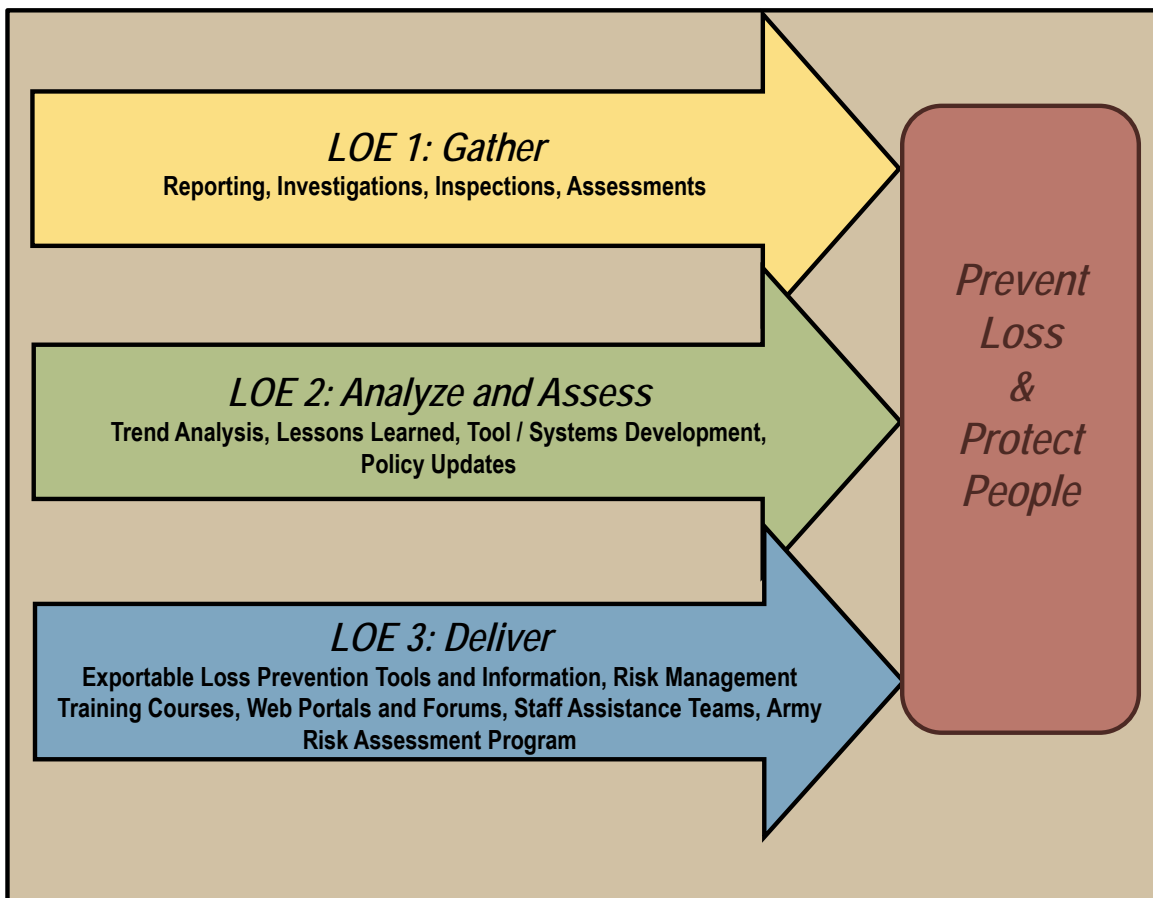




# *AAAA Mission Solutions Summit*

## *Risk Management in the Era of All-Domain Operations and Training*

**COL Ron Ells**  
**Deputy Commanding Officer**  
**U.S. Army Combat Readiness Center**



## MISSION

The U.S. Army Combat Readiness Center preserves Army readiness through analysis, training, and the development of systems that prevent accidental loss of our people and resources.

