STATEMENT BY

BG JOSEPH A. SMITH

DIRECTOR OF ARMY SAFETY

BEFORE THE

COMMITTEE ON ARMED SERVICES

UNITED STATES HOUSE OF REPRESENTATIVES

ON MILITARY AVIATION SAFETY

SECOND SESSION, 108TH CONGRESS

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Thank you Mr. Chairman for the opportunity to address the committee's questions in regards to Army aviation safety. As you already know, the US Army Safety Center is well recognized within the Army community as a leader in both aviation and ground safety. As the Director of Army Safety, my staff and I work diligently to provide tools and policy to ensure that our Soldiers "Make It Home Safe" everyday anywhere in the world.

The Secretary of Defense, Honorable Donald Rumsfeld, challenged all the Services to reduce accidents by 50% over the next two years starting in May of 2002. An important part of meeting this goal is conducting an analysis of accidents over the years and relevant results of this effort are provided to the committee as answers to your questions. Also, applicable past and future initiatives from across the Army Aviation community are provided to answer your questions concerning aviation safety. The most recent initiative shown in the responses is the Army Safety Campaign which I briefed to the Secretary of the Army on 22 January 2004.

Again Mr. Chairman, I welcome the opportunity to talk about aviation safety and what the Army has done and will do in the future to enhance combat readiness and ensure the safety of our Soldiers.

We are an Army at war. From my experiences in Iraq and Afghanistan, I know commanders, aviators, and Soldiers are doing everything in their power to mitigate risk. The Army is not risk averse. However, the high cost of training, combined with the harsh environments we expect our aviators to operate in daily, equals high risk.

Over the last ten years, the Army has experienced a favorable trend of reduced accident rates. However, since September 2002 and the beginning of the war on terrorism the increased operations tempo and worldwide deployments have resulted in an increase in aviation accidents.

I will now address the following questions as stated in your letter to me (dated 4 February 2004) in detail below.

Question 1: Overall service aviation safety Class A mishap rates for the past 10 years through the first quarter FY04?

Answer:

Total Army Fixed & Rotary Wing											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1993	1299275	23	1.77	126	9.7	16	87	22	2	1	24
1994	1275222	21	1.65	116	9.1	9	86	11	3	0	18
1995	1203699	10	0.83	95	7.89	15	70	13	1	1	8
1996	1082010	8	0.74	89	8.23	11	70	16	0	0	7
1997	952956	12	1.26	82	8.6	12	58	15	0	2	7
1998	890526	12	1.35	84	9.43	4	68	6	1	2	9
1999	912625	18	1.97	101	11.07	12	71	22	0	0	10
2000	968739	6	0.62	79	8.15	4	69	4	0	0	6
2001	978069	10	1.02	96	9.82	14	72	11	0	0	10
2002	1033962	26	2.51	116	11.22	14	76	17	0	0	18
2003	1046220	29	2.77	119	11.37	21	69	33	1	0	10
2004	302839	10	3.3	24	7.93	3	11	2	0	0	1

Question 2: Individual aircraft Class A mishap rates for the past 10 years, through the first quarter of FY04?

Answer:

AH64											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1993	95276	5	5.25	17	17.84	4	8	1	0	0	5
1994	109827	4	3.64	17	15.48	1	12	0	2	0	3
1995	100629	2	1.99	12	11.92	2	8	0	0	0	0
1996	103929	3	2.89	13	12.51	2	8	0	0	0	1
1997	101808	3	2.95	14	13.75	0	11	0	0	0	0
1998	101082	3	2.97	18	17.81	0	15	2	0	0	3
1999	104881	6	5.72	27	25.74	3	18	2	0	0	3
2000	102285	1	0.98	12	11.73	0	11	2	0	0	1
2001	113097	0	0	13	11.49	4	9	0	0	0	0
2002	128841	9	6.99	23	17.85	2	12	4	0	0	9
2003	138075	9	6.52	31	22.45	8	14	3	1	0	3
2004	42242	4	9.47	6	14.2	1	1	0	0	0	1

UH60											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1993	168499	1	0.59	24	14.24	6	17	4	0	0	1
1994	184527	2	1.08	14	7.59	1	11	0	0	0	0
1995	189717	2	1.05	11	5.8	2	7	5	0	0	2
1996	198144	1	0.5	14	7.07	2	11	6	0	0	2
1997	203589	1	0.49	13	6.39	2	10	8	0	0	1
1998	206064	5	2.43	22	10.68	1	16	3	0	2	3
1999	210490	2	0.95	20	9.5	3	15	9	0	0	1
2000	241710	1	0.41	16	6.62	0	15	0	0	0	1
2001	238428	2	0.84	21	8.81	1	18	6	0	0	3
2002	244932	4	1.63	23	9.39	1	18	0	0	0	2
2003	297339	9	3.03	34	11.43	6	19	24	0	0	4
2004	79848	1	1.25	5	6.26	0	4	0	0	0	0

MH60											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1993	6128	0	0	2	32.64	0	2	0	0	0	0
1994	13977	1	7.15	4	28.62	0	3	0	0	0	1
1995	16134	0	0	4	24.79	0	4	0	0	0	0
1996	14835	0	0	6	40.44	1	5	0	0	0	0
1997	13377	1	7.48	2	14.95	0	1	0	0	0	0
1998	12972	0	0	3	23.13	0	3	0	0	0	0
1999	13374	1	7.48	5	37.39	0	4	1	0	0	0
2000	30108	0	0	1	3.32	1	0	0	0	0	0
2001	35541	0	0	3	8.44	1	2	0	0	0	0
2002	37233	1	2.69	4	10.74	0	3	2	0	0	0
2003	16740	2	11.95	5	29.87	0	3	4	0	0	1
2004	5572	0	0	0	0	0	0	0	0	0	0

CH47D											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1993	60216	1	1.66	9	14.95	1	7	0	0	0	1
1994	60399	2	3.31	9	14.9	1	6	4	1	0	2
1995	59280	1	1.69	5	8.43	0	4	5	0	0	1
1996	59643	0	0	8	13.41	0	8	0	0	0	0
1997	57921	1	1.73	6	10.36	1	4	0	0	0	0
1998	50775	0	0	4	7.88	1	3	0	0	0	0
1999	53569	1	1.87	3	5.6	0	2	0	0	0	0
2000	54435	0	0	4	7.35	0	4	0	0	0	0
2001	55890	0	0	3	5.37	0	3	0	0	0	0
2002	59022	4	6.78	12	20.33	0	8	0	0	0	2
2003	62796	3	4.78	9	14.33	1	5	0	0	0	0
2004	18112	0	0	1	5.52	0	1	0	0	0	0

