Safety performance of helicopter operations in the oil & gas industry

2003 data

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International Association of Oil & Gas Producers

Publications

Global experience

The International Association of Oil & Gas Producers has access to a wealth of technical knowledge and experience with its members operating around the world in many different terrains. We collate and distil this valuable knowledge for the industry to use as guidelines for good practice by individual members.

Consistent high quality database and guidelines

Our overall aim is to ensure a consistent approach to training, management and best practice throughout the world.

The oil and gas exploration and production industry recognises the need to develop consistent databases and records in certain fields. The OGP's members are encouraged to use the guidelines as a starting point for their operations or to supplement their own policies and regulations which may apply locally.

Internationally recognised source of industry information

Many of our guidelines have been recognised and used by international authorities and safety and environmental bodies. Requests come from governments and non-government organisations around the world as well as from non-member companies.

1 Introduction

The report presents the safety performance of that part of the helicopter industry involved in E&P operations during 2003.

The report is based on submissions from helicopter operators worldwide. The OGP membership acknowledges the support of these organisations, without which this report could not have been produced.

1.1 Measuring safety and operational performance

The method used in this report for measuring safety performance relative to the number of aircraft hours, flights, and fatal/nonfatal accidents is the same as used by regulatory authorities such as the UK CAA, US FAA, the insurance industry and the oil industry. The definition of an aviation accident is the same as that used by the regulatory authority for the country for which the data is gathered. As such, some incidents may be reported as accidents by some countries, but not by others. We do our best to report those serious incidents in the report narrative, but not in the statistical analysis. Since incidents are not necessarily reported, it would be difficult to track all occurrences and differences. Therefore, only confirmed accidents are reported statistically. All countries do however, count a fatal occurrence as an accident, so a comparison of fatal rates is especially valid. The data for the offshore oil industry segment is the most complete, and believed to be most accurate statistically. There are countries for which the data accumulated is incomplete, but the accidents for those areas have been included, so the accident rates if anything are overstated.

1.2 Highlights of 2003 data

1.2.1 Operational Data

The total number of flights report were 2,735,270, of which slightly over half were associated with single engine helicopters and 90% associated with offshore activities. 8,828,210 passengers were carried; ~10% less than the previous year.

55% of the offshore flights were flown in the Gulf of Mexico (GOM), 12% in the North Sea and 34% in other regions. In terms of hours flown (offshore) 44% were flown in the GOM, 16% in the North Sea and 40% in other regions. Average flight durations for the three regions being 17 min, 29 min and 25 min respectively.

1.2.2 Accident Data

A total of 35 helicopter related accidents were reported in which 52 fatalities occurred. The worst single accident resulted in 27 fatalities when a MI 172 helicopter was lost offshore India, no detailed data on the cause has been provided.

6 of the 35 accidents were engine related, 22 were associated with single engine helicopters.

Aviation accident rates associated with seismic activities are considerably higher than those associated with other activities; with no accidents being reported in the geophysical category. Fatal accident rates have all deteriorated compared to the 2001 values, with many of the 2003 values representing the worst on record.

Acknowledgement

The contributon made by Bob Williams of Exxon Mobil Corp. towards the collection and analysis of data presented in this report is gratefully acknowledged.

Notes

As a service to OGP membership, this World-Wide Helicopter Statistical Report is compiled annually from information submitted voluntarily by the membership and helicopter operators. The information is neither verified nor reviewed for accuracy and should be treated as unofficial. The data is believed to be representative; however, the OGP assumes no liability for accuracy or completeness. There are some minor variations in totals due to rounding in formulas in the master database.

Appendix A – Operational data

2003 world-wide helicopter operational data summary

2003 Year	Type & number of helicopters					Fleet data		
	Single engine (SE)	Light twin (LT)	Medium twin (MT)	Heavy twin (HT)	Total fleet	Passengers carried	Hours flown	Number of flights
Offshore	454	86	444	155	1,139	8,486,838	867,326	2,464,477
Seismic	55	5	8	13	81	52,445	31,624	112,935
Geophysical	25	0	3	0	28	0	9,543	8,645
Pipeline	50	2	12	1	65	113,022	34,701	57,962
Other support	60	5	16	48	129	175,905	53,353	91,252
2003	644	98	483	217	1,442	8,828,210	996,547	2,735,271
2002	633	118	479	170	1,400	9,885,011	1,074,506	2,984,730
2001	638	123	424	173	1,372	9,393,177	1,058,496	2,985,979