## VISION

A safety culture exists within the Army that prevents injury, occupational illness, and mishap losses through increased situational awareness, continuous application of the risk management process, and the enforcement of standards.



**Class A Mishaps: 24 Flight, 4 Flight Related, 1 Ground**

Location

Home Station / Training (20)  
 NTC / JRTC (2)  
 Deployed (7)

Time of Day

Day (12)  
 N / NVD Operations (17)

Causal Factor

Human error	(25/29)	86%
Materiel failure	(3/29)	10%
Environmental	(1)	4%
Unknown / TBD	(0)	0%

MDS

AH-64 (7)  
 UH-60 (13)  
 CH-47 (4)  
 UH-72 (2)  
 Other RW (1)  
 FW (2)

Primary Factors

Incorrect EP Actual (3) **11 fatalities**  
 Incorrect EP Training (4) **3 fatalities**  
 CFIT / Object Strike/AQC (4) **4 fatalities**  
 DVE – Dust/Snow (3) IIMC (1) **3 fatalities**  
 Flt related – fall on exit (2) **2 fatalities**  
 Ground taxi (1)  
 Lightning strike-Ground (1)  
 External Load - Sling load (2) Hoist (1) **1 fatality**  
 Wire Strike (1)  
 Hard landing/power management / gear up (3)  
 Materiel Failure (3)
 

- Dual sprag clutch failure (H-64)
- Engine failure (H-6)
- Hydraulic fire in forward pylon (H-47)

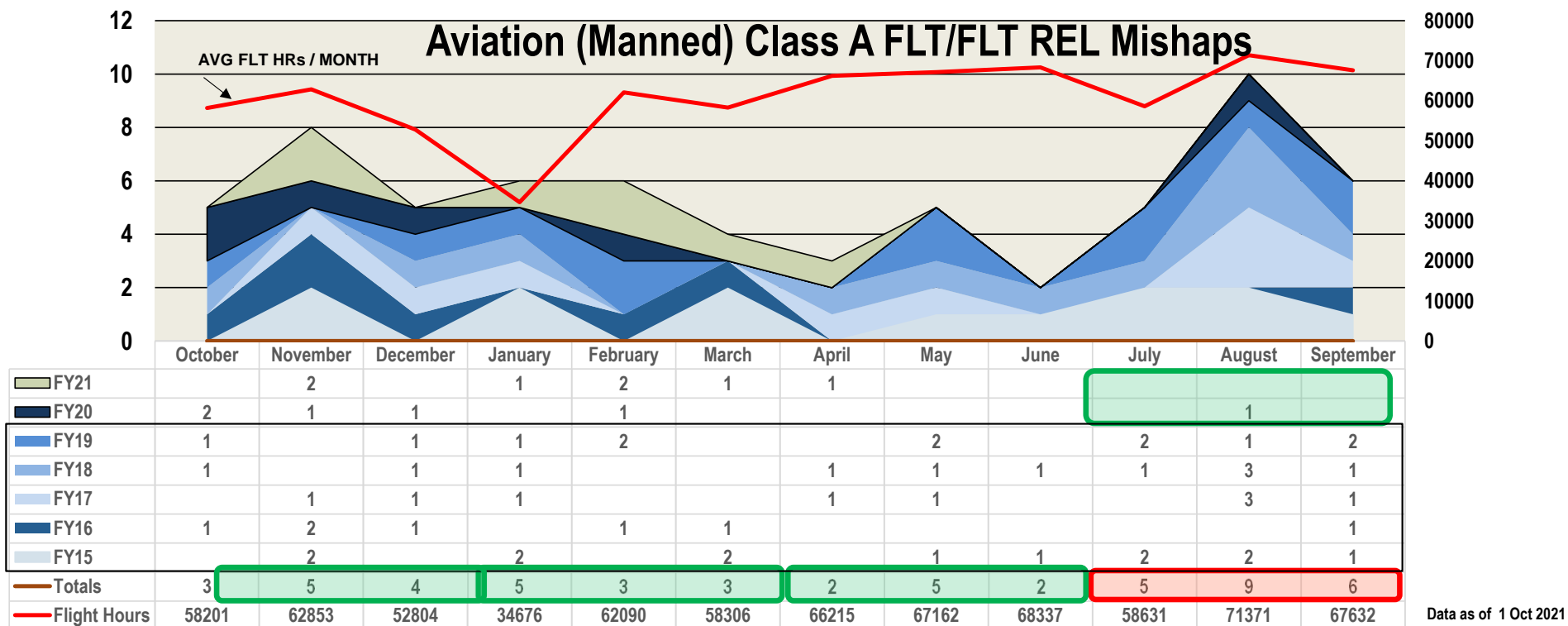
 Crew coordination (20)