MH47											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1993	0	0	N/A	1	N/A	0	1	0	0	0	0
1994	6864	0	0	0	0	0	0	0	0	0	0
1995	8511	0	0	0	0	0	0	0	0	0	0
1996	8316	2	24.05	3	36.08	0	1	5	0	0	1
1997	7554	0	0	3	39.71	1	2	0	0	0	0
1998	7665	0	0	1	13.05	0	1	0	0	0	0
1999	8198	0	0	1	12.2	0	1	0	0	0	0
2000	18924	0	0	1	5.28	0	1	0	0	0	0
2001	16779	0	0	0	0	0	0	0	0	0	0
2002	16929	1	5.91	7	41.35	2	4	8	0	0	1
2003	7254	2	27.57	3	41.36	0	1	0	0	0	0
2004	2396	0	0	0	0	0	0	0	0	0	0

OH58D											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1993	24635	1	4.06	7	28.41	1	5	0	0	0	1
1994	42312	0	0	4	9.45	1	3	0	0	0	0
1995	46644	1	2.14	12	25.73	3	8	0	0	0	1
1996	62520	1	1.6	5	8	1	3	3	0	0	2
1997	63072	1	1.59	13	20.61	3	9	1	0	0	1
1998	77208	2	2.59	13	16.84	1	10	0	0	0	1
1999	75841	3	3.96	15	19.78	2	10	0	0	0	2
2000	88299	1	1.13	21	23.78	2	18	0	0	0	1
2001	88464	4	4.52	27	30.52	3	20	0	0	0	3
2002	91599	5	5.46	19	20.74	4	10	2	0	0	3
2003	96954	3	3.09	23	23.72	4	16	0	0	0	1
2004	26394	5	18.94	7	26.52	1	1	2	0	0	0

OH58											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1993	232154	6	2.58	17	7.32	0	11	2	0	0	6
1994	227082	8	3.52	28	12.33	0	20	6	0	0	8
1995	191685	3	1.57	8	4.17	0	5	3	1	1	3
1996	132195	0	0	6	4.54	0	6	0	0	0	0
1997	117354	1	0.85	7	5.96	2	4	0	0	2	1
1998	103365	1	0.97	2	1.93	0	1	1	1	0	1
1999	107713	0	0	5	4.64	1	4	0	0	0	0
2000	109509	2	1.83	6	5.48	0	4	0	0	0	2
2001	116958	1	0.86	3	2.57	0	2	0	0	0	1
2002	123534	1	0.81	5	4.05	0	4	0	0	0	0
2003	114711	0	0	4	3.49	1	3	0	0	0	0
2004	30270	0	0	2	6.61	0	2	0	0	0	0

UH 1											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1993	454618	5	1.1	21	4.62	1	15	8	1	0	6
1994	376800	2	0.53	12	3.18	3	7	0	0	0	2
1995	326199	0	0	17	5.21	4	13	0	0	0	0
1996	218685	0	0	9	4.12	4	5	0	0	0	0
1997	159291	3	1.88	9	5.65	1	5	4	0	0	3
1998	95001	0	0	1	1.05	0	1	0	0	0	0
1999	97197	1	1.03	5	5.14	1	3	0	0	0	1
2000	69870	1	1.43	1	1.43	0	0	2	0	0	1
2001	59634	0	0	2	3.35	1	1	0	0	0	0
2002	82734	0	0	2	2.42	0	2	0	0	0	0
2003	85194	0	0	0	0	0	0	0	0	0	0
2004	21825	0	0	1	4.58	0	1	0	0	0	0

H 6											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1993	25027	3	11.99	7	27.97	1	3	1	0	0	3
1994	18720	1	5.34	5	26.71	0	4	1	0	0	1
1995	16902	0	0	1	5.92	1	0	0	0	0	0
1996	13212	0	0	8	60.55	0	8	0	0	0	0
1997	11379	0	0	5	43.94	2	3	0	0	0	0
1998	12225	0	0	5	40.9	1	4	0	0	0	0
1999	10738	2	18.63	5	46.56	1	2	1	0	0	1
2000	26370	0	0	4	15.17	1	3	0	0	0	0
2001	27789	1	3.6	6	21.59	2	3	0	0	0	1
2002	27192	0	0	4	14.71	1	3	0	0	0	0
2003	9774	0	0	0	0	0	0	0	0	0	0
2004	3670	0	0	0	0	0	0	0	0	0	0

TH67											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1994	8949	0	0	0	0	0	0	0	0	0	0
1995	39099	0	0	3	7.67	0	3	0	0	0	0
1996	65382	0	0	3	4.59	0	3	0	0	0	0
1997	56826	0	0	0	0	0	0	0	0	0	0
1998	66072	0	0	1	1.51	0	1	0	0	0	0
1999	76580	0	0	1	1.31	1	0	0	0	0	0
2000	82977	0	0	2	2.41	0	2	0	0	0	0
2001	80418	0	0	2	2.49	2	0	0	0	0	0
2002	89745	0	0	4	4.46	0	4	0	0	0	0
2003	96918	0	0	4	4.13	0	4	0	0	0	0
2004	30709	0	0	0	0	0	0	0	0	0	0

AH 1											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1993	89172	0	0	11	12.34	1	10	0	0	0	0
1994	71604	1	1.4	13	18.16	2	10	0	0	0	1
1995	55422	0	0	11	19.85	2	9	0	0	0	0
1996	41847	1	2.39	5	11.95	1	3	2	0	0	1
1997	33171	0	0	2	6.03	0	2	0	0	0	0
1998	21243	1	4.71	4	18.83	0	3	0	0	0	1
1999	27415	0	0	3	10.94	0	3	0	0	0	0
2000	14274	0	0	1	7.01	0	1	0	0	0	0
2001	13266	0	0	2	15.08	0	2	0	0	0	0
2002	24	0	0	0	0	0	0	0	0	0	0
2003	15	0	0	0	0	0	0	0	0	0	0
2004	0	0	N/A	0	N/A	0	0	0	0	0	0

C 12											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1993	71734	1	1.39	7	9.76	1	5	6	1	1	1
1994	82401	0	0	4	4.85	0	4	0	0	0	0
1995	91140	0	0	6	6.58	0	6	0	0	0	0
1996	114273	0	0	5	4.38	0	5	0	0	0	0
1997	98025	1	1.02	8	8.16	0	7	2	0	0	1
1998	100254	0	0	8	7.98	0	8	0	0	0	0
1999	83427	1	1.2	8	9.59	0	7	2	0	0	1
2000	84918	0	0	7	8.24	0	7	0	0	0	0
2001	86784	1	1.15	7	8.07	0	6	2	0	0	1
2002	85278	0	0	4	4.69	1	3	0	0	0	0
2003	75759	1	1.32	4	5.28	1	2	2	0	0	1
2004	27066	0	0	1	3.69	1	0	0	0	0	0