2003 world-wide helicopter operational data details

2003 Year	Hours per type helicopter					Passengers (PAX) per type helicopter					Number of flights per type helicopter				
	Single engine (SE)	Light twin (LT)	Medium twin (MT)	Heavy twin (HT)	Total fleet	Single engine (SE)	Light twin (LT)	Medium twin (MT)	Heavy twin (HT)	Total fleet	Single engine (SE)	Light twin (LT)	Medium twin (MT)	Heavy twin (HT)	Total fleet
Offshore	312,541	34,706	357,187	162,892	867,326	2,199,661	200,837	4,223,539	1,862,801	8,486,838	1,259,183	91,370	856,186	257,738	2,464,477
Seismic	26,469	1,014	3,401	740	31,624	36,232	1,532	13,521	1,160	52,445	100,875	375	11,364	321	112,935
Geophysical	7,913	128	1,187	315	9,543	Not normally carried					7,507	242	596	300	8,645
Pipeline	28,982	863	4,648	208	34,701	13,979	1,614	96,271	1,158	113,022	33,644	1,412	22,802	104	57,962
Other	26,202	1,314	7,187	18,650	53,353	48,971	4,712	55,200	67,0222	175,905	44,628	1,676	28,627	16,321	91,252
2003	402,107	38,025	373,610	182,805	996,547	2,298,843	208,695	4,388,531	1,932,141	8,828,210	1,445,837	95,075	919,575	274,784	2,735,271
2002	427,892	49,960	407,282	189,372	1,074,506	2,635,342	246,151	4,526,604	2,476,914	9,885,011	1,589,799	120,352	1,049,993	224,586	2,984,730
2001	454,642	52,520	349,176	202,158	1,058,496	2,355,708	339,759	4,011,201	2,686,509	9,393,177	1,598,669	149,537	1,024,846	212,927	2,985,979

2003 world-wide helicopter fleet operational data

Averages Per Helicopter	Offshore	Seismic	Geophysical	Pipeline	Other support	World-wide
Pax per Day/5 Day Week	32,642	202	0	435	677	33,955
Flights Per Day	6,752	309	24	159	250	7,494
Avg. Flight Duration in Min.	21	17	66	36	35	22
Annual Hours Per Aircraft	761	390	341	534	414	691
Flights Per Aircraft	2,164	1,394	309	892	707	1,897
Pax Flown Per Year	7,451	647	0	1,739	1,364	6,122

Data Extracted from the Following: 1 Helicopter Safety Advisory Conf (HSAC) & Int'l Airborne Geophysics Safety Assoc. (IAGSA) Annual Helicopter Activity Reports.
2 Annual activity for helicopter operations generated by members of OGP and from 109 helicopter operators.

2003 world-wide helicopter accident data

	Number of accidents			Injury classification				Aircraft damages classification			Aviation accident rates			
	Aircraft Category			Injuries		Severity								
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Injured	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 1M Occupants	# Acc 100k Flt Stages
Single Piston	3	1	0	0	1	0	1	0	1	2	5.47†	1.99†	3.74†	1.52†
Single Turbine	19	7	5	24	10	21	13	0	7	11	4.73	1.74	3.47	1.31
Light Twin	2	0	0	0	0	0	0	1	1	0	5.26	0.00	0.00	2.10
Med Twin	9	3	0	17	6	13	10	1	3	5	2.41	0.80	1.73	0.98
Heavy Twin	2	2	1	29	6	7	28	0	1	2	1.09	0.55	11.28	0.73
2003 Totals	35	13	6	70	23	41	52	2	13	20	3.51	1.30	4.08	1.28
2002 Totals	25	6	9	16	13	10	19	2	14	9	2.33	0.56	1.34	0.84
2001 Totals	29	1	5	13	8	20	1	5	16	8	2.74	0.09	0.07	0.97
2000Totals	28	9	4†	24	28	24	17	2	5	21	2.87	0.92	1.20	0.95

† Single piston accident rates believed to be significantly higher, but flying activity levels are unknown. This is an estimate, which includes single turbine hours