**Areas to Focus / Mitigate**

- Set expectations and train MBO / FMAA
- Real-time risk management
- Manage personnel turbulence (4th quarter)
- Crew coordination / fly the aircraft



- 4th Quarter – Complex Situation**
- FY15-FY19: 40% of Class A mishaps occurred during
  - 4th Quarter (21 of 53, but only 27% of flight hours)
  - Significant turbulence in leadership/personnel
  - Change in environmental conditions (heat, dust, NVG)
  - Uptick in training following summer PCS



Data as of 1 Oct 2021



	Compo	FY	MTDS	Class	CAI/IAI	Synopsis	IP/MP	PC					Previous ACFT	PI						
								TT	IP	MP/M E	PC	NVD/NVS		MDS Hrs	TT	IP/MP	PC	NVD/NVS	MDS Hrs	Previous ACFT
1	1	2020	UH-60M	A	IAI	Ground taxi mishap	NO	909			252	208	811		392			46	305	
2	1	2020	CH-47F	A	IAI	Ext. Load of AH-64	IP	2670	991	507.3	751	697	2588		515			128	346	
3	1	2020	AH-64E	A	CAI	CFIT	IP	1319	326		838	445	1236		253			86	159	
4	2	2020	UH-60L	A	CAI	MTF Engine Failure	MP	861		35	286	233	778		508			131	425	
5	1	2020	MC-12S	A	CAI	Single engine training	IP	5778	70 (4928 CFI)		414	10	607	Civilian	532			49	425	
6	1	2020	MH-60M	A	CAI	Gunnery demo	IP	2979	449		1204	1006 / 230	1811	AH64 - 1066	1502		754	395 / 325	137	AH64 - 1264
7	1	2021	UH-60L	A	CAI	CFIT Sinai	IP	2354	1251		593	870	2254		342			56	193	
8	2	2021	CH-47F	A	IAI	Ext. Load of prefab bldg	IP	2005	512		539	1009	1922		491			236	402	
9	2	2021	UH-60L	A	CAI	NYARNG CFIT	IP	2370	694		1510	588	2286		627		62	150	168	
10	2	2021	UH-60L	A	CAI	IDARNG IIMC	IP	1255	290		240	203/60	878	AH64 - 294	1147		52	163/198	385	AH64 - 678
11	1	2021	AH-64E	A	CAI	Rucker Bag training	IP	7609	4542		895	1119	5244	Civilian - 1604	766		253	164	22	UH/HH60 - 658 / Civilian -1328
12	1	2021	AH-64E	A	IAI	EDECU failure	NO	1708			622	594	1115		456			159	373	
13	1	2021	AH-64D	A	IAI	PFE Autorotation	IP	831	20		62	418	430		288			106	198	
14	1	2021	UH-72A	A	CAI	Single Engine OGE training	IP	5400	3470		360	1063	391	OH58D, C12	3327	1270	618	404	94	CH47D, UH-1, UH60A, C12