C 26											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1993	3285	0	0	0	0	0	0	0	0	0	0
1994	8676	0	0	0	0	0	0	0	0	0	0
1995	9291	0	0	0	0	0	0	0	0	0	0
1996	13833	0	0	0	0	0	0	0	0	0	0
1997	7749	0	0	0	0	0	0	0	0	0	0
1998	7209	0	0	0	0	0	0	0	0	0	0
1999	7040	0	0	0	0	0	0	0	0	0	0
2000	7509	0	0	0	0	0	0	0	0	0	0
2001	7239	0	0	0	0	0	0	0	0	0	0
2002	7467	0	0	0	0	0	0	0	0	0	0
2003	7074	0	0	0	0	0	0	0	0	0	0
2004	2258	0	0	0	0	0	0	0	0	0	0

C 35											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1993	0	0	N/A	0	N/A	0	0	0	0	0	0
1994	0	0	N/A	0	N/A	0	0	0	0	0	0
1995	0	0	N/A	0	N/A	0	0	0	0	0	0
1996	0	0	N/A	0	N/A	0	0	0	0	0	0
1997	1410	0	0	0	0	0	0	0	0	0	0
1998	6306	0	0	0	0	0	0	0	0	0	0
1999	10654	0	0	1	9.39	0	1	0	0	0	0
2000	12606	0	0	0	0	0	0	0	0	0	0
2001	13566	0	0	0	0	0	0	0	0	0	0
2002	14340	0	0	0	0	0	0	0	0	0	0
2003	12726	0	0	0	0	0	0	0	0	0	0
2004	4936	0	0	0	0	0	0	0	0	0	0

U 21											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1993	41382	0	0	2	4.83	0	2	0	0	0	0
1994	40086	0	0	2	4.99	0	2	0	0	0	0
1995	28338	0	0	2	7.06	0	2	0	0	0	0
1996	12834	0	0	0	0	0	0	0	0	0	0
1997	1566	0	0	0	0	0	0	0	0	0	0
1998	1362	0	0	0	0	0	0	0	0	0	0
1999	1425	0	0	0	0	0	0	0	0	0	0
2000	12	0	0	0	0	0	0	0	0	0	0
2001	0	0	N/A	0	N/A	0	0	0	0	0	0
2002	0	0	N/A	0	N/A	0	0	0	0	0	0
2003	0	0	N/A	0	N/A	0	0	0	0	0	0
2004	0	0	N/A	0	N/A	0	0	0	0	0	0

OV 1											
Total Day & Night											
	Flying	Class A		Class A-C		Class B	Class C	Fatalities			Destroyed
FY	Hours	Number	Rate	Number	Rate	Number	Number	Army Military	DOD Civ	Non DOD	Aircraft
1993	12538	0	0	1	7.98	0	1	0	0	0	0
1994	9882	0	0	0	0	0	0	0	0	0	0
1995	6948	1	14.39	2	28.79	1	0	0	0	0	1
1996	4425	0	0	1	22.6	0	1	0	0	0	0
1997	0	0	N/A	0	N/A	0	0	0	0	0	0
1998	0	0	N/A	0	N/A	0	0	0	0	0	0
1999	0	0	N/A	0	N/A	0	0	0	0	0	0
2000	0	0	N/A	0	N/A	0	0	0	0	0	0
2001	0	0	N/A	0	N/A	0	0	0	0	0	0
2002	0	0	N/A	0	N/A	0	0	0	0	0	0
2003	0	0	N/A	0	N/A	0	0	0	0	0	0
2004	0	0	N/A	0	N/A	0	0	0	0	0	0

Question 3: Analysis of causes in total and by aircraft Class A mishap rates for the past 10 years?

Answer:

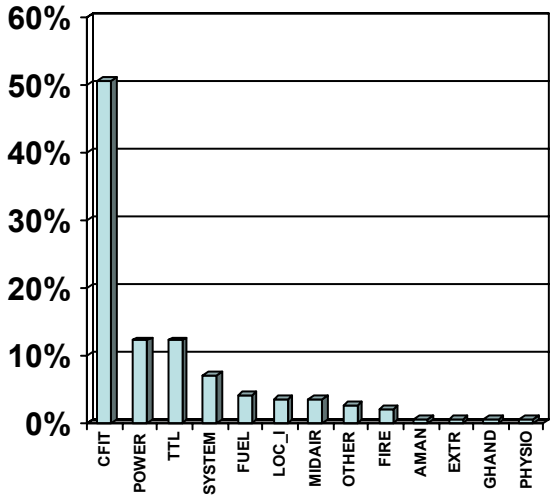
In total, just over 50% (99) of the Army's 196 aviation Class A accidents were a result of Controlled Flight Into Terrain (CFIT). The next biggest causes are powerplant failures and incidents during Taxi, Takeoff, & Landing, both (TT&L) at 12.2% (24 accidents each). Other system failures (non-powerplant related) account for 7.1% (14) of the Class A accidents. Environmental conditions contributed to 19% (38) of the accidents.

Looking at the various types of aircraft, AH-64s have the largest number of Class A accidents over the period (50). Of those, 32 (64%) were a result of CFIT and 6 (10%) were a result of systems failures (non-powerplant). There have been 40 Class A accidents involving U/MH-60s over the period; 22 (55%) of which were a result of CFIT, 6 (15%) were powerplant failures, and 5 (12.5%)were TT&L.

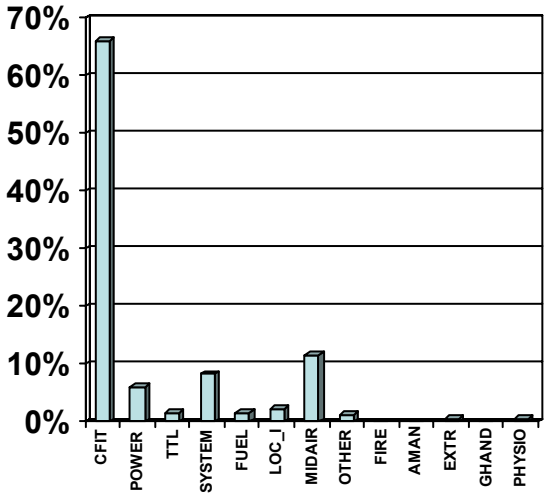
Similar trends hold for the other types of aircraft with the exception of C/MH-47s. There have been a total of 22 Class A accidents involving C/MH-47s. Of those 6 (27%) were CFIT , 4 (18%) were TT&L, and 3 (14%) were power related.

