

Air Force Materiel Command



Weapon System Enterprise Review (WSER)

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HQ AFMC/A4U
25 June 14

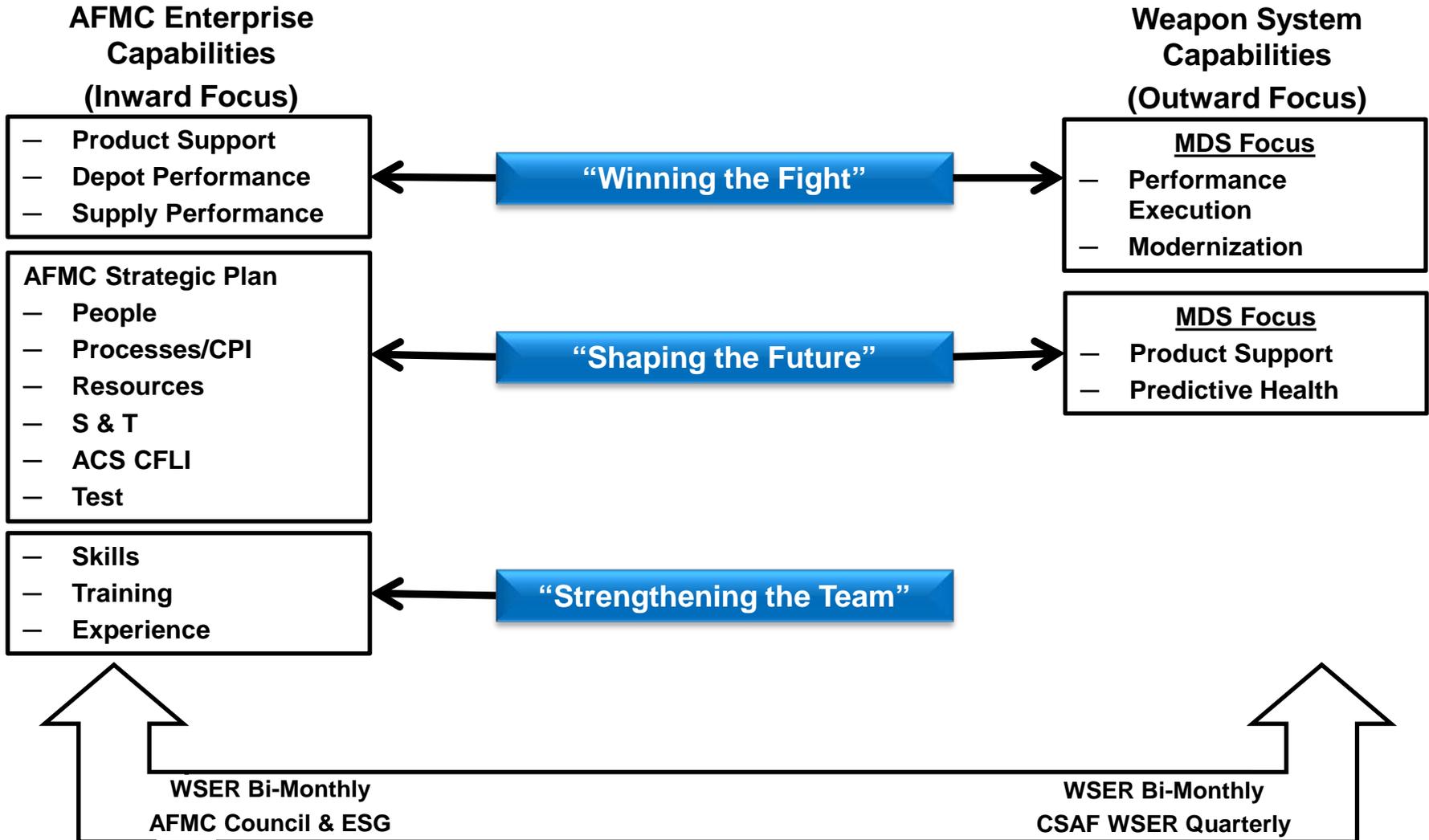


Agenda

- **Priorities**
- **Weapon System Enterprise Review (WSER)
History**
- **Current WSER**
- **Way-Forward**



