repairs for HFH & engineering support for HFH.
		F/A-18E-G	Shortages for 7R components (flight surface, landing gear, etc) and engineering support to deliver timely dispositions on AEPD gripes are a concern. Not adversely affecting OTD but could be a concern if situation doesn't improve.
		H-1	Fleet: Flight line Gap on AH-1W. Production one late in WIP.
		H-46	Concurrent MODS are driving increased TAT. Flight line gap due to inventory constraints.
		H-53	Main gearbox shortages continue to impact production.
		H-60	No issues
		MV-22	MV-22: PMI & Block A to B Mod AC. FY15 WLS TAT has been increases.
		T-34	Prototype still working out material contracting issues
		T-44	Prototype still working out material contracting issues

# ENGINE COLOR CODE METRICS



## FLEET RATING SCALE

GREEN	YELLOW	RED
CNAF POOL STATUS > 84%	CNAF POOL STATUS 50% - 84%	CNAF POOL STATUS < 50%

\*Percentages based on CNAF Pool Report color codes

## PRODUCTION RATING SCALE

































MATERIAL	EQUIPMENT	SKILL SET
<b>C1</b> C1 - <b>NO MATERIAL ISSUES</b> - No cannibalizations - Parts available & in system	<b>C1</b> C1 - <b>NO EQUIPMENT ISSUES</b> - Primary Equipment in UP Status	<b>C1</b> C1 - <b>NO SKILL SET ISSUES</b> - Skill set in place & readily available - Fully trained
<b>C2</b> C2 - <b>MINOR MATERIAL ISSUES</b> - Cannibalizations occurring - Parts on order / enroute (with EDD)	<b>C2</b> C2 - <b>MINOR EQUIPMENT ISSUES</b> - Still Operational (using workaround) - Legacy Back-up is available (in house)	<b>C2</b> C2 - <b>MINOR SKILL SET ISSUES</b> - Skills somewhat limited - cross training in progress - augmenting from other areas (in house, same qualifications)
<b>C3</b> C3 - <b>SIGNIFICANT MATERIAL ISSUES</b> - Cannibalizations occurring - iPG1 - Backorders (unknown EDD or past due) - Engineering assistance required - Using parts from AMARG	<b>C3</b> C3 - <b>SIGNIFICANT EQUIPMENT ISSUES</b> - Limited/Assisted Capability - Utilizing alternate facilities - Waiver submitted/approved	<b>C3</b> C3 - <b>SIGNIFICANT SKILL SET ISSUES</b> - Diminishing skill set - losing skill set due to retirement - replacements are wrong mix of talent (different/other qualifications)
<b>C4</b> C4 - <b>MAJOR MATERIAL ISSUES</b> - No contracts in place to obtain parts - No Parts available or on order - No cannibalization opportunities ** Any C4 Rating indicates work stoppage	<b>C4</b> C4 - <b>MAJOR EQUIPMENT ISSUES</b> - Non-Operational - No back-up available ** Any C4 Rating indicates work stoppage	<b>C4</b> C4 - <b>MAJOR SKILL SET ISSUES</b> - No one qualified - No school house ** Any C4 Rating indicates work stoppage

<b>If any two categories are C1/C2 then overall Production color will be GREEN.</b>
<b>If any two categories are C3 then overall Production color will be YELLOW.</b>
<b>If any category is C4 then overall Production color will be RED.</b>

\*\* "C" Ratings adapted from Broad Arrow (BA) Reporting conditions found in NAMP Vol 5.1.2.11. The ratings focus on the sites ability to support the customer/squadrons.