2003 world-wide helicopter accident data by activity

	Number of accidents			Injury classification				Aircraft damages classification			Aviation accident rates				Industry Fatal Rates per 100M Exposure Hrs Psgrs/Crew	
	Aircraft Category			Injuries		Severity										
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Injured	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 1M Occupants	# Acc 100k Flt Stages	Accidents (IFAR)	Incidents (IFAIR)
Offshore	27	11	3	55	18	24	49	2	10	15	3.11	1.27	4.06	1.10	1,120	251
Seismic	5	1	2	6	3	7	2	0	2	3	15.81	3.16	11.30	4.43	3,964	1.982
GeoPhysical	No accidents reported															
Pipeline	2	1	1	4	2	5	1	0	1	1	5.76	2.88	5.16	3.45	609	609
Other Spt	1	0	0	5	0	5	0	0	0	1	1.87	0.00	0.00	1.10	0.00	0.00
2003 Total	35	13	6	70	23	41	52	2	13	20	3.51	1.30	4.08	1.28	1,090	273
2002 Totals	25	6	9	16	13	10	19	2	14	9	2.33	0.56	1.34	0.84	370	117
2001 Totals	29	1	5	13	8	20	1	5	16	8	2.74	0.09	0.07	0.97	20	20

2003 world-wide helicopter accident causes/info

	Ttl	Engine related	Other tech	Lightning	Flight Into Terrain, Water	Tie Down Proc.	Hostile Fire	External Load Proced.	Control Malf.	Obstacle Strike	Mid Air	Pilot Proc.	Fuel Starv	Refuel Quality	Pax Cont.	Wx	Unk	Hard Ldg	Helideck Design or Size Issues	#Fatal Due To Engine Malf.
Single Pist.	3	0	0	0	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0
Single Turb	19	5	1	0	2	0	0	2	0	3	0	4	0	0	1	0	1	0	0	5
Light Twin	2	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
Med. Twin	9	0	2	0	1	0	0	0	0	3	0	2	0	0	0	0	1	0	0	0
Hvy. Twin	2	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
2003 Ttl	35	5	4	0	4	0	0	3	0	7	0	9	0	0	1	0	2	0	0	6
2002 Ttl	25	9	4	0	0	1	1	0	0	0	0	5	1	1	0	2	0	1	0	4
2001 Ttl	29	5	2	0	2	0	1	1	0	4	0	10	0	2	1	1	0	0	0	0

2003 world-wide offshore helicopter operational data summary

Year	Numbers of helicopters by type					Passengers carried	Hours flown	Number of flights
	Single engine (SE)	Light twin (LT)	Medium twin (MT)	Heavy twin (HT)	Total fleet			
N.Sea	0	0	33	73	106	1,453,499	139,979	288,776
GOM	410	66	118	13	607	2,574,810	381,273	1,345,075
Other	44	20	293	69	426	4,458,529	346,074	830,626
2003	454	86	444	155	1,139	8,486,838	867,326	2,464,477
2002	454	105	449	148	1,156	9,442,634	949,336	2,709,255
2001	441	107	379	158	1,099	8,959,216	925,214	2,763,113
2000	433	102	403	162	1,100	9,337,352	891,844	2,657,031
1999	473	95	386	152	1,105	8,097,983	828,911	2,767,737

2003 world-wide offshore helicopter operational data details

Year	Hours per type helicopter					Passengers (PAX) per type helicopter					Number of flights per type helicopter				
	Single engine (SE)	Light twin (LT)	Medium twin (MT)	Heavy twin (HT)	Total fleet	Single engine (SE)	Light twin (LT)	Medium twin (MT)	Heavy twin (HT)	Total fleet	Single engine (SE)	Light twin (LT)	Medium twin (MT)	Heavy twin (HT)	Total fleet
N.Sea	0	0	35,592	104,387	139,979	0	0	421,604	1,031,895	1,453,499	0	0	122,706	166,070	288,776
GOM	275,580	22,161	76,948	6,584	381,273	1,467,834	112,146	913,809	81,021	2,574,810	1,102,644	67,399	163,869	11,163	1,345,075
Other	36,961	12,545	244,647	51,921	346,074	731,827	88,691	2,888,126	749,885	4,458,529	156,539	23,971	569,611	80,805	830,626
2003	312,541	34,706	357,187	162,892	867,326	2,199,661	200,837	4,223,539	1,862,801	8,486,838	1,259,183	91,370	856,186	257,738	2,464,477
2002	346,805	45,318	389,089	168,124	949,336	2,429,895	238,529	4,331,106	2,443,104	9,442,634	1,390,865	115,893	988,107	214,390	2,709,255
2001	351,029	44,697	329,984	181,959	907,669	2,278,515	225,671	3,704,413	2,667,273	8,875,872	1,359,507	146,100	932,788	202,478	2,640,873
2000	361,933	53,894	308,615	167,402	891,844	3,064,516	404,985	3,679,401	2,188,451	9,337,353	1,414,035	195,493	833,004	214,499	2,657,031
1999	326,514	47,341	287,584	167,472	828,911	2,173,924	277,607	3,624,427	2,022,025	8,097,983	1,376,632	147,406	981,547	262,152	2,767,737