Alignment to CSAF Priorities and AFMC/CC Strategic Plan





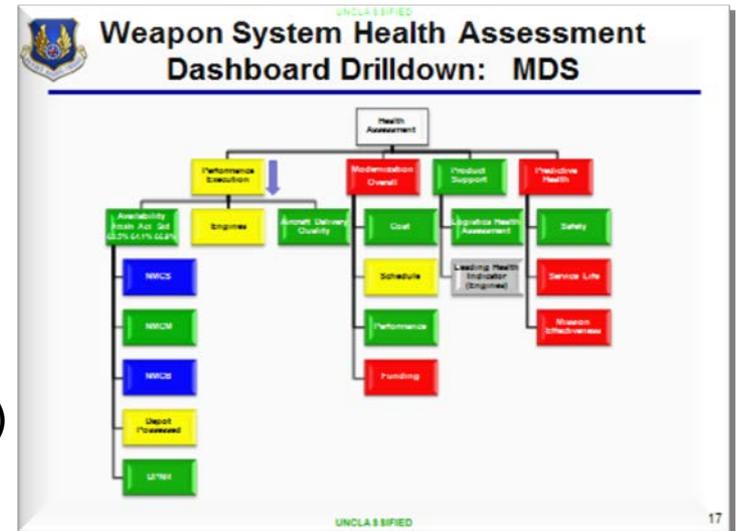
WSER History

- **Purpose:**
 - **New format necessary to increase and improve Weapon System Health insight;**
 - Utilizes synergy from 5CC reorganization
 - Need for increased insight of Life Cycle processes
- **Background**
 - **Multiple related briefings compressed into single integrated process**
 - **Depot Execution Review (monthly to AFMC/CC; quarterly to HAF/MAJCOM/A4s):**
 - Focus on organic depot performance including cost and performance
 - **CSAF Weapon System Review (quarterly):**
 - Focused on Aircraft Availability (actual vs attainable and standard)
- **Benefits**
 - **Provides timely, actionable data (never more than a month old)**
 - **Focuses on areas requiring attention (reds)**
 - **Covers all non-space weapon systems in a single review**



Current Weapon System Enterprise Review (WSER)

- Currently providing Weapon System Health insight utilizing synergy from AFMC 5 Center Construct
- Includes all aircraft weapon systems
- Provides enterprise review of life cycle processes
 - Performance Execution
 - (AA, Engines, Quality)
 - Modernization
 - (Monthly Acquisition Report (MAR))
 - Product Support
 - (Logistics Health Assessment (LHA))
 - Predictive Health
 - (Safety, Service Life, Mission Effectiveness)



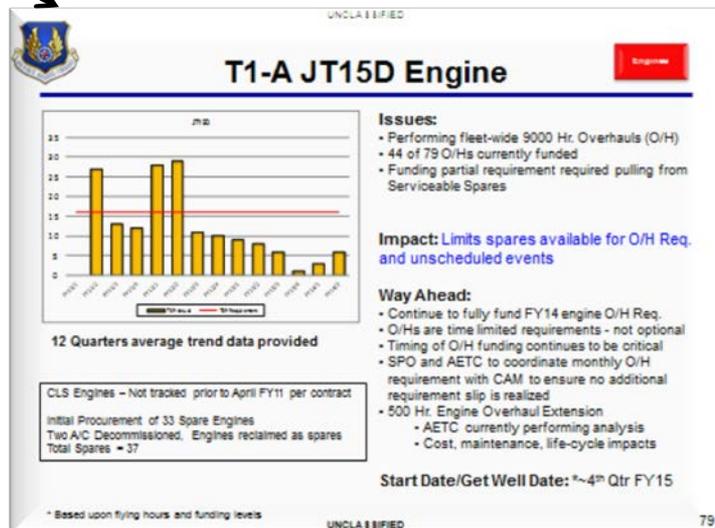
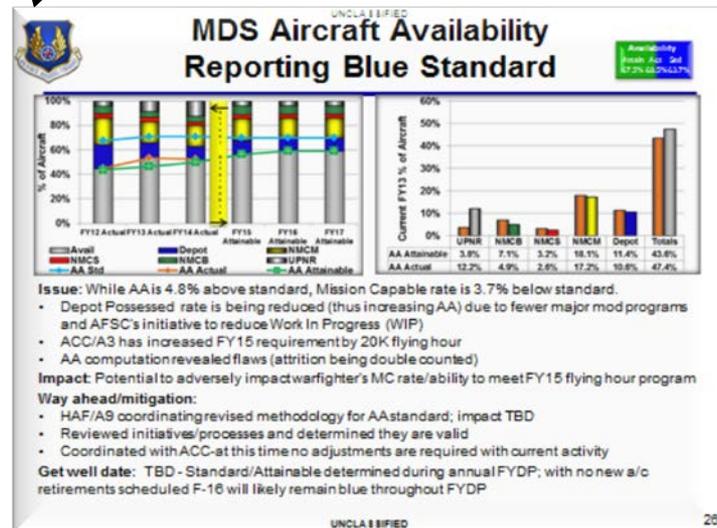
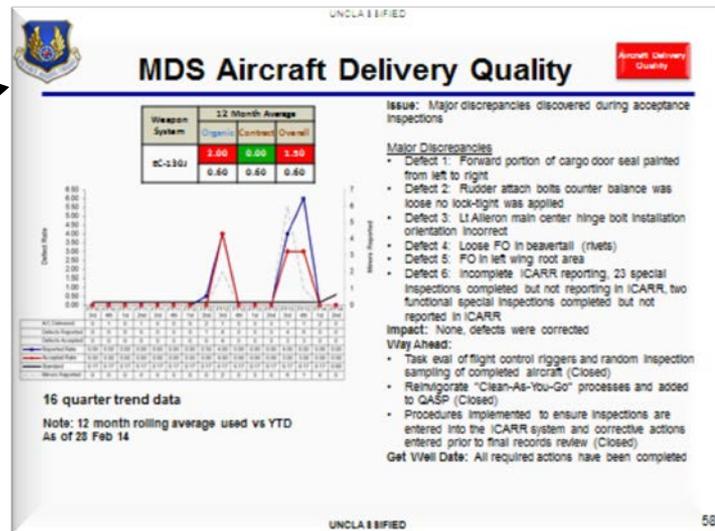
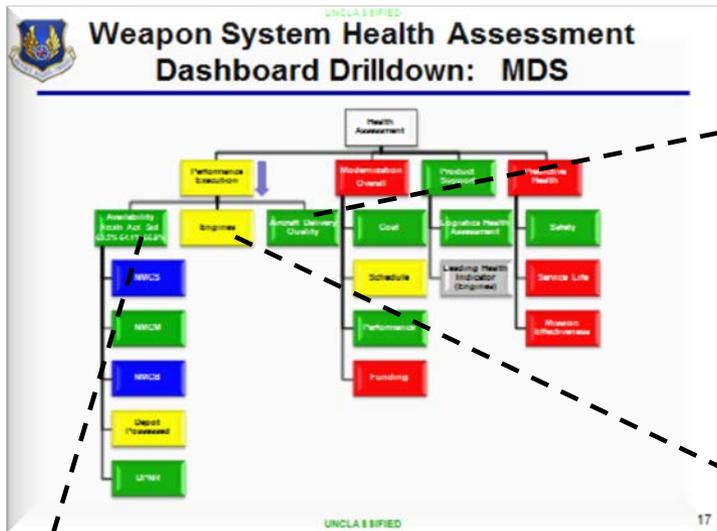