# TMS ENGINES

Fleet Status	Prod Status	T/M	Comments
		<b>F402-RR-408B</b>	Pools are 81% filled. Delay for HPT 1 vanes for Combustion Chamber MRA, Seal for LPC MRA & diffuser blankets. Engine vibes due to HPC anomalies have caused several engine test cell rejects. Dano Bat has caused work delays.
		<b>F404-GE-400</b>	Pools are 100% filled. No major issues. Delays for Stator Pins, Tube Assembly, and Actuator Assembly caused late OTD.
		<b>F404-GE-402</b>	Pools are 100% filled. No major issues. Delays for Inner Nozzle Support caused late OTD.
		<b>F414-GE-400</b>	Pools are 100% filled. FRCW needs AD rating personnel to accommodate new engine demand rates. CRA delays contract award.
		<b>J52-P-408B</b>	Pools are 100% filled. Technical issues with newly designed 4.5 bearing is still under engineering investigation. Bearing supply being addressed accordingly. Discovering defective 2nd stg shrouds and thermostats (new parts) at FRCSE. FRCNW's CFT request approved
		<b>T400-CP-400</b>	Pools are 100% filled. No major issues.
		<b>T56-A-14</b>	Pools are 100% filled. FRCSE: Cannibalizing Chin cowlings to sustain production. FRCNW/SE: Outstanding for RGB Nose Bearings, NAVSUP is searching for vendor. FRCs: Manpower constraints due to ERB and sailors checking in without T56 experience.
		<b>T56-A-16</b>	Pools are 92% filled. FRCW: Several QECs require extensive structural repair for loose rivets and failed longeron cross beams & mounts. Cannibalizing oil cooler flap actuators. FRCs: Manpower constraints, shops being augmented by non mech rates.
		<b>T56-A-425</b>	Pools are 80% filled. FRCSW & FRCMA reporting back orders of Scavenge Oil Filter Heads, QEC Propeller Harness, Engine Mount Brackets. FRCSW: 2 outstanding reqs for Oil coolers, cannibalizations being performed to sustain production.
		<b>T56-A-427</b>	Pools are 100% filled. FRCSW & FRCMA reporting back orders of Scavenge Oil Filter Heads, QEC Propeller Harness, Engine Mount Brackets. FRCSW: 2 outstanding reqs for Oil coolers, cannibalizations being performed to sustain production.
		<b>T58-GE-16A/400B</b>	Pools are 100% filled. Primary fuel nozzles and combustion liners causing material delays. Back shop delays for the anti-ice valve which has caused late OTD's. #1 test cell is down for load cell; EDD of Feb 2013. Dano Bat has caused work delays.
		<b>T64-GE-416/416A</b>	Pools are 100% filled. Kaydon carbon seals & PPC-109 parts kit (-416 to -416A Kit), air seal ring and piston spacer continue to contribute to work delays. Dano Bat has caused work delays.
		<b>T64-GE-419</b>	Pools are 77% filled. FRCE: Kaydon Air seal ring and piston spacer continue to contribute to work delays. Dano Bat has caused work delays. FRCMA: Metal seal causing work delays.
		<b>T700-GE-401</b>	Pools are 100% filled. No repairs this fiscal year to date. Looking to remove capability at FRCMA New Orleans. Majority production at MALS.
		<b>T700-GE-401C</b>	Pools are 100% filled. Norfolk personnel changeover required training resulting in late OTD and test cell issues. North Island and Mayport cannibalizing due to delivery delays to meet demand.