- 12 of 14 had an IP or MP and one was dual tracked IP/MP.
- Only 3 of 14 mishaps had PCs with less than 1200 hrs total time.
- 5 of the 14 mishaps had a Dual PC Crew.
- The Average IP/MP Time is about 1500 hrs and PIs was about 470.  
 (\*\*\*)The 3 highest time IP/MPs were removed from the average)

Data as of 12 JUL 2021



<https://call2.army.mil/toc.aspx?document=18155>

**“Operationalizing Risk Management for Divisions and Corps”**  
 Authors: LTC John Gervais and LTC Nathan Brookshire  
 CALL Analyst: MAJ Andrew Briggs

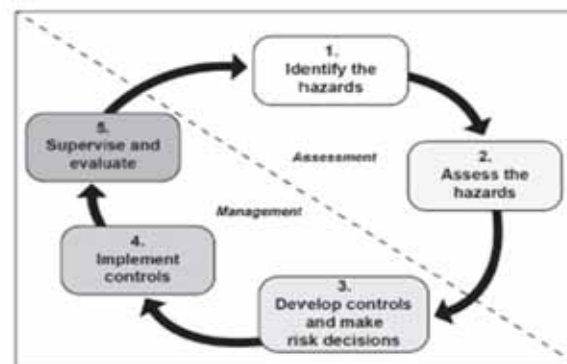


Figure 1-2. Assessment steps and management steps

Identifying the hazards focuses on listing out the threats in the environment that can cause harm. Assessments of the hazards is the next step and is again outlined in ATP 5-19.<sup>2</sup>

Table 1-1. Risk assessment matrix

Risk Assessment Matrix		Probability (expected frequency)				
		Frequent: Continuous, regular, or inevitable occurrences	Likely: Several or numerous occurrences	Occasional: Sporadic or intermittent occurrences	Seldom: Infrequent occurrences	Unlikely: Possible occurrences but improbable
Severity (expected consequence)		A	B	C	D	E
Catastrophic: Mission failure, unit readiness eliminated, death, unacceptable loss or damage	I	EH	EH	H	H	M
Critical: Significantly degraded unit readiness or mission capability; severe injury, illness, loss or damage	II	EH	H	H	M	L
Moderate: Somewhat degraded unit readiness or mission capability; minor injury, illness, loss, or damage	III	H	M	M	L	L
Negligible: Little or no impact to unit readiness or mission capability; minimal injury, loss, or damage	IV	M	L	L	L	L

Legend: EH - Extremely High Risk H - High Risk M - Medium Risk L - Low Risk

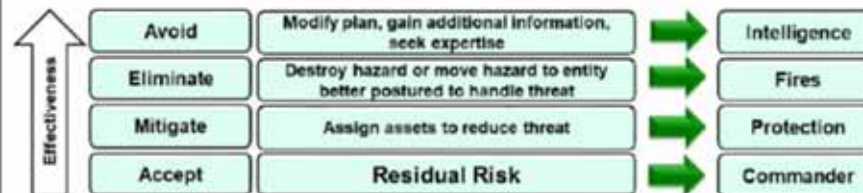


**Division Wet Gap Crossing Risk Assessment Matrix**

Offensive Operations				
HAZARD	Initial Risk Level	Control	How to Implement	Residual Risk Level
Enemy Rotary Wing Aircraft	EH	Avengers task organized to BCTs	Orders Process	H
Chemical Attack at the Gap	EH	CBRN Recon, Decon units task organized to BCTs, PPE	Orders Process	H
Enemy Artillery	EH	Survivability Moves, Construct survivability positions, deception ops	Orders Process	H

**Risk Reduction "A Way"**

- Protection preserves the combat power potential and survivability of the force by providing capabilities to **identify** and prevent the threats and **hazards** or **mitigate** their effects.



The unit **assuming the risk** must have the ability to **mitigate the risk**.