WSER Business Rules

- **Performance Execution**
 - **Availability, Engine and Aircraft Quality**
 - Measure against Blue, Red, Yellow and Green to Attainable
 - **Engine WRE below 70%**
 - **Aircraft Depot Quality below Command standard**
 - Set annually by AFMC/A4D
- **Modernization**
 - **PEO/PMs utilize Monthly Acquisition Reports (MARs)**
 - **Cost, Schedule, Performance, Funding**
- **Product Support**
 - **Utilize Logistics Health Assessment (LHA)**
- **Predictive Health**
 - **Safety, Service Life, and Mission Effectiveness**

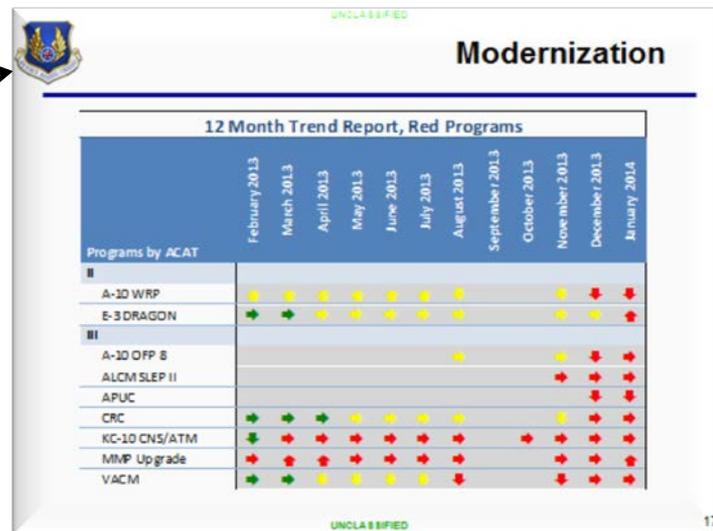
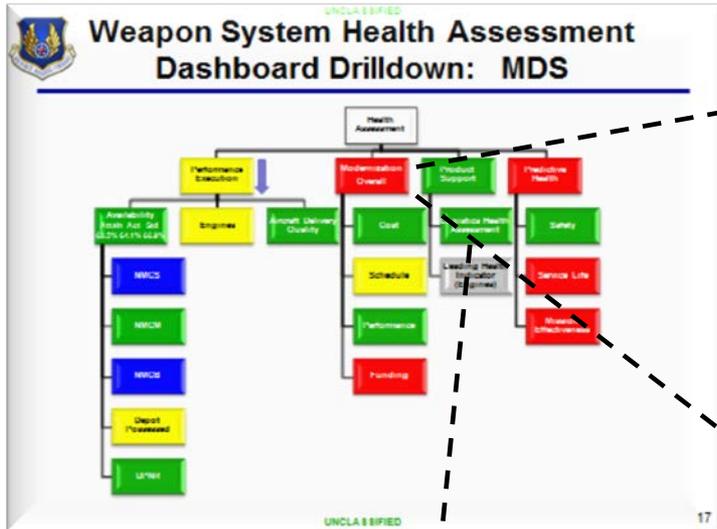