2003 worldwide offshore helicopter fleet operational data

Averages Per Helicopter	N.Sea	GOM	World	Averages Per Helicopter	N.Sea	GOM	World
Passengers per Day per 5 Day Week	5,590	9,903	32,642	Annual Hours Per Aircraft	1,321	628	762
Flights Per Day	791	3,685	6,752	Flights Per Aircraft	2,724	2,216	2,164
Average Flight Duration in Min.	29	17	21	Passengers Flown Per Year	13,712	4,242	7,451

2003 world-wide offshore helicopter accident data

	Aircraft Category			Injury classification				Aircraft damages classification			Aviation accident rates			
	Number of accidents			Injuries		Severity								
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Injured	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 1M Occupants	# Acc 100k Flt Stages
Single Eng	15†	7†	3	18	8†	14	12†	0	5	10†	4.80†	2.24†	3.47†	1.19†
Light Twin	2	0	0	0	0	0	0	1	1	0	5.76	0.00	0.00	2.19
Med Twin	8	3	0	12	6	8	10	1	3	4	2.24	0.84	1.68	0.93
Heavy Twin	2	1	0	25	4	2	27	0	1	1	1.23	0.61	11.35	0.78
2003 Totals	27	11	3	55	18	24	49	2	10	15	3.11	1.27	4.06	1.10
2002 Totals	11	3	3	14	7	5	16	1	5	5	1.16	0.32	1.20	0.41
2001 Totals	11	1	0	8	4	11	1	4	3	4	1.21	0.11	0.08	0.42

† includes one single piston - GoM

2003 GOM offshore helicopter accident data§

	Number of accidents			Injury classification				Aircraft damages classification			Aviation accident rates			
	Aircraft Category			Injuries		Severity								
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Injured	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 1M Occupants	# Acc 100k Flt Stages
Single Eng	15†	7†	3‡	18	8†	14	12†	0	5	10†	5.44†	2.54†	4.67†	1.36†
Light Twin	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00
Med Twin	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00
Heavy Twin	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00
2003 Totals	15†	7	3‡	18	8	14	12†	0	5	10	3.93	1.84	2.93	1.12
2002 Totals	6	1	1	1	2	2	1	0	4	2	1.49	0.25	0.21	0.38
2001 Totals	8	1	0	8	3	10	1	3	1	4	1.77	0.22	0.21	0.54

† Includes one single piston - GoM
‡ Includes 2 fatal accidents with 3 fatalities
§ Does not include 2 Single Engine ditchings recorded as Incidents

2003 North Sea offshore helicopter accident data

	Number of accidents			Injury classification				Aircraft damages classification			Aviation accident rates			
	Aircraft Category			Injuries		Severity								
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Injured	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 1M Occupants	# Acc 100k Flt Stages
Single Eng	No Activity													
Light Twin														
Med Twin	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00
Heavy Twin	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00
2003 Totals	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00
2002 Totals	4	1	0	9	2	0	11	1	1	0	1.96	0.65	4.10	1.09
2001 Totals	2	0	0	0	1	1	1	1	1	0	1.23	0.00	0.00	0.82

