

# ***Headquarters U.S. Air Force***

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## ***Re-energize AF HSI HPT***



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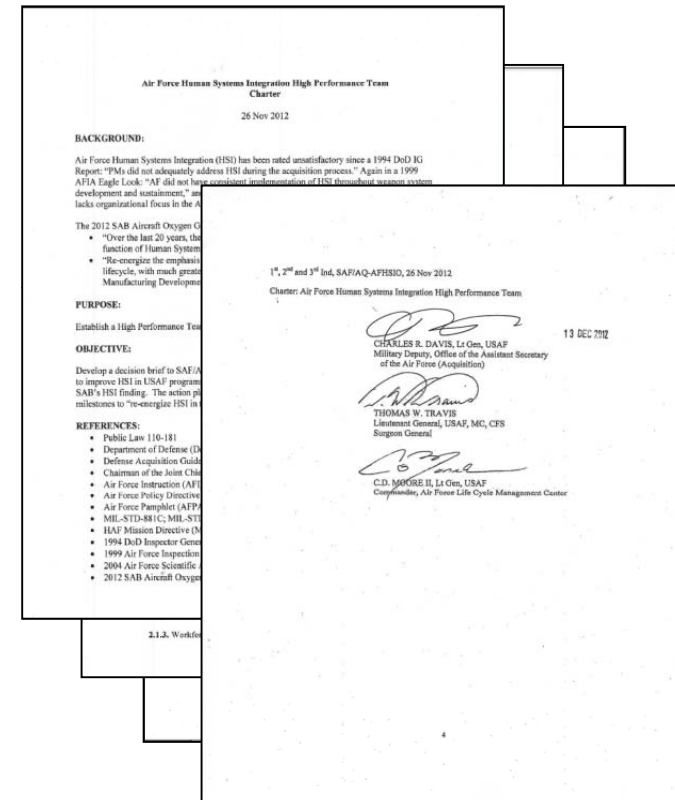
**Mr. Dale Burns, Ctr  
SAF/AQR-AFHSIO  
28-31 Oct 2013**



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# Overview

- SAB Finding & Recommendation
- AF HSI High Performance Team (HPT)
- Input Collection and Reduction
- Focus Areas
- Action Plans
- Recommendations



Charter signed 13 Dec 12



# Aircraft O<sub>2</sub> Generation SAB

From: SAB-TR-11-04, 1 Feb 2012

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## Finding Two



Over the past 20 years, the capabilities and expertise of the USAF to perform the critical function of Human Systems Integration (HSI) have become insufficient, leading to:

- *The atrophy of policies/standards and research & development expertise with respect to the integrity of the life support system, altitude physiology, and aviation occupational health & safety*
- *Inadequate research, knowledge and experience for the unique operating environment of the F-22, including routine operations above 50,000 ft*
- *Limited understanding of the aviation physiology implications of accepting a maximum 93-94% oxygen level instead of the 99+% previously required*
- *Specified multi-national air standards, but deleted the BOS and did not integrate an automated EOS activation system*
- *AFMC & AFRL core competencies were diminished due to de-emphasis and reduced workforce to near zero in some domains*

## Recommendations (1 – 2)



1. **Develop and install an automatic Backup Oxygen Supply (BOS) in the F-22 life support system.**  
(OPR: ACC) (OCR: AFLCMC)
  - Consider a 100% oxygen BOS capability unless hazardous levels of contaminants in OBOGS product air can be ruled out
2. **Re-energize the emphasis on Human Systems Integration throughout a weapon system's lifecycle, with much greater emphasis during Pre-Milestone A and during Engineering and Manufacturing Development phases.**  
(OPR: AFMC, SAF/AQ)
  - Reestablish the appropriate core competencies. (OPR: SAF/AQ) (OCR: AFMC, AF/SG)
  - Develop the capability to research manned high altitude flight environments and equipment, develop appropriate standards, oversee contractor development and independently certify critical, safety-of-flight elements. (OPR: AFRL, AFLCMC)