WSER Template Performance Execution





WSER Template Performance Execution



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MDS Logistics Health Assessment

Based on 6 Mar 14 LHA

Program	LHA Score	F3 Mgmt	Design Interface	Supporting Engineer	Supply Support	Mx Plan & Mgmt	IT/IS&I	Test Date	Support Equip	Training & Training Support	Manpower & Resources	Facilities	Computer Resources Support
Overall System	88.92%	G	G	G	G	G	G	G	G	G	G	G	G

Issue: None

Impact: Not applicable

Way Ahead: Not applicable

Get Well Date: Not applicable

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MDS Modernization Overall

Modernization Overall

KC-10 CNS/ATM (ACAT III)				
Overall	Cost	Schedule	Performance	Funding
Red	Yellow	Red	Green	Red

OVERALL (PMI):
 The program has progressed very well and successfully accomplished last test flight 1 Nov 13. FAASTC projected for EOM March. Both prototype aircraft are now in CNS/ATM flight configuration and projected delivery back to AMC is EOM March. FDE is projected to begin EOM April. The FY13 3010 funding out continues to impact the way forward. The program team is awaiting official budget data to formalize the production replan.

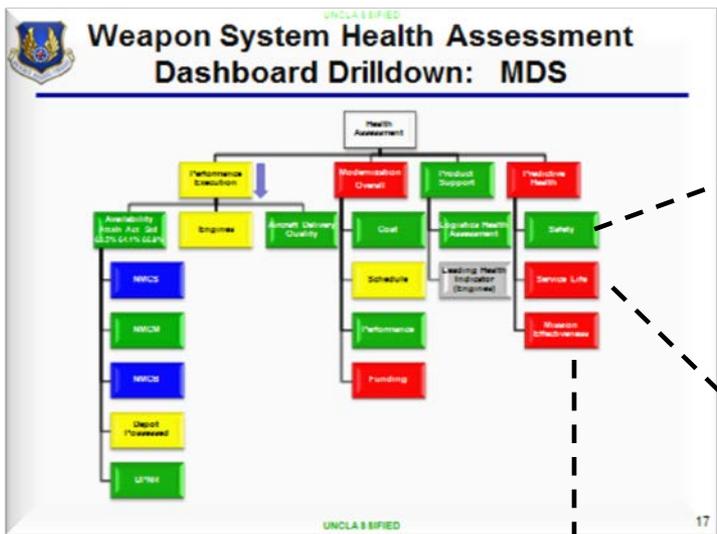
COST/SCHEDULE/FUNDING:
Issue: Program requires replan due to Congressional reduction of FY13 3010 BP11 funding (\$38.9M) and FY-14 3010 BP-11 13.5M SAC-D Mark
Impact: Without FY13 3010 BP11 funding to procure production kits, a break between development and production is created. FY-14 funding reduction impacts quantity of installs in FY-15 and further delays schedule. Production delays will push program completion into FY-18. The delay in production will result in extending the contract period of performance and negotiating prices for FY16-FY18 in a non-competitive environment. The resulting impact will be greater program cost and further delays in support to the warfighter.
Way Ahead: Awaiting way forward for KC-10 program to determine way-ahead for modification.

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WSER Template Modernization and Predictive Health



MDS Predictive Health Safety

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MDS Risk Level	CAT I DRs	Class A/B Mishap Rate
Red	Green	Green

Issues:

- 5 High MDS risks -- All five (engines) accepted by SAF/AQ with funded mitigation
 - F110 Augmenter Manifold Cracking ECD: Dec 2014
 - F110 Stage 2 Fan Disk Liberation ECD: Dec 2014
 - F110 Engine Bay Fire ECD: Dec 2017
 - F110 High Pressure Turbine Disk Life ECD: Dec 2018
 - F110 Crossover Tube Leak ECD: Dec 2019
- Cat 1 DRs > 90 days - None
- Current FY14 Class A mishap rate is 0 mishaps per 100K/flying hrs

Impact: No operational restrictions

Way Ahead: Upon identification; act on Safety Investigation Board (SIB) findings & recommendations; Continue mitigation plans to reduce mishaps: i.e. Auto Ground Collision Avoidance System (AGCAS), main landing gear down lock re-design, etc.