Five year world-wide offshore helicopter accident data

	Number of accidents			Injury Classification				Aircraft damages classification			Aviation accident rates				Industry fatal rates per 100M Exposure Hrs Passengers & Crew	
	Aircraft Category			Injuries		Severity										
Year	# Accidents	# Fatal	# Eng Related	Pax	Crew	Injured	Fatal	Minor	Major	Total Loss	# Acc 100k Hrs	# Fatal Acc 100k Hrs	# Fatal 1M Occupants	# Acc 100k Flts	Accidents (IFAR)	Incidents (IFAIR)
1999	17	5	3	38	11	23	26	1	7	9	2.05	0.60	2.10	0.61	701	135
2000	16	7	2	7	17	11	13	1	2	13	1.79	0.78	1.00	0.60	289	156
2001	11	1	0	8	4	11	1	4	3	4	1.19	0.11	0.08	0.40	22	22
2002	11	3	3	7	14	5	16	1	5	5	1.16	0.32	1.19	0.41	330	62
2003	27	11	3	55	18	24	49	2	10	15	3.11	1.27	4.06	1.10	1,120	251
5 Yr Avg	16.4	5.4	2.2	23.0	12.8	14.8	21.0	1.8	5.4	9.2	1.86	0.62	1.69	0.62	492	125

Five year GOM offshore helicopter accident data§

	Number Of Accidents			Injury Classification				Aircraft damages classification			Aviation Accident rates			
	Aircraft Category			Injuries		Severity								
Year	# Accidents	# Fatal	# Eng Related	Pax	Crew	Injured	Fatal	Minor	Major	Total Loss	# Acc 100k Hrs	# Fatal Acc 100k Hrs	# Fatal 1M Occupants	# Acc 100k Flt Stages
1999	9	1	2	7	4	9	2	1	4	4	2.29	0.25	0.50	0.62
2000	9	3	2	3	8	8	3	0	1	8	2.04	0.68	0.59	0.65
2001	8	1	0	8	3	10	1	3	1	4	1.77	0.22	0.21	0.54
2002	6	1	1	1	2	2	1	0	4	2	1.49	0.25	0.21	0.38
2003	15†	7	3‡	18	8	14	12†	0	5	10	3.93†	1.84†	2.93†	1.12†
5 Yr Avg	9.4	2.6	1.6	7.4	5.0	8.6	3.8	0.8	3.0	5.6	2.30	0.65	0.89	0.66

† Includes one single piston - GoM
‡ Includes 2 fatal accidents with 3 fatalities
§ Does not include 2 Single Engine ditchings recorded as Incidents

Five year North Sea offshore helicopter accident data

	Number Of Accidents			Injury Classification										
	Aircraft Category			Injuries		Severity		Aircraft damages classification			Aviation accident rates			
Year	# Accidents	# Fatal	# Eng Related	Pax	Crew	Injured	Fatal	Minor	Major	Total Loss	# Acc 100k Hrs	# Fatal Acc 100k Hrs	# Fatal 1M Occupants	# Acc 100k Flt Stages
1999	2	0	0	0	0	0	0	0	2	0	1.37	0.00	0.00	0.74
2000	1	0	0	0	0	0	0	1	0	0	0.68	0.00	0.00	0.41
2001	2	0	0	0	1	1	0	1	1	0	1.23	0.00	0.00	0.82
2002	4	1	0	9	2	0	11	1	1	0	1.96	0.65	4.10	1.09
2003	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00
5 Yr Avg	1.8	0.2	0	1.8	0.6	0.2	2.2	0.6	0.8	0	1.05	0.13	0.82	0.61

2003 world-wide offshore helicopter accident causes/info

	Engine related	Bird Strike	Lightning	Flight into terrain, water	Tie down proc.	External load proc.	Obstacle strike	Main rotor or xmsn	Tail rotor	Unk.	Fuel qual	Control malf.	Wx	Pax cont.	Pilot proc	Mid air	Loose cargo	# Fatal due to single eng. malf.
Single Eng†	3	0	0	3†	0	0	3	0	1	0	0	0	0	1	3	0	1	3
Light Twin	0	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0
Med. Twin	0	0	0	1	0	0	2	0	2	1	0	0	0	2	0	0	0	0
Heavy Twin	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
2003 Totals	3	0	0	4† (1 night)	0	0	6	0	3	1	0	1	0	5	3	0	1	3
2002 Totals	3	0	0	0	1	0	0	1	0	0	1	1	2	0	1	0	1	0
97-01 Totals	9	1	4	14 (8 nights)	2	1	2	N/A	6	2	4	5	4	2	7	3	0	2