■ **Blue:** addressed by AFRL/711 HPW

■ **Green:** addressed by “Re-energize HSI” HPT





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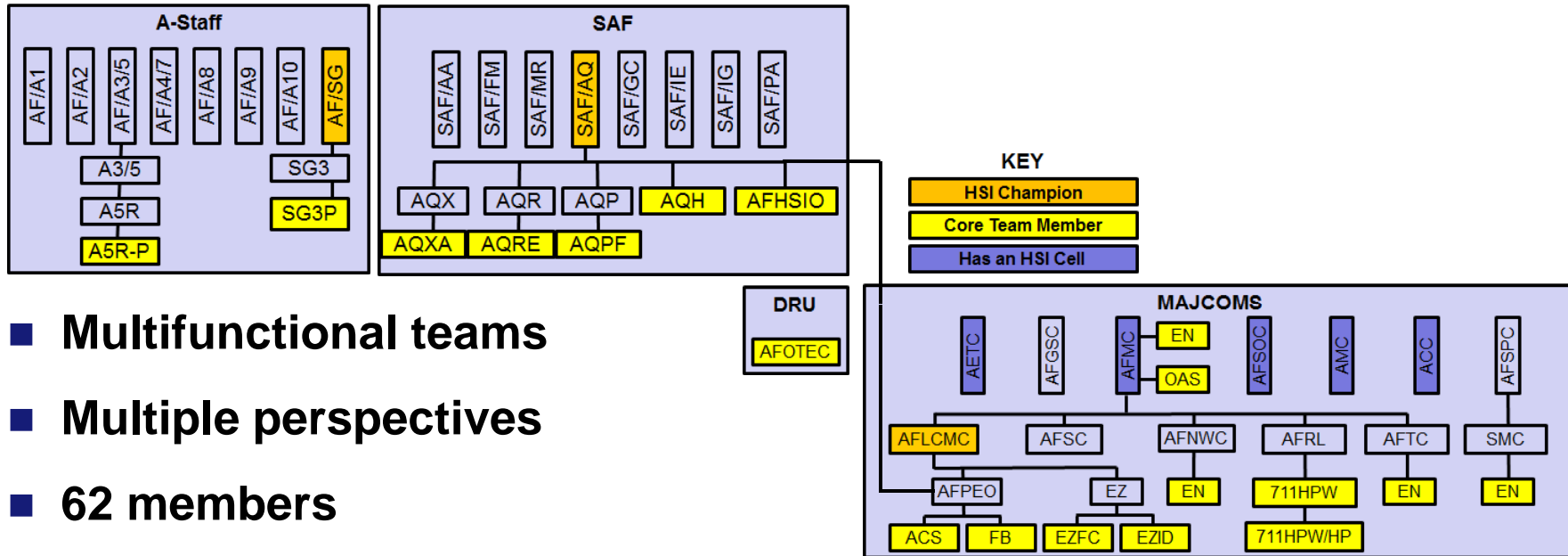
# *HPT Purpose*

- ***Objective:*** Respond to the SAB F-22 OBOGS Quicklook Study recommendation #2 to re-energize Human Systems Integration (HSI) in the Air Force by more clearly defining the problem and proposing a way forward for improving HSI effectiveness in the development and sustainment of Air Force systems
- ***Hypothesis:*** Air Force HSI lacks clear organizational roles and responsibilities; effective processes with emphasis and forcing functions at key system lifecycle touch points; tools; metrics; and an HSI workforce that meets defined core competency requirements and follows respected career paths



# AF HSI High Performance Team

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- Multifunctional teams
- Multiple perspectives
- 62 members