Get Well Date: 37 independent risk mitigations plans in work; last High Risk Dec 19

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MDS Predictive Health Mission Effectiveness

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MAJCOM and PM assessment

Red

FY15

Current Decision: CAM (AD) built to AF Plan - no SSIs or 8YCs, \$600K for DFTs

Impact: R2D2 process will cut depot; bow wave; poss breach of NDAA* prepare to retire*

Current Decision: Virtually no FHs for AD units in Yr of Divestiture (5 units & 89 a/c)

Impact: Units stop flying 1 Oct 14; C5 in SORTS; pilot and mx readiness/production; poss breach of FY14 NDAA* prepare to retire* prohibition thru 31 Dec 14

Current Decision: Virtually no FHs for AD units in Yr of Divestiture (5 units & 89 a/c)

Impact: Reduced SCM repair drive/buys now; poss breach of "prepare to retire" prohibit

Current Decision: <9 months to execute 110 AMARG inductions

Impact: Dependent on NDAA decision; likely spill-over to FY16 (see next chart)

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MDS Predictive Health Service Life (Structures)

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CSL ≥ ESL?	Normal MX Sufficient?	Metric	Notes
Yes	No	Red	Corrective actions funded

Issue:

- "Yes" for "CSL ≥ ESL", all acft are below life limits & safe to fly
- "No" for "Normal MX sufficient", corrective action (SRP II) is required to reach 8,000 hrs

Impact: MDS manufactured with 3 processes

- AC 4010-4083 require SRP I for 2000 hr service life
- AC 4010 - 4172 require SRP II for 8000 hr service life
- AC 4173 - 4195 manufactured with 8000 hr service life

Way Ahead: Currently implementing SRP I and SRP II

- Fully funded @ 885M - Complete May 2016
- Fully funded @ 2325M - Complete Nov 2019

Get Well Date: 2019

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LHA

NEW ASSESSMENT

Select Phase

Program Picker: Choose program: LHA

Model Group: Choose: LHA

Model: Choose: Pre-IDD, MSA, SDC, P&C, U&S, Wayne's Demo

Effective Date: [Date]

1.0 Product Support Management

Tailored Criteria Based on Phase

Contractual Documents: Have the contractual documents (P&C, P&C, SOV, CLTR, CORL, Sections L&M) been reviewed and include product support?

PSM Assignment: Is a PSM with the required experience, training, education, and certifications, assigned to the program?

PSM/LG Participations: Is the PSM/LG an equal participant in different forums to ensure product support is considered from Material Solution Analysis through Disposal?

PSM/LG Communications: Is the PSM/LG been in ongoing communications with the MAJCOM, user and other stakeholder organizations?

APDP: Does the PSM have adequate product support personnel assigned to the program that have the appropriate certification level (APDP) commensurate with their tasking?

Risk Management Plan: Have logistics concerns been included in the overall risk management plan and includes executable mitigation strategies?

Product Lifecycle Logistics Team: Has an integrated product life cycle logistics team been established (i.e. ILJMT, DMAWG, Test IPT, etc) and

Logistics Health Assessment Summary

Program: F-45 CRS

ACAT: II
Program Phase: EMD
Date of Assessment: 10 Dec 12

Logistics Health Assessment: 78.36 / 100.00

PEO: John Smith
PM: Joe Arnold
PSM: Lisa Reynolds

- Product Support Management
- Design Interface
- Sustaining Engineering
- Supply Support
- Maintenance Planning & Mgt
- Packaging, Handling, Storage & Trans
- Technical Data
- Support Equipment
- Training & Training Support
- Manpower & Personnel
- Facilities & Infrastructure
- Computer Resources

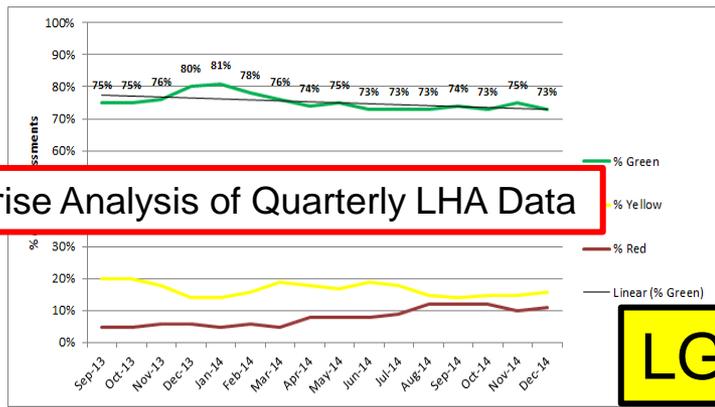
LHA Based on 12 PSE's

PLAN, MONITOR, EXECUTE

Program: AF/ICM/IDL
Model: P&C
Effective Date: 7x Jul 20 00:00:00 EDT 2013
Hours to complete: [Value]
Status: [Value]
Approved Date: [Value]