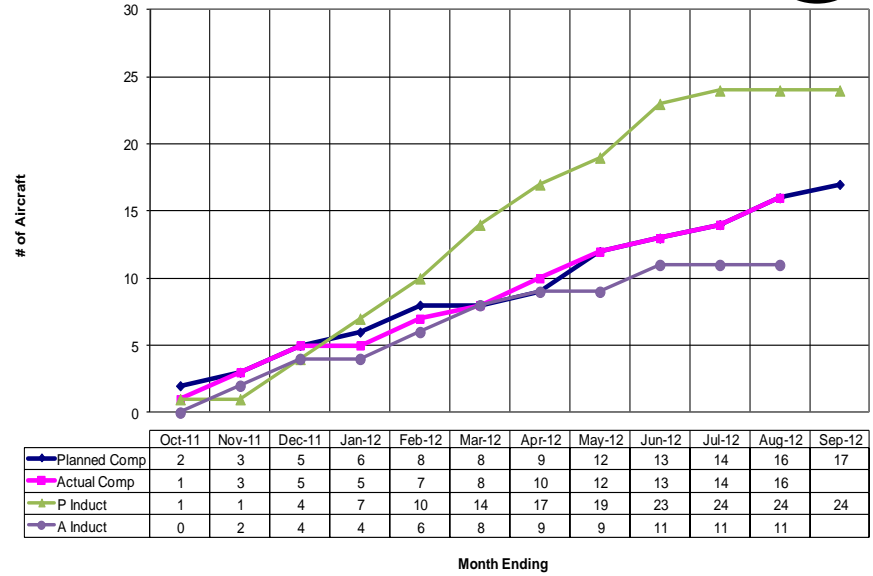
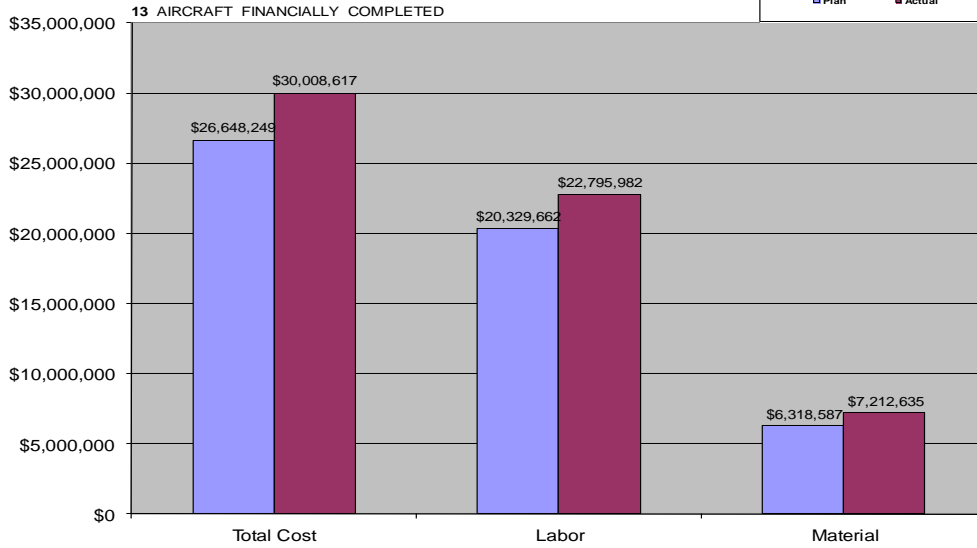


# H-46 Quad Chart Ending -Aug 31, 2012

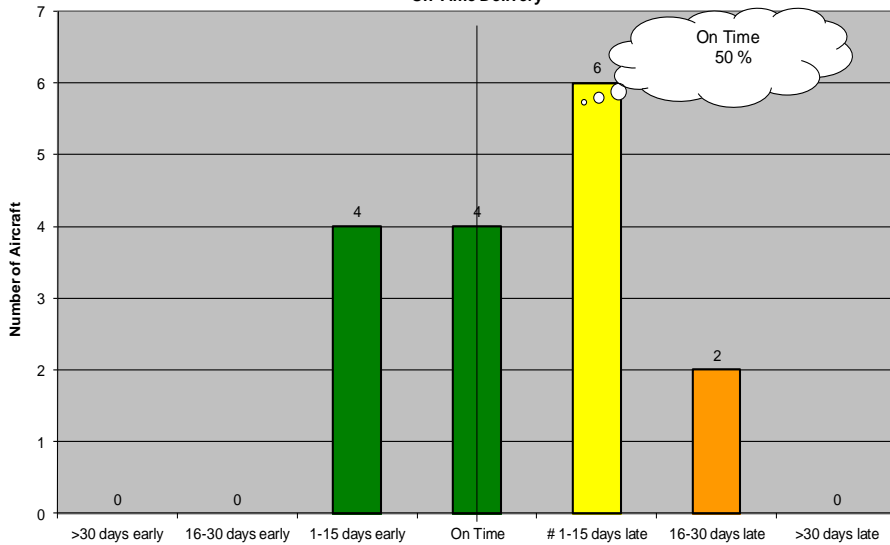
Planned vs Actual Completions  
Planned vs Actual Inductions