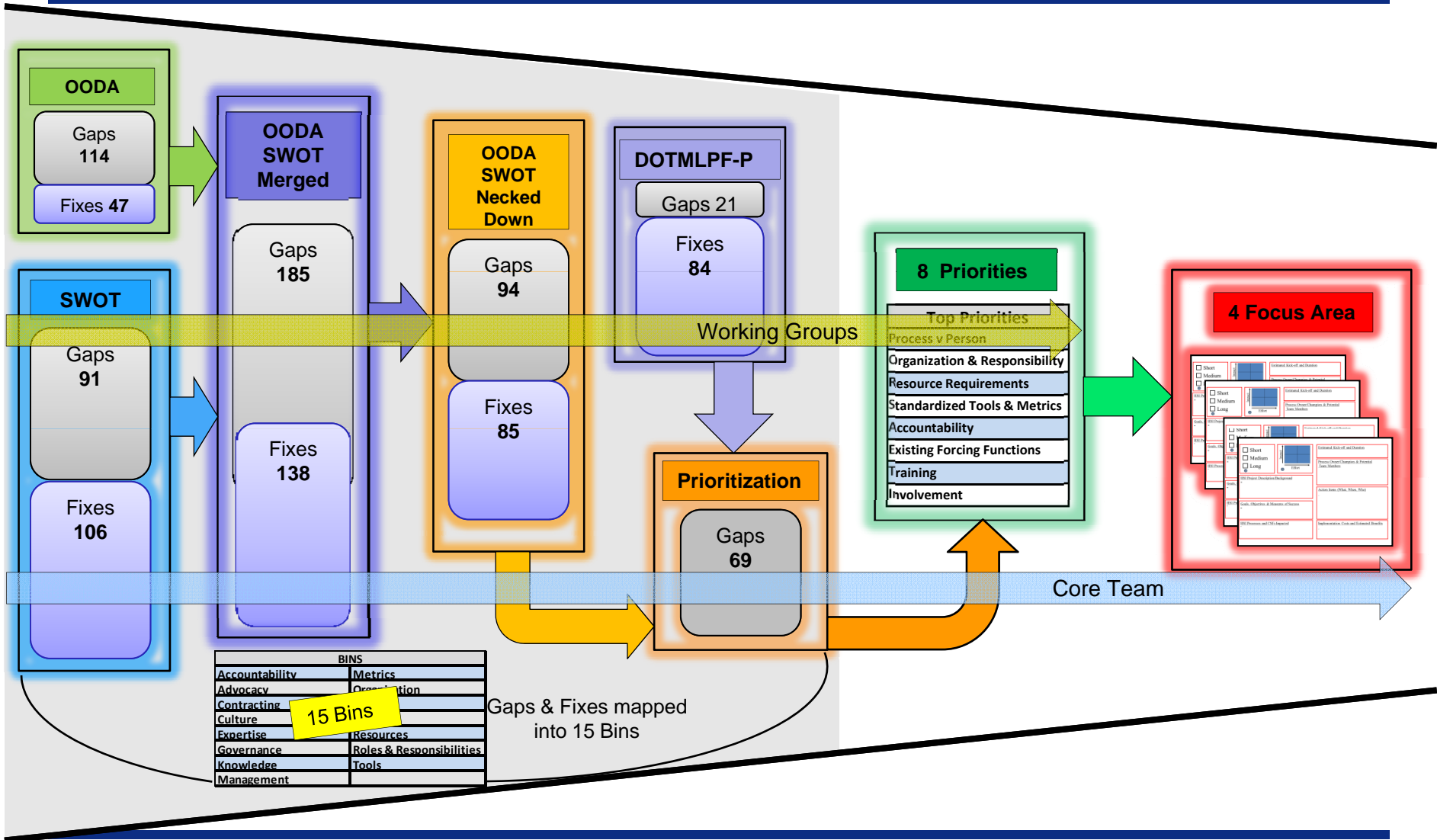
AF HSI HPT TIMELINE	NOVEMBER				DECEMBER					JANUARY				FEBRUARY				MARCH				APRIL	
	5	12	19	26	3	10	17	24	31	7	14	21	28	4	11	18	25	4	11	18	25	1	
EVENT		Intro		Intro	OODA	OODA	SWOT			SWOT	DOTMLPF	DOTMLPF	Priorities	Priorities	Planning		Meeting			Planning			Outbrief
Core Team Telecons		14				12				9		23		6	13					15			
Support Team Telecons				28																			
PE WG Telecons					4		18				15		29										
FF WG Telecons					5		19				16		30										
WD WG Telecons					6		20				17		31										
On-site Meeting																	25						
Outbrief to HSI Champions																							3

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# Input Collection & Reduction

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# Focus Areas

- ***Roles & Responsibilities:*** Codify the roles and responsibilities, organizational relationships, HSI processes and products for the “HSI Enterprise” in AF policy and guidance
- ***Forcing Functions:*** Drive consistent use of the existing forcing functions at key Integrated Life Cycle Management touch points to ensure HSI issues are appropriately addressed and Senior Leaders are adequately informed on HSI risks and issues
- ***Tools & Metrics:*** Use standardized HSI tools and metrics to assist, evaluate, and report HSI activities for systems in all lifecycle phases, from Capabilities Based Assessments to Operations & Sustainment
- ***Training & Competencies:*** Describe, develop and resource the HSI competencies required for “cradle to grave” execution of Air Force system portfolios