Section	Title	Score	Rating
1	Overall		
1.0	Product Support Management		
2.0	Design Interface		
3.0	Sustaining Engineering		
4.0	Supply Support		
5.0	Maintenance Planning and Management		
6.0	Packaging, Handling, Storage, and Transportation (PHS&T)		
7.0	Technical Data		
8.0	Support Equipment		
9.0	Training and Training Support		
10.0	Manpower and Personnel		
11.0	Facilities and Infrastructure		
12.0	Computer Resources		

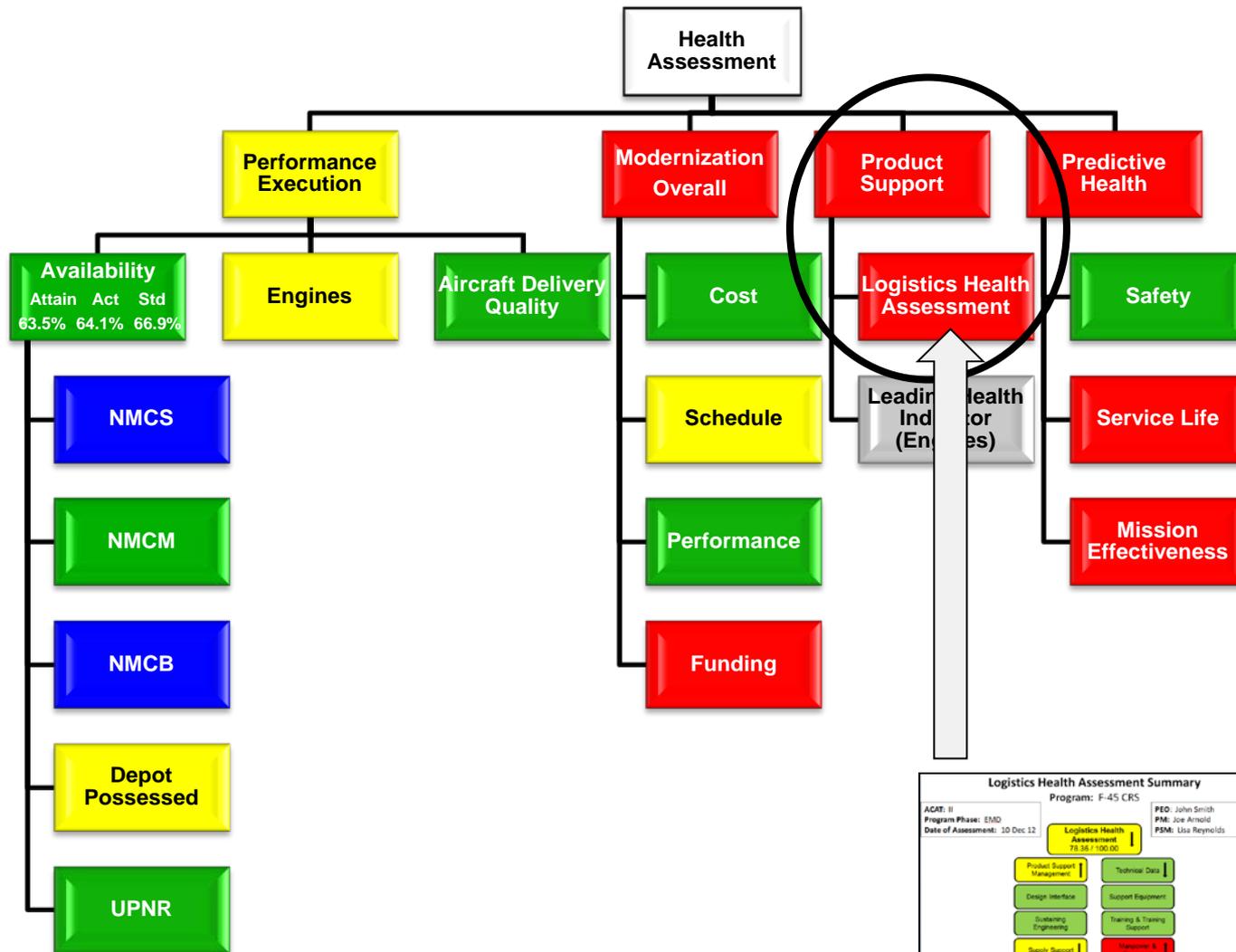
LHA Export w/ Comments & Issues



Based on AML... "PML" needed for complete PS health picture



Weapon System Execution Review



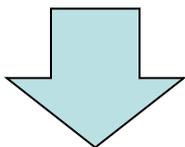
Logistics Health Assessment Summary		
Program: F-45 CRS		
ACAT: II	Program Phase: ENID	PEO: John Smith
Date of Assessment: 10 Dec 12	Logistics Health Assessment: 75.56 / 100.00	PM: Joe Arnold
		PSM: Lisa Reynolds
Product Support Management	Technical Data	
Design Interface	Support Equipment	
Customer Engineering	Training & Training Support	
Supply Support	Personnel	
Maintenance Planning & Mgt	Facilities & Infrastructure	
Packaging, Handling, Storage & Transport	Computer Resources	