When looking at fatalities, CFIT accounts for 66% of the 180 fatalities over the period. While only 3.6% of the accidents, Mid-Air collisions account for almost 12% of the fatalities. Systems failures and powerplant accounted for 8.3% and 6.1% of the fatalities over the period, respectively.

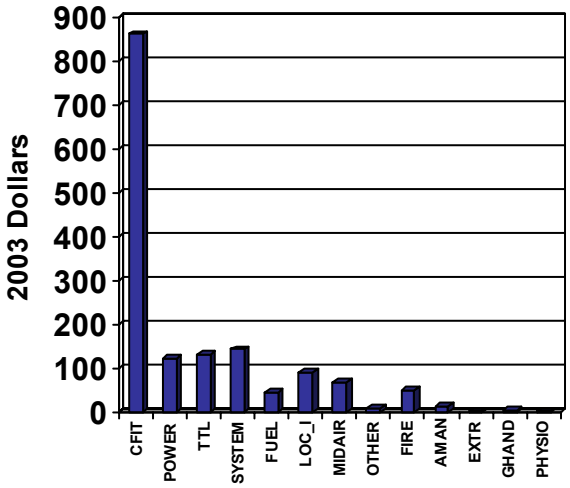
Army Class A Accidents by Type



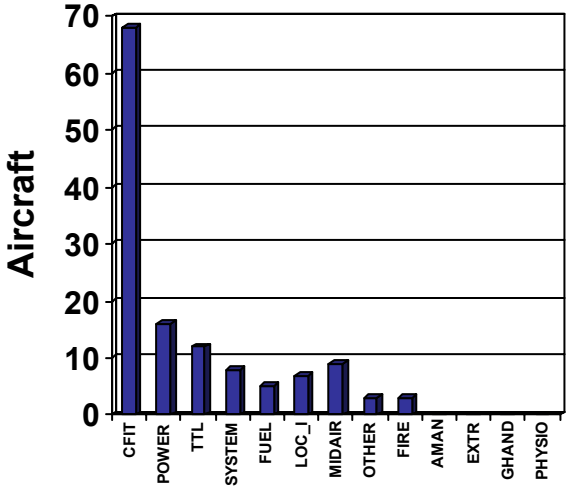
Army Fatalities by Accident Type



Cost by Accident Type in 2003 Dollars (millions)



Destroyed Aircraft by Accident Type



		FY													
		1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	total	Percent
AH64	CFIT	3	2	2	2	2	2	2	1	0	7	8	1	32	64.0%
	FIRE	0	1	0	0	0	1	0	0	0	1	0	0	3	6.0%
	FUEL	0	0	0	0	1	0	0	0	0	1	0	0	2	4.0%
	LOC_I	0	0	0	1	0	0	1	0	0	0	0	0	2	4.0%
	POWER	0	0	0	1	0	0	2	0	0	0	0	0	3	6.0%
	SYSTEM	0	1	0	0	0	0	1	0	0	0	0	3	5	10.0%
	TTL	2	0	0	0	0	0	0	0	0	0	1	0	3	6.0%
	total	5	4	2	4	3	3	6	1	0	9	9	4	50	100%
UH60	CFIT	1	1	1	0	1	3	1	1	1	3	7	0	20	60.6%
	FUEL	0	1	0	0	0	0	0	0	0	0	0	0	1	3.0%
	GHAND	0	0	0	0	0	1	0	0	0	0	0	0	1	3.0%
	MIDAIR	0	0	0	1	0	0	0	0	1	0	1	0	3	9.1%
	POWER	0	0	1	1	0	1	0	0	0	0	0	0	3	9.1%
	SYSTEM	0	0	0	0	0	0	0	0	0	0	0	1	1	3.0%
	TTL	0	0	0	0	0	1	1	0	0	1	1	0	4	12.1%
	total	1	2	2	2	1	6	2	1	2	4	9	1	33	100%
MH60	CFIT	0	0	0	0	0	0	0	0	0	1	1	0	2	28.6%
	OTHER	0	0	0	1	0	0	0	0	0	0	0	0	1	14.3%
	POWER	0	1	0	0	1	0	1	0	0	0	0	0	3	42.9%
	TTL	0	0	0	0	0	0	0	0	0	0	1	0	1	14.3%
	total	0	1	0	1	1	0	1	0	0	1	2	0	7	100%
CH47D	AMAN	0	0	0	0	1	0	0	0	0	0	0	0	1	6.7%
	CFIT	0	1	0	0	0	0	0	0	0	3	1	0	5	33.3%
	LOC_I	1	0	0	0	0	0	0	0	0	0	0	0	1	6.7%
	POWER	0	0	0	0	0	0	0	0	0	2	1	0	3	20.0%
	SYSTEM	0	0	1	0	0	0	0	0	0	0	0	0	1	6.7%
	TTL	0	1	0	0	0	0	1	0	0	1	1	0	4	26.7%
	total	1	2	1	0	1	0	1	0	0	6	3	0	15	100%
MH47	CFIT	0	0	0	0	0	0	0	0	0	1	0	0	1	14.3%
	EXTR	0	0	0	0	0	0	0	0	0	0	1	0	1	14.3%
	FIRE	0	0	0	0	0	0	0	0	0	0	1	0	1	14.3%
	FUEL	0	0	0	1	0	0	0	0	0	0	0	0	1	14.3%
	MIDAIR	0	0	0	0	0	0	0	0	0	0	1	0	1	14.3%
	OTHER	0	0	1	0	0	0	0	0	0	0	0	0	1	14.3%
	SYSTEM	0	0	0	1	0	0	0	0	0	0	0	0	1	14.3%
	total	0	0	1	2	0	0	0	0	0	1	3	0	7	100%
OH58D	CFIT	0	0	1	0	1	2	1	1	0	2	3	3	14	46.7%
	FUEL	1	0	0	0	0	0	0	0	0	0	0	0	1	3.3%
	MIDAIR	0	0	0	1	0	0	0	0	0	0	0	0	1	3.3%
	OTHER	0	0	0	0	0	0	0	0	1	0	0	0	1	3.3%
	POWER	0	0	1	0	0	1	0	0	1	1	0	0	4	13.3%
	SYSTEM	0	0	0	0	0	0	1	0	0	2	0	0	3	10.0%
	TTL	0	0	0	0	0	0	1	0	2	0	0	3	6	20.0%
	total	1	0	2	1	1	3	3	1	4	5	3	6	30	100%
OH58	CFIT	3	4	2	0	0	1	0	2	0	1	0	0	13	56.5%
	FUEL	0	2	0	0	0	0	0	0	0	0	0	0	2	8.7%
	LOC_I	0	0	0	0	0	0	0	0	1	0	0	0	1	4.3%
	OTHER	0	1	0	0	0	0	0	0	0	0	0	0	1	4.3%
	POWER	1	0	0	0	1	0	0	0	0	0	0	0	2	8.7%
	SYSTEM	0	0	1	0	0	0	0	0	0	0	0	0	1	4.3%
	TTL	2	1	0	0	0	0	0	0	0	0	0	0	3	13.0%
	total	6	8	3	0	1	1	0	2	1	1	0	0	23	100%
H 6	CFIT	1	1	0	0	0	0	0	0	0	0	0	0	2	28.6%
	OTHER	0	0	0	0	0	0	0	0	1	0	0	0	1	14.3%
	PHYSIO	0	0	0	0	0	0	1	0	0	0	0	0	1	14.3%
	POWER	2	0	0	0	0	0	0	0	0	0	0	0	2	28.6%
	TTL	0	0	0	0	0	0	1	0	0	0	0	0	1	14.3%
	total	3	1	0	0	0	0	2	0	1	0	0	0	7	100%
AH 1	CFIT	0	1	0	0	0	0	0	0	0	0	0	0	1	33.3%
	POWER	0	0	0	1	0	0	0	0	0	0	0	0	1	33.3%
	TTL	0	0	0	0	0	1	0	0	0	0	0	0	1	33.3%
	total	0	1	0	1	0	1	0	0	0	0	0	0	3	100%
UH 1	CFIT	1	1	0	0	1	0	0	1	0	0	0	0	4	36.4%
	LOC_I	1	0	0	0	0	0	0	0	0	0	0	0	1	9.1%
	MIDAIR	1	0	0	0	0	0	0	0	0	0	0	0	1	9.1%
	POWER	1	0	0	0	2	0	0	0	0	0	0	0	3	27.3%
	SYSTEM	1	0	0	0	0	0	1	0	0	0	0	0	2	18.2%
	TTL	0	1	0	0	0	0	0	0	0	0	0	0	1	9.1%
	total	5	1	0	0	3	0	1	1	0	0	0	0	11	100%
C 12	CFIT	1	0	0	0	0	0	0	0	1	0	1	0	3	60.0%
	LOC_I	0	0	0	0	1	0	1	0	0	0	0	0	2	40.0%
	total	1	0	0	0	1	0	1	0	1	0	1	0	5	100%
OV 1	FUEL	0	0	1	0	0	0	0	0	0	0	0	0	1	100%
OTHERFIX	CFIT	0	0	0	0	0	0	1	0	1	0	0	0	2	66.7%
	MIDAIR	0	0	0	0	0	0	0	0	0	1	0	0	1	33.3%
	total	0	0	0	0	0	0	1	0	1	1	0	0	3	100%