# Action Plans

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## Roles & Responsibilities

- |   |  |            |
|---|--|------------|
| 1 | Normalize AFHSIO                                       | AFHSIO     |
| 2 | Synchronize w/ AFMC A2/5 for HSI in JCIDS              | 711 HPW/HP |
| 3 | Develop AFLCMC & AFRL Center-Level Agreement           | AFLCMC/XP  |
| 4 | Formalize process for HSI inputs to JCIDS              | AFHSIO     |
| 5 | Develop and Publish AF HSI "CONEX"                     | AFHSIO     |
| 6 | Develop 711 HPW HSI prioritization plan to the Centers | 711 HPW/CD |
| 7 | Develop a Resource plan / Resource by the Line vs SG   | 711 HPW/HP |

1 YEAR

## Forcing Functions

- |    |  |             |
|----|--|-------------|
| 8  | Develop AFROC HSI Sufficiency Chart              | AFHSIO      |
| 9  | Develop ASP & AFRB HSI Sufficiency Chart         | SAF/AQXA    |
| 10 | Establish Semi-Annual HSI Stakeholder Forum      | AFHSIO      |
| 11 | Add HSI entrance & exit criteria to Tech Reviews | AFLCMC/EZID |

2 YEARS

## Tools & Metrics

- |    |   |             |
|----|---|-------------|
| 12 | Add HSI to RFP/SRD/SS checklists & guides | AFLCMC/EZID |
| 13 | Define HSI Planning Template for the SEP  | AFLCMC/EZID |

## Training & Competencies

- |    |                                   |        |
|----|-----------------------------------|--------|
| 14 | Establish HSI Professionalization | AFHSIO |
| 15 | Develop HSI Training              | AFHSIO |

4 YEARS

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# ***Approved Recommendations***

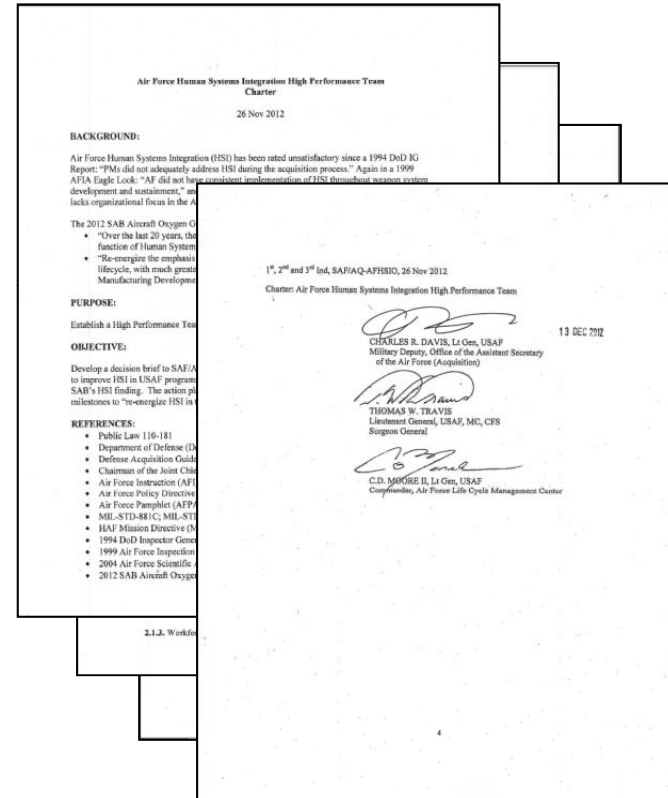
- 1. Approved HPT Action Plans re-energizing HSI in the Air Force**
  - Review annually**
- 2. Closed Aircraft O<sub>2</sub> Generation SAB Quicklook Study Rec. #2**
  - Other related and ongoing 711 HPW activities, combined with the HPT action plans, fully implement SAB Rec. #2**



# Review

## U.S. AIR FORCE

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Charter signed 13 Dec 12



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