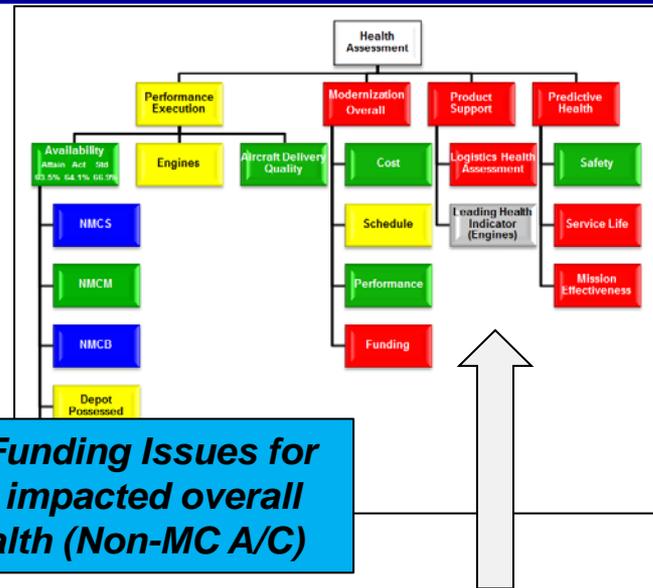
LHA / WSER

F-45 Weapon System

Program X (ACAT II Program)
Comm Upgrade Required for SMART Weapons



Example



Supply / Funding Issues for program impacted overall Fleet Health (Non-MC A/C)



Supply and Funding Issues

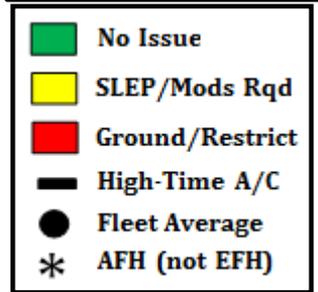
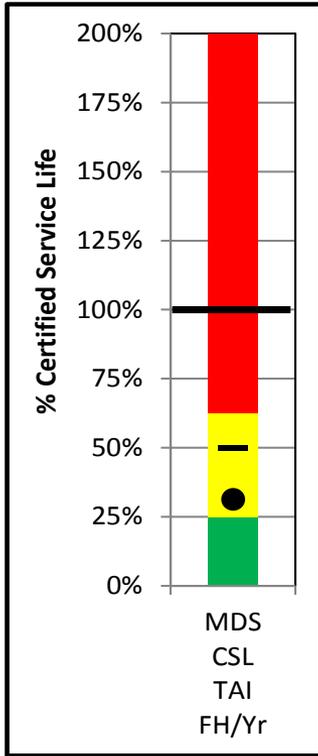
Task	FY Qtr	FY Qtr	FY Qtr	FY Qtr	FY Qtr	FY Qtr	FY Qtr				
Technical Data Verification		▲	▲								
Modification Testing			▲	▲							
System Install / Integration				▲	Scheduled	▲		▲		Slip	▲

Non-MC

LHA is predictive Product Support Health tool



Predictive Health Service Life (Structures) Template



CSL >= ESL?	Normal MX Sufficient?	Metric	Notes
No	Yes	Red	Corrective actions funded

Business rules (see next chart)
 • used to establish metric

Lifespan metric depicts current state (not a measure of ability to achieve force structure requirement)

↑
 Metric shown on dashboard (depicts ability to achieve force structure planning requirement)

↑
 Metric shown as half-Green on dashboard if corrective actions are funded or programmed



Business Rules: Service Life (Structures)