Definitions

AVIATION MISHAP TYPES	CODE	DEFINITION	USED FOR	INCLUDES	EXCLUDES
ABRUPT MANEUVER	AMAN	Damage or injury caused by intentional abrupt maneuvering of the aircraft or UAV by the flight crew.	Flight, Flight-Related, Ground-Ops, UAV	Structural damage from aerodynamic overstress (e.g., over-g). Damage or injury when objects or people are thrown about by abrupt maneuvering.	All midair collisions (see MIDAIR). Collisions with ground (see CFIT). Hard landings, skids and runway excursions (see TT&L).
AERIAL REFUELING	ARFUEL	Any mishap that is a direct result of aerial refueling.	Flight	Mishaps that occur as result of aerial re-fueling (broken baskets, fod'ed engines, airframe damage)	Mishaps which occur as a result of not being able to aerial refuel (e.g., pilot's inability to tank, tanker aircraft malfunctions, etc.) (see OTHER).
CABIN & CARGO SAFETY EVENTS	CAB/CAR	Miscellaneous occurrences in either the flight deck, passenger cabin or cargo compartment.	Flight, Flight-Related, Ground-Ops	Mishaps when there are cargo or equipment leaks (e.g., fuel from aerospace ground equipment, over-serviced lavatories) or cargo shifts.	Smoke & fumes from overheated or failed electrical components (see SYSTEM).
CONTROLLED FLIGHT INTO TERRAIN	CFIT	In-flight collision with terrain, water, trees or a man-made obstacle during flight prior to planned touchdown.	Flight, UAV	Mishaps involving impact with terrain, water, trees or man-made obstacles where the aircraft is controllable, and the pilot is actively controlling the aircraft or the pilot's ability to control the aircraft is reduced to due to spatial disorientation or GLOC. Mishaps where the aircraft is flown to a point where it is no longer possible to avoid unintended ground impact (e.g. low altitude overbank or flight into box canyon), regardless of subsequent pilot reaction (e.g. ejection, stall, spin, etc.).	Hard landings on prepared surfaces (e.g. overrun) near intended runway or LZ (see TT&L). Aircraft departures from controlled flight that ultimately result in ground impact, to include helo rotor droop (see LOC-I). Unavoidable ground impact due to system failure or malfunction (e.g., loss of thrust) (see SYSTEM or POWER).
ENVIRONMENT/WEATHER	ENV/WX	Encounters with weather or environmental phenomena.	Flight, Flight-Related, Ground-Ops, UAV	Weather (e.g., lightning, static discharge, thunderstorms, hail, freezing rain, ice accumulation, wind shear, turbulence, mountain waves and volcanic ash) and man-made environmental phenomena (e.g., wake turbulence and vortex encounters).	Carburetor and induction icing (see FUEL). Mishaps resulting from white-out or brown-out conditions (see CFIT, LOC-I and TT&L).
EXTERNAL OPERATIONS	EXT OPS	Mishaps involving personnel or equipment physically attached externally to the aircraft.	Flight, Flight Related	Rappelling, fast-rope (specialized rapelling), stabo (stabilized extraction w/o lift), rescue hoist operations, and sling-loads.	Damage to aircraft caused by fuselage or wing stores (e.g., bombs, missiles, ECCM pods) (see FIRE/EXP). Damage to aircraft caused by fuselage or wing external tanks (See SYSTEM).
FIRE/EXPLOSION	FIRE/EXP	Mishaps initiated by an external source of fire or explosion.	Flight, Flight Related, Ground-Ops, UAV	Mishaps resulting from an external fire (e.g,. forest fire, grass fire, etc.) or explosion (e.g., unidentified weapons cache, rocket arming and exploding early, etc.).	Fire/Explosions initiated by aircraft system or powerplant failure (See SYSTEM or POWER) or where a fire/explosion is secondary to the principle cause.
FRATRICIDE	FRAT	Mishaps where the employment of friendly actions, with the intent to kill or disable hostile forces or destroy their property, results in injury or death to friendly, neutral, or other noncombatant personnel or damage to their property.	Flight, UAV		
FUEL-RELATED	FUEL	One or more powerplants experienced reduced or no power output due to a fuel anomaly.	Flight, Ground-Ops, UAV	Fuel exhaustion, starvation, mismanagement, contamination, trapped fuel, the wrong fuel, carburetor or induction icing and the inadvertent placement of a throttle to cutoff.	
GROUND HANDLING & SERVICING OPERATIONS	GHAND	Mishaps resulting from improper ground handling or servicing or as the result of the failure of ground handling or servicing equipment.	Ground-Ops, UAV	Towing and cargo loading/unloading events. Ground servicing mishaps (e.g., jacking, craning, refueling, deicing, etc). Damage to other objects due to jet blast from stationary aircraft.	Damage to an aircraft (e.g., powerplants, systems) undergoing ground operational checks (see SYSTEM or POWER).