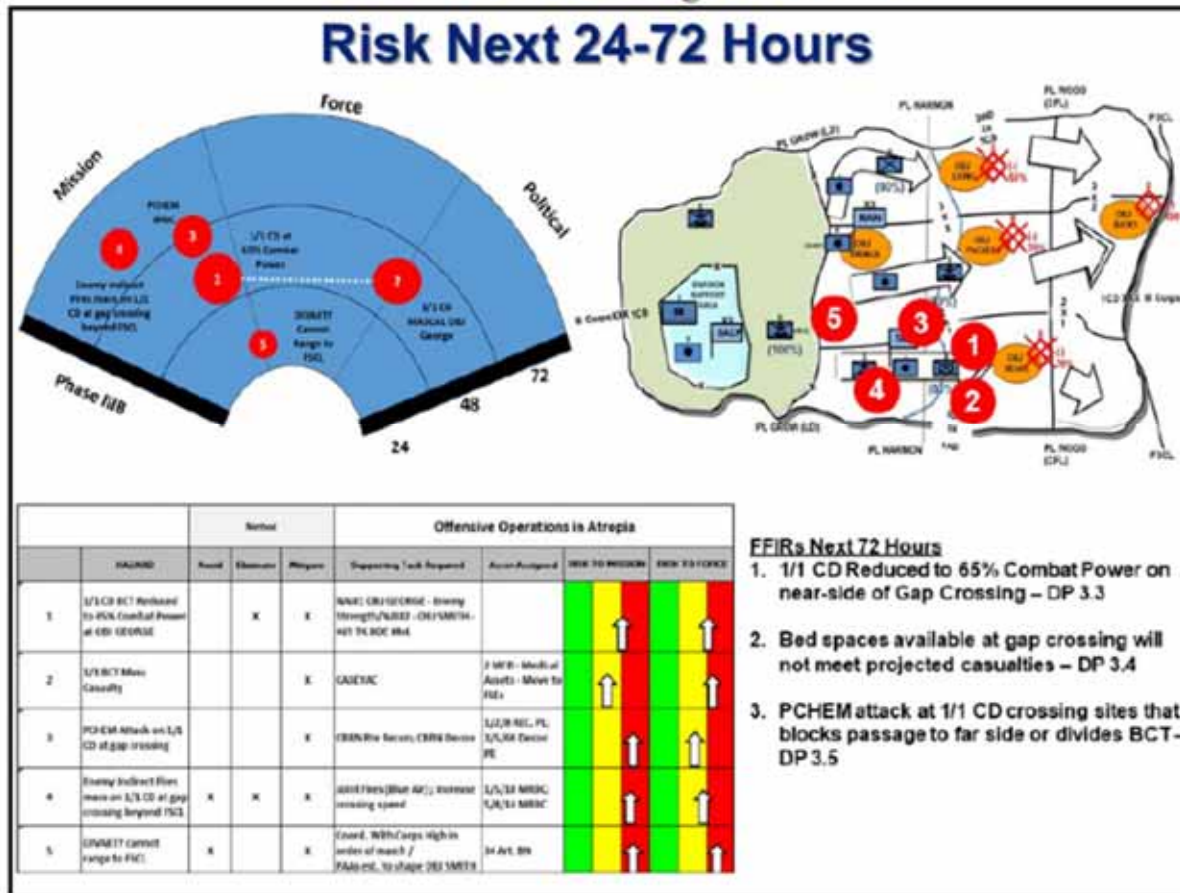
**COA Analysis Risk Matrix**

Course of Action Analysis - Division Offensive Operations in Atropia						Method						
VAF Risk TOT	Operation Phase	Date/Time Risk Identified	HAZARD	Impact	Probability	Avoid	Eliminate	Mitigate	Supporting Task Required	Asset Assigned	RISK TO MISSION	RISK TO FORCE
C2	IBB - Gap Crossing	3-Jan-19	1/1 CD BCT Reduced to 85% Combat Power at OBJ GEORGE	Calmation/Decision Point	High - Enemy COF not favorable		X	X	HAIBT OBJ GEORGE - Enemy Strength/HAIB 2 - OBJ SMITH - 465 TE BDE Main		Green	Yellow
East	IBB - Gap Crossing	4-Jan-19	1/1 DCT Mass Casualty	Op Reach/Crossing	High - Enemy COF not favorable			X	CATEVAC	2 MED - Medical Assets - Move to FLEc	Green	Yellow
Fire	IBB - Gap Crossing	1-May-19	DIVARTY cannot range to FSCL	Cannot engage BPTL	Medium - Enemy has overmatch in range	X		X	Coord. With Corps High in order of march / PAAs est. to shape OBJ SMITH	34 Art. BM	Yellow	Red
Fire	IBB - Gap Crossing	3-Jan-19	DIVARTY CSR unable to shape follow-on Objectives	Tempo/Op Reach	Medium	X		X	Modify CSR		Green	Yellow
C2	IBB - Gap Crossing	6-Jan-19	DTAC does not have JAGIC capability to clear at gap crossing	Cannot Clear via	High - Enemy COF not favorable		X	X	Place JAGIC in DIVARTY	JAGIC	Green	Yellow
Prot/ME	IBB - Gap Crossing	1-May-19	Rotary Wing Attack along 2/1 CD Flank	Flank attack - Pot. Fix in south	High - RW Assets at 85%		X	X	Defeat Enemy Rot. Wing along northern str. sec.	2/2/16 ADA FLT; 3/2/16 ADA FLT	Green	Yellow
Fire	IBB - IBC	1-May-19	Enemy Indirect Fire over 1/1 CD at gap crossing	Calmation	Medium - Enemy has overmatch in range	X	X	X	Joint Flare (Blue Ab); Increase crossing speed	1/5/16 MRDC; 5/0/16 MRDC	Green	Yellow