YTD Cost



On Time Delivery



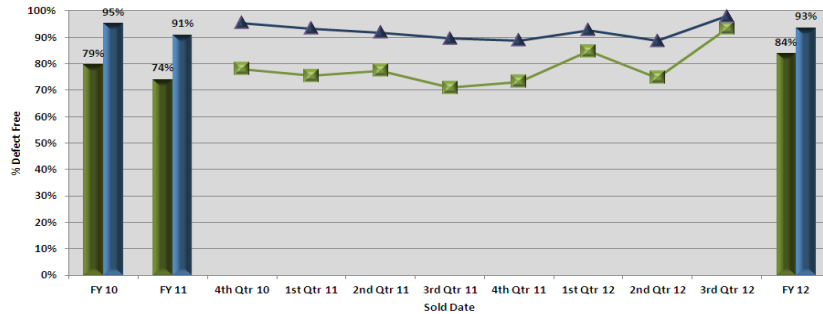
T/M/S & Rework Status

WIP	WIP ENT / TMS - In Process	3	3
	Planned WIP Next Month	2	
	Late - In Process	0	
Delivered	Total DELIVERED	16	
	Total DEL Late / Avg Days Late	8	9
R E P A I R		WIP	DEL
	SDLM	0	0
	PMID	3	16
	AWI	0	0
A I R T A S	Total Required	115	
	Total Aircraft Inventory	100	
	Primary Aircraft Authorization	99	
	Primary Aircraft Inventory	89	
	Backup Aircraft Inventory	11	
RFT	RFT GAP GOAL / RFT GAP	4.5	4.8
RBA	Flight Line Gap / RBA	0.0	3.8



# COMFRC PERFORMANCE: ML3 QUALITY

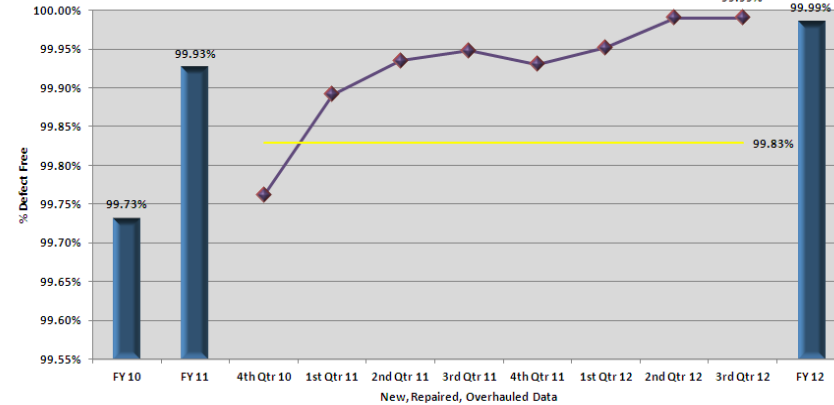
### COMFRC Delivered Quality (ML3) % Aircraft Defect Free



*A/C Completed	837	836	235	194	207	238	197	149	159	198	506
% Reported A/C	23%	36%	21%	28%	36%	37%	42%	50%	46%	36%	43%
# Open AIDRs	0	3	0	1	0	1	1	2	2	12	16
Deficiencies Submitted (Critical)	362 (4)	371 (1)	58 (0)	70 (0)	102 (0)	82 (1)	117 (0)	190 (0)	88 (5)	73 (0)	351 (5)
Deficiencies Accepted (Critical)	118 (4)	139 (1)	21 (0)	37 (0)	41 (0)	27 (1)	34 (0)	60 (0)	35 (2)	23 (0)	118 (2)
Total Deficiencies under Investigation: 148 (10)											

■ FY % Documented Accepted AIDR Defect Free     
 ■ FY % Assumed Defect Free (includes count of non-reported A/C)  
— Qtrly % Documented Accepted AIDR Defect Free     
 — Qtrly % Assumed Defect Free (includes count of non-reported A/C)

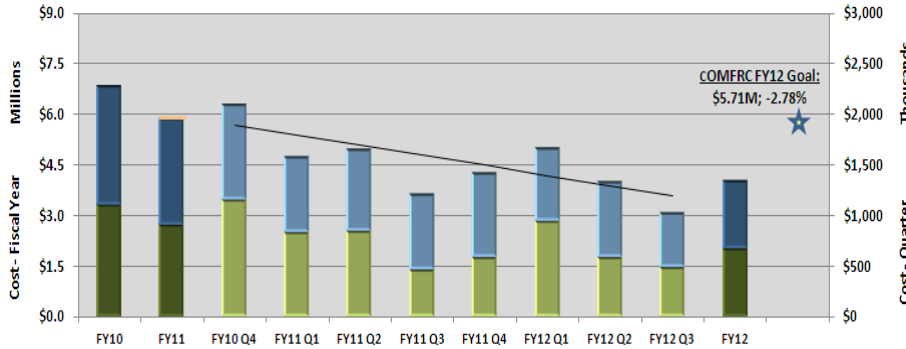
### COMFRC Delivered Quality (ML3) % Components Defect Free