LOSS OF CONTROL IN-FLIGHT	LOC-I	Failure to maintain control of the aircraft or UAV while in flight.	Flight, UAV	Mishaps from failure to control the aircraft during flight, when that loss of control is not primarily related to environment, weather or any system failure. Includes stalls, spins and loss of control due to rotor droop or loss of tail rotor effectiveness. For UAVs, includes "lost link" mishaps where the "lost link" is not attributable to a system failure or malfunction.	Control loss due to a system or component failure (see SYSTEM and POWER). Control loss due to environment/weather (see ENV/WX).
MIDAIR COLLISION	MIDAIR	Collision between aircraft or UAV when intent for flight exists.	Flight, UAV	Mishaps resulting from collision between two or more aircraft when intent for flight exists. Includes inadvertent contact during formation takeoffs and air-refueling operations.	
IMPACT DAMAGE -- OBJECT	ODAM	Resultant damage to aircraft or powerplant due to impact with a foreign object or debris from another failed aircraft component.	Flight, Ground-Ops, UAV	Mishaps where aircraft damage is due to impact with a foreign object or debris from another failed aircraft component (e.g., shards of aircraft tires). Mishaps where powerplant damage is due to an ingested object (e.g., ice, support equipment, hand tool, runway and taxiway debris, fasteners, aircraft panels, shards from failed aircraft tires, etc.).	Damage from wildlife strikes (see BASH). Powerplant damage due to the failure of internal powerplant components (see POWER).
IMPACT DAMAGE -- WILDLIFE	BASH	Collision with a bird or other animal.	Flight, Ground-Ops, UAV		
PHYSIOLOGICAL	PHYSIO	Injury, illness or abnormal symptoms experienced by aircrew or others as a result of the dynamic flight environment.	Flight-Related	Spatial disorientation and GLOC events that do not result in CFIT or MIDAIR.	Spatial disorientation and GLOC events that result in CFIT or MIDAIR (see CFIT or MIDAIR).
POWERPLANT FAILURE OR MALFUNCTION	POWER	Failure or malfunction of an aircraft or UAV thrust-producing system or related components.	Flight, Ground-Ops, UAV	Mishaps resulting from failure or malfunction of an aircraft thrust-producing system or related component (e.g., fuel controls, engine-mounted gearboxes, propellers, thrust reversers, thrust vectoring components). Includes maintenance and crew induced failures.	Damage due to ingestion of foreign objects and debris (see ODAM). Damage from wildlife strikes (see BASH). Damage to gearboxes that are not engine-mounted (see SYSTEM).
SHIP RELATED	SHIP	Any mishap that is a direct result of operating in the ship environment.	Flight, Flight-Related, Ground-Ops	Mishaps which are a direct result of operating onboard an aircraft carrier (i.e. ramp strikes, parted wires, catapult failures, flight deck crunches/accidents, etc).	Any flight which does not directly physically involve the aircraft carrier environment, such as flights originating from the carrier but not in direct contact with the carrier.
SYSTEM FAILURE OR MALFUNCTION (NON-POWERPLANT)	SYSTEM	Failure or malfunction of an aircraft or UAV system or component - other than the powerplant.	Flight, Ground-Ops, UAV	Mishaps resulting from failure of aircraft structure, system or component - other than the powerplant. Includes maintenance and crew induced failures.	Damage from wildlife strikes (see BASH). Excludes failures of low dollar value components (e.g., fasteners, panels, tires, etc.) that result in significant damage to aircraft or powerplants (see ODAM).
TAXI, TAKEOFF & LANDING	TT&L	Operational mishaps occurring during takeoff, landing or other powered aircraft or UAV movement on prepared airfield surfaces, austere fields and helicopter landing zones.	Flight, Ground-Ops, UAV	Collisions with aircraft, flightline vehicles or equipment, or stationary objects (e.g. light poles) while moving on the ground or in hover taxi. Wing, tail or nacelle scrapes. Skids, hydroplaning, departures from prepared surfaces, and runway excursions; excessive drift on ground contact. Abnormal landings (e.g., hard, short, hot, long, heavy, or off-surface), accidental gear-up landings. Rejected takeoff and hot brake mishaps. Mishaps involving system failures when crew response was both improper/inadequate and well below reasonable expectations.	Towing mishaps (see GHAND). Gear-up landings, runway excursions or other mishaps when primarily caused by system or powerplant failures (see SYSTEM and POWER). Collisions with birds or animals (see BASH). Aircraft touchdown prior to available runway underrun (see CFIT).
OTHER	OTHER	Any occurrence not covered under another category.	Flight, Flight-Related, Ground-Ops, UAV	Used when insufficient information exists to categorize the occurrence (unknown and undetermined). Also used for mishaps that occur infrequently such as runway incursions and aerodrome issues (e.g., design, services and functionality).	

Question 4: Initiatives that services took to address aviation safety over the past 10 years, including those initiatives on aging aircraft, and success or failure of those initiatives.