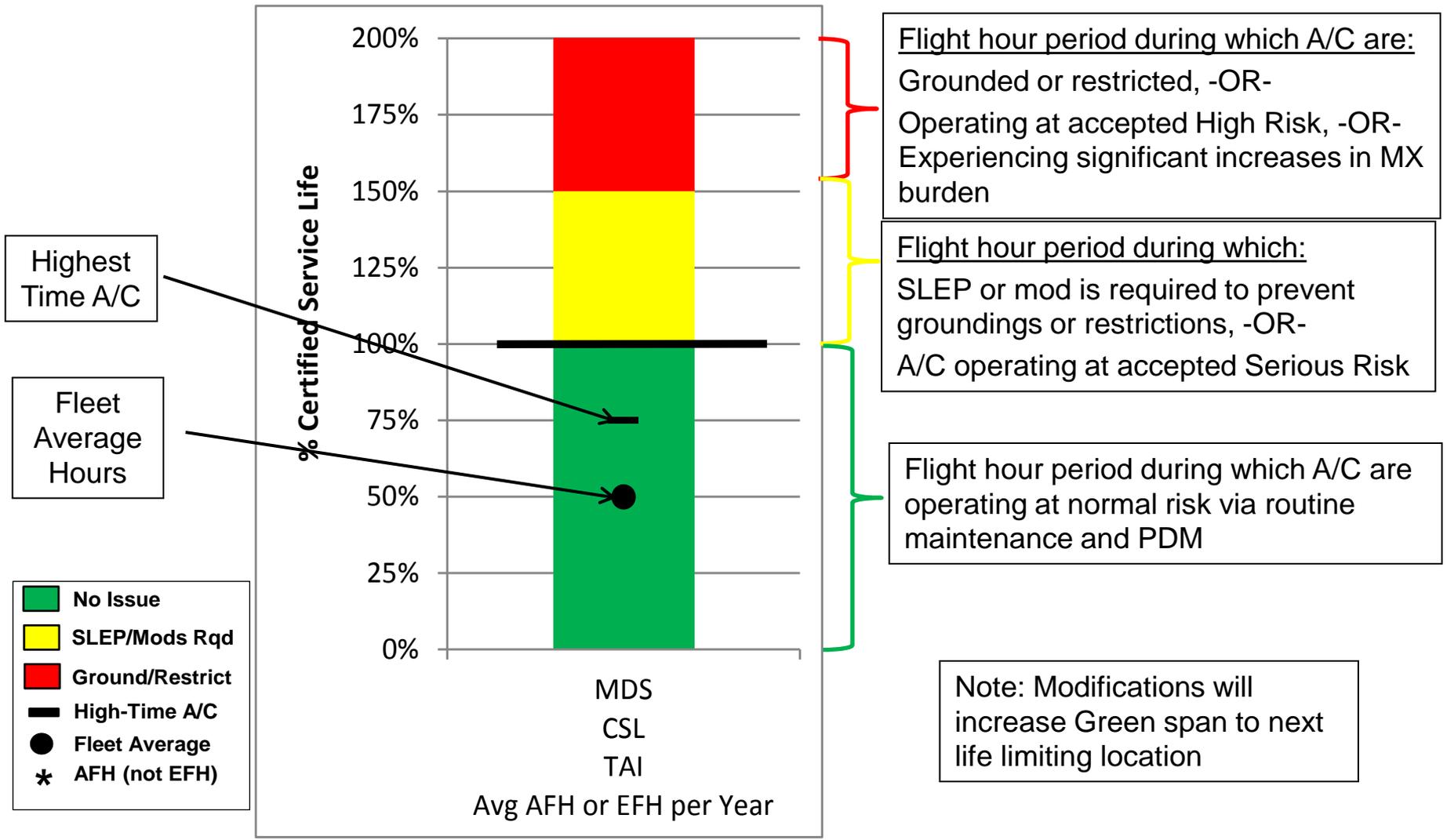
CSL > or = ESL?	Normal MX Sufficient?	Metric
Yes	Yes	Green
Yes	No	Red
No	Yes	Yellow
No	No	Red

- **CSL (Certified Service Life) is the service life limit included in each aircraft's Airworthiness Certificate**
 - SAF/AQ memo dated 11 May 09 “directs the inclusion of service life limits as a mandatory element of aircraft airworthiness certificates”
- **ESL (Economic Service Life) is the value used in force structure planning**
 - HQ USAF/CV memo dated 15 Dec 09 states “ESL is to be used for the purpose of force structure planning and outside agency engagement”
- **Normal Maintenance (MX) “Yes”:** inspections, repairs and occasional component replacements are sufficient to achieve ESL
- **Normal MX “No”:** modification program or fleet-wide component replacements are required to achieve ESL



Structures Lifespan Metrics

“How to Read the Chart”





Way-Forward

- **Transfer:**
 - **AFMC/LCMC will be taking over the process**
 - In-progress
- **Future:**
 - **Start evaluating weapon systems on product support elements through the LHA**
 - **Add a cost element to the dashboard drilldown to evaluate different cost metrics important to senior leadership**
 - **Includes non aircraft weapon systems**
 - **COST Element under construction**