	75,010	74,902	19,262	17,475	18,339	19,178	19,910	16,658	19,263	22,615	58,536
# of Units Produced:	13	29	2	5	6	7	11	15	21	20	56
# Open PQDRs:	(25) 778	(39) 490	(6) 163	(10) 135	(08) 139	(14) 130	(07) 86	(17) 70	(03) 71	(01) 13	(21) 154
# Accepted PQDRs (CAT1/CATII)	(04) 225	(04) 73	(00) 49	(01) 21	(02) 15	(00) 21	(01) 16	(07) 13	(02) 09	(00) 4	(09) 26

■ FY % Accepted PQDR Defect Free     
 — Qtrly % Accepted PQDR Defect Free     
 — Prior 2 FY Avg

### COMFRC Cost of Poor Quality (ML3) Internal Defects Material and Labor Costs

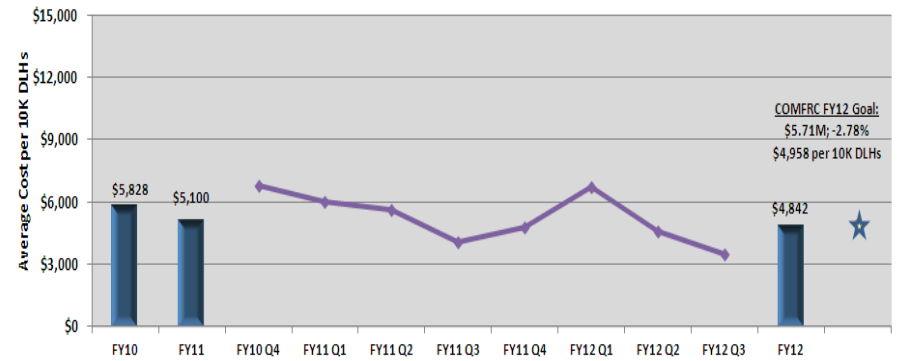


	FY10	FY11	FY10 Q4	FY11 Q1	FY11 Q2	FY11 Q3	FY11 Q4	FY12 Q1	FY12 Q2	FY12 Q3	FY12
Labor \$	3,520,997	3,151,330	946,341	746,858	817,335	754,625	832,512	725,953	743,143	548,444	2,017,540
Material \$	3,312,392	2,722,894	1,151,368	837,583	840,835	461,885	582,591	944,576	587,601	486,283	2,018,461

■ FY Material Cost     
 ■ FY Labor Cost     
 ■ QTR Material Cost     
 ■ QTR Labor Cost     
 ★ FY12 Goal     
 — QTRly Trend

Increase to FY11 Cost not included in baseline due to rollover of rejects  
 Only includes Indirect Cost  
 Labor Costs based on Reject Labor Hrs multiplied by Site Unburdened DL Rate (DON/IBIS)

### COMFRC Cost of Poor Quality (ML3) Avg Internal Defects Matl & Labor Cost per 10K DLHs



	11,724,210	11,518,950	3,079,739	2,623,495	2,946,013	2,979,221	2,970,221	2,476,006	2,910,756	2,949,098	8,335,860	11,155,079
# DLHs	6,833,389	5,874,225	2,097,709	1,584,442	1,658,170	1,216,510	1,415,103	1,670,530	1,330,744	1,034,727	4,036,001	5,710,901
Defect Costs												

■ FY Avg     
 — Qtrly Avg     
 ★ FY12 Goal

Only includes Indirect Cost  
 Labor Costs based on Reject Labor Hrs multiplied by Site Unburdened DL Rate (DON/IBIS)



# Take Aways

- ❑ We're swimming in data; the challenge is to construct metrics we can use to operate our Navy better.
  - We've been 'climbing that mountain'
- ❑ Readiness Kill Chain is latest focus of leadership
- ❑ Intense focus on metrics that help us run our three levels of maintenance, that is O-level and 'Off Flight Line Maint'; i.e., I-level and D-level.
  - Education of ALCON an ongoing priority
- ❑ Questions?      Stu Paul OPNAV N43 Staff  
[stuart.paul@navy.mil](mailto:stuart.paul@navy.mil)      703.835-7558