Answer:

The Army Safety Strategic Plan

The Secretary of Army and Chief of Staff, Army, approved the Army Safety Strategic Plan in November 2001. This plan includes a requirement to "develop and resource an investment strategy for aviation accident prevention." The Army Safety Strategic Plan establishes risk management and safety objectives linked to Army Transformation. The endorsement from the Chief of Staff, Army, and Secretary of the Army requires major Army command commanders and Headquarters, Department of the Army action proponents to develop supporting operational plans and investment strategies. The Safety Strategic Plan reinforces the Army's vision that risk management and safety are commander's business, nested into planning and programming. Following that vision, the investment strategy is a risk-based resource decision across all funding accounts. Proponents will identify, prioritize, and document requirements using existing planning and program building processes, focused through risk-based systems analysis and performance metrics.

Army Safety Campaign Plan

The Army Safety Campaign Plan is under development by the U.S. Army Safety Center and will be published in the third quarter of fiscal year 2004, The Plan includes the collective input of a several organizations and agencies throughout the Army and represents the necessary and logical extension of the Army Safety Strategic Planning Process, which began with publication of the Army Safety Strategic Plan in November 2001. The Army Safety Campaign Plan will provide implementing guidance to Headquarters, Department of the Army and the Major Army Commands. Its goal is to set the conditions for achieving irreversible momentum in making safety concerns and criteria an integral component of Army Transformation." The Secretary of the Army received the briefing on the Army Safety Campaign Plan on 22 January 2004. The Plan was well received and guidance provided to present the briefing to senior leaders across the Army.

Army Safety Coordinating Panel

Army senior leadership established the Department of the Army Safety Coordinating Panel to assist in the process of risk management integration into

the business practices of the Department and synchronize investments across the Program Objective Memorandum, the. The Army Safety Coordinating Panel exists to oversee and synchronize Army safety strategic planning and safety and risk-management integration into the Army's current and future forces and provide updates and recommended safety courses of action to the Secretary of the Army and Chief of Staff, Army. The Army Safety Coordinating Panel is chaired by the Director of the Army Staff and vice-chaired by the Deputy Assistant Secretary of the Army (Environment, Safety and Occupational Health). Composition of the Army Safety Coordinating Panel includes principal members from 20 Department of the Army and major command organizations. Key members of the ASCP are the integrating agents: United States Forces Command, U.S. Training and Doctrine Command, U.S. Army Materiel Command, and Installation Management Agency. The integrating agents are charged with the task of developing synchronized major command action plans to support implementation of the Army Safety Strategic Plan.

Defense Safety Oversight Council
Aviation Safety Improvements Task Force

The Defense Safety Oversight Council establishes the Aviation Safety Improvements Task Force. The purpose of the task force is to identify data-driven, benefit-focused safety programs designed to reduce aviation accidents across the Department of Defense. These programs will produce near- and mid-term safety benefits but will have continuing and significant long-term effects. The task force will approve all recommendations going forward to the Defense Safety Oversight Council for consideration and implementation in each Service. The task force Executive Committee will consist of both voting and non-voting advisory members (noted with *), including senior members of the following organizations: United States Air Force, United States Army, United States Coast Guard *, United States Marine Corps, United States Navy, Commercial Aviation Safety Team *, and other organizations as desired by the Task Force Chair. Some of the success-oriented activities of the task force include: 1. Review accident and incident data, and conduct additional hazard analyses as necessary, to identify significant historical and potential future drivers of aviation mishaps. 2. Identify and prioritize high-leverage, feasible mitigation strategies to support near-term, mid-term, and long-term improvements in aviation mishap rates. 3. Assess effectiveness and feasibility of emerging safety technologies in terms of aviation mishap prevention value. 4. Examine existing safety policies, programs, and methodologies and make recommendations for change to enable a consistent approach to mishap investigation, analysis, and prevention across the Department of Defense. 5. Review ongoing private sector and other governmental agency best practices and make recommendations for incorporation into Department of Defense policies or programs. 6. Review existing reports on aviation safety and address outstanding issues. The task

force is working toward completion of its charter in 145 days of initial working meetings.

Aviation Integrated Priority Lists

The Commanding Generals of the U.S. Army Aviation Center and U.S. Army Aviation and Missile Command and the Program Executive Officer for Aviation (Aviation Principals) approve the Aviation Integrated Priority Lists each year. The purpose of the lists is for the Aviation Principals to establish the requirements priorities for input to the applicable fiscal year Program Objective Memorandum by Department of the Army Program Evaluation Group. The Aviation Integrated Priority Lists establish unified priorities, which serve as a management tool for resourcing decisions during the fiscal year Program Objective Memorandum development. The lists were established because of the proliferation of uncoordinated “priority lists’ by different organizations—combat developers, materiel developers, policy makers--throughout the aviation community. The success of the Aviation Integrated Priority Lists each year can be characterized by the ability to compile prioritized listings of unfunded or partially funded needs across the aviation Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities.

Aviation Safety Investment Strategy Team

The Army Safety Action Team established the Aviation Safety Investment Strategy Team in 1999 to achieve breakthrough gains in aviation safety. The ASAT initiative responded to increasing risks in aviation operations as well as to proposals from the Office of the Secretary of Defense to establish Department-level aviation safety goals. The strategy is to conduct a systems analysis of operational experience to document the hazards and risks in Army aviation and recommend the most productive controls to reduce those risks. The team is working to identify hazards and controls based on the analysis of actual aircraft accidents to enhance Army readiness through aviation safety improvements. The analysis team was chartered and guided by the Commanding Generals of the Aviation Center, the Aviation and Missile Command, the Program Executive Officer – Aviation and the Director of Army Safety, hereafter referred to as the Aviation Principals. The Aviation Principals conclude that the team goals can be achieved but will require dedicated resource commitment and consistent follow up. Establishing measurable objectives and directing a plan to achieve them is an important step from the senior Army leadership toward making aviation safety a proactive, requirements-based program. The team and the associated activities of the Army Safety Coordinating Panel provide a sound basis for Army participation in the Department of Defense Safety Oversight Council. The Aviation Principals will program resources to continue to mature the team methodology; update and sustain the analysis; and integrate the analysis results and recommendations into the applicable materiel development documents. The

success of the analysis effort continues to be the ability to identify hazards and controls based on the analysis of actual aircraft accidents that can be used to enhance Army readiness through aviation safety improvements.

Question 5: Future plans to address aviation safety, including those initiatives for aging aircraft.