Prot	IBB - Gap Crossing	1-May-19	PCREM Attack on 1/1 CD at gap crossing	TEMPO/OP BEACH/Beach - All reduced	Likely - Already Used - 90%			X	CDRN Rec Decon; CDRN Decon	1/2/16 REC. PL; 3/5/16 Decon Pit	Green	Yellow





**Commander's Risk Management Product**



## **Our Brothers and Sisters Lost in FY21 to fatal mishaps**



**18 on-duty Soldier fatalities and 86 off-duty Soldier fatalities**



- **Command Team**
  - **Commander: BG Andrew Hilmes; (334) 255-9360; [andrew.c.hilmes.mil@army.mil](mailto:andrew.c.hilmes.mil@army.mil)**
  - **Deputy Commander: COL Ron Ells; (334) 255-3075; [ronald.l.ells@army.mil](mailto:ronald.l.ells@army.mil)**
    - **USACRC Senior Army Aviator (COL Steve Pierce ≈15 JUL)**
  - **Command Sergeant Major: CSM James Light; (334) 255-3575; [james.l.light2.mil@army.mil](mailto:james.l.light2.mil@army.mil)**
- **G3 / Mishap Investigations, Reporting & Tracking:**
  - **Mr. Eric Schwegler; (334) 255-9552; [eric.e.schwegler2.civ@army.mil](mailto:eric.e.schwegler2.civ@army.mil)**
- **Assessments & Prevention (ARAP, Loss Prevention, & Requests for Information):**
  - **Mr. Rae McInnis; (334) 255-1178; [william.r.mcinnis.civ@army.mil](mailto:william.r.mcinnis.civ@army.mil)**
- **Training & Education (Aviation/Ground Safety Officer, CP-12, and Mishap Investigation Courses):**
  - **Ms. Dana Probert; (334) 255-2119; [dana.m.probert.civ@army.mil](mailto:dana.m.probert.civ@army.mil)**
- **Helpdesk: (334) 255-1390**
- **Come see us at <https://safety.army.mil/>**