Answer:

Aviation Safety Investment Strategy Team

As previously stated in question 4, Aviation Safety Investment Strategy Team (ASIST) is a tool for the aviation community to use accident history each year to identify hazards and produce acceptable control recommendations to influence an aviation safety investment strategy for the future. The success of this process initiated by the Commanding Generals of the Aviation Center, the Aviation and Missile Command, the Program Executive Officer – Aviation and the Director of Army Safety is that provides an aviation safety investment strategy, improve combat readiness, and provide a pool of subject matter experts on Army aviation hazards and associated controls. The results and recommendations from the annual ASIST analysis of accident reports can be readily applied to spiral acquisition strategy and to do fixes for the Soldier in the field.

Accident Reporting Automation System (ARAS)

The Accident Reporting Automation System (ARAS) will provide the Army with a fully automated accident reporting and investigation system. In January 2004, the initial stage of automated reporting for all Class C and D Army accidents was completed. In the near future, ARAS will allow automated reporting for all accidents. Previously, critical lessons learned from accidents required review and editing in a paper system. In contrast, ARAS allows access to critical safety information through a user friendly automated system. When fully operational the system will provide clear, concise, and useable risk management information. The ARAS will allow Army safety specialists and analysts to query the USASC database for accident trends, providing leaders the necessary tools to combat and mitigate hazards. As an added benefit, ARAS will more efficiently support the ongoing Aviation Safety Investment Strategy Team process.

Army Safety Management Information System (ASMIS)-1

ASMIS-1 is a web based automated risk assessment initiative that leverages known aviation hazard information and available technology to provide virtual experience to young aviation leaders. The ASMIS master database will assist leaders, at all levels, with the risk management process by providing hazard identification and control measures relevant to the operation they are conducting. The system is designed to query the ASMIS hazard database using a number of

parameters ranging from mission to collective task, time of day, terrain, and equipment to provide the user with hazards and controls necessary to mitigate risk for their particular mission. The system features three web based modules—privately-owned vehicle, Ground, and Aviation. ASMIS-1 will provide all leaders with risk management tools and decision aids to assist mishap reduction and the safe accomplishment of all military operations. With the implementation of the ASMIS-1, leaders have the capability to design in risk mitigation factors as part of the mission planning process.

Flight School XXI

As more complex modernized aircraft were fielded across the Army, aviation leaders identified a decline in initial entry aviator proficiency as they arrived at their first units. The decline was largely a result of initial entry flight training being conducted in training aircraft not representative of the aircraft in the field. The U.S. Army Aviation Center developed and is in the process of implementing Flight School XXI to reverse this trend. The new Flight School XXI initiative shifts flight training from non-modernized aircraft to modernized aircraft and simulators. There are many benefits to this new approach to training. Aviator proficiency is increased since their initial training is conducted in their go-to-war aircraft. This greatly reduces the burden on units to train new aviators to individual proficiency and allows them to use their limited resources to train collective tasks. In addition, overall initial entry flight training is reduced approximately five weeks which gets aviators to the field sooner. A critical resource for the aviation commander is his instructor pilots. Instructor pilots assigned to Fort Rucker now instruct in their go-to-war aircraft as opposed to training students in aircraft not representative of the unit that they will be assigned. Upon reassignment to field units, these instructors will be more experienced and proficient in assigned aircraft.

Aviation Assessments

In partnership with the Directorate of Evaluation and Standardization (DES) of the U.S. Army Aviation Center, the Aviation Resource Management Survey team and Air Traffic Services Command both of US Army Forces Command, the U.S. Army Safety Center is developing a standardized process to identify those areas not already covered during each stand alone assessment visit under the current process. The partnership will result a tightly integrated assessment plan that eliminates seams or gaps that may currently mask or inadvertently overlook a safety risk.

Military Flight Operations Quality Assurance

The flight operations quality assurance program has been a successful and proven beneficial program in the commercial airline industry. The Joint Service Safety Chiefs endorsed the program on 28 August, 2000 and signed a

memorandum of agreement to pursue funding for the implementation of a Military Flight Operations Quality Assurance Program (MFOQA). MFOQA brings to commanders and management personnel that tool necessary to expand those benefits to all areas of flight operation. The MFOQA concept is to provide commanders and management personnel with necessary information, extracted from flight data recorders, to improve flight operations in the areas of maintenance, training, safety, mission planning, after action reports, and operational readiness, thus improving the Army's war fighting capability. Current MFOQA pilot programs are being conducted at Fort Rucker AL, Fort Campbell KY, Korea, South Carolina Army National Guard, and Iraq.

Digital Source Collector

Over the past ten years the United States Army Safety Center has vigorously pursed the integration of Digital Source Collectors (DSC), commonly referred as flight data recorders, into Army aircraft. DSC may provide information otherwise not available to support accident investigations. Information may be available from an installed DSC that could contribute to the identification of facts associated with accidents. As a result, controls can be put in place to mitigate or minimize the probability of similar accidents in the future. The DSC is also the core element of the military flight operations quality assurance program.

Aircrew Coordination Training Enhancement (ACTE)

The U.S. Army Safety Center, in partnership with the U.S, Army Aviation Center, is in the process of fielding an enhanced aircrew coordination training program. Causal factors in 66.7% of Class A accidents (accidents involving fatalities or damages in excess of $1M) identify a lack of effective aircrew coordination. The new ACTE program provides updateable and relevant crewmember training that is designed to dramatically increase crew coordination understanding and therefore reduce the probability of aircrew coordination shortcomings. The training is built on three distinct pillars; assessment and evaluation, problem solving exercises and scenarios, and training standardization and delivery. ACTE products include interactive multimedia courseware with supporting training materials such as unit adaptable aircraft scenarios, user guides, instructor guides, and courseware management guides. ACTE will use the most up-to-date techniques and courseware to bring aircrew coordination training to the graduate level of understanding in all aircrews.

Tactile Situational Awareness System

The Tactile Situational Awareness System (TSAS) will use tactile sensors to provide information via sense/feel to enhance spatial awareness in rotary-wing aircraft. TSAS applies to an urgent need in Operation Enduring Freedom and Operation Iraqi Freedom. TSAS uses the sense of touch to provide spatial orientation and situational awareness information to aircrew members. TSAS

information is especially useful to aircrews during terrain flight, take-offs and landings in conditions of reduced visibility, i.e. blowing sand and dust. The system has selectable functions to allow for different sensitivity settings and different approach options. Future applications include targeting and acquisition.

In summary, like our Nation, the Army and Army Aviation with it has been challenged within the last three years to a level and intensity which has not been experienced since even before Desert Shield and Desert Storm. While aviation accidents present a continuing challenge to the Army leadership, we have made significant progress in attacking and reducing the hazards and risks as they have been identified. The success of these efforts is clearly evidenced by the reduction in environmentally related accidents in the most inhospitable and challenging conditions found in our current combat theater.