† Includes one single piston - GoM

1997-2003 GOM offshore helicopter accident causes/info

Type	Engine related	Bird strike	Flight into terrain water or obstacle	Tail rotor	Tie down proced.	Fuel starv.	Fuel qual.	Severe weather	Pax con.	Pilot proc	Mid air	Unk.	Obstacle strike	Loose cargo	# Fatal due to single eng malf.
Single Eng†	3	0	3†	1	0	0	0	0	1	3	0	0	3	1	3
2003	3	0	3†	1	0	0	0	0	1	3	0	0	3	1	3
2002	1	0	0	0	1	0	1	1	0	1	0	0	0	1	0
1997-2001	6	1	6	4	1	1	2	2	2	6	2	1	0	2	1

† Includes one single piston - GoM

1997-2003 North Sea offshore helicopter accident causes/info

	Engine related	Lightning	Main rotor or xmsn failure	Other component failure	Flight into terrain or water	Pilot procedure	Severe weather
Medium Twin	No accidents						
Heavy Twin							
2003	0	0	0	0	0	0	0
2002	0	0	1	1	0	0	1
1997-2001	1	4	0	0	1	1	2

2003 seismic helicopter accident data

	Number of accidents			Injury classification				Aircraft damages classification			Aviation accident rates			
	Aircraft Category			Injuries		Severity								
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Injured	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 1M Occupants	# Acc 100k Flt Stages
Single Eng†	5†	1	2	6	3	7	2	0	1	3†	18.89	3.78†	14.59†	4.96†
2003 Totals	5	1	2	6	3	7	2	0	1	3	15.81	3.16	11.33	4.43
2002 Totals	4	2	0	0	3	1	2	0	1	3	13.33	6.66	10.29	3.97
2001 Totals	8	0	3	0	0	0	0	1	4	3	17.55	0.00	0.00	3.71
2000 Totals	7	1	2	5	4	6	3	1	2	4	24.80	3.54	13.75	5.49
1999 Totals	6	2	3	1	4	1	4	0	3	3	16.91	5.64	22.50	6.27

† Includes one single piston - Canada

2003 seismic helicopter accident causes/info

Type	Engine related	Cable in TR	Tail rotor	Obstacle strike	Flight into terrain	Snagged load	Rapid refuel proc.	Fuel proc.	Hostile fire	Unk.	Pilot proc.	Hard landing	Over load acft	# Fatal due to single eng malf.
Single Eng†	2	2	0	0	0	1†	0	0	0	0	0	0	0	2
2002	2	2	0	0	0	1†	0	0	0	0	0	0	0	2
1998-2001	12	1	3	3	1	2	1	1	1	2	4	1	1	1

† Includes one single piston - Canada

2003 geophysical helicopter accident data

	Number of accidents			Injury classification					Aircraft damages classification			Aviation accident rates			
	Aircraft Category			Injuries		Severity									
Type Aircraft	# Accidents	# Fatal	# Eng related	Pax	Crew	Minor	Serious	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 1M Occupants	# Acc 100k Flt Stages
1999-2003 Totals	No accidents														
1998 Totals	1	1	0	1	1	0	0	2	0	0	1	8.88	8.88	22.48	12.66

1998-2003 geophysical helicopter accident causes/info

	Engine Related	Injuries due to engine malfunction	Flight into terrain, water or obstacles
Single Eng (98)	0	0	1

2003 pipeline helicopter accident data

Number of accidents				Injury classification				Aircraft damages classification			Aviation accident rates			
	Aircraft Category			Injuries		Severity								
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Injured	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 1M Occupants	# Acc 100k Flt Stages
Single Eng†	2†	1	0	4	2	5	1	0	1†	1	6.90	3.45	21.00	5.94
2003 Totals	2	1	0	4	2	5	1	0	1	1	5.76	2.88	5.16	3.45
2002 Totals	3	0	2	0	1	1	0	0	3	0	8.54	0.00	0.00	3.80
2001 Totals	1	0	1	0	0	0	0	0	1	0	3.78	0.00	0.00	5.52
2000 Totals	4	1	0	8	5	12	1	0	0	4	30.99	7.75	8.37	19.29
1999 Totals	1	0	0	0	0	0	0	0	1	0	7.47	0.00	0.00	2.89

† Includes one single piston - Canada

1998-2003 pipeline helicopter accident causes/info

	Engine Related	Fuel Quality	Pilot Procedure	Flight into terrain, water or obstacles	Control problems	Unknown	# Fatal due to single engine malfunction
Single Eng†	0	0	1†	0	0	1	0
2003	0	0	10	0	0	1	0
1998- 2002	3	1	2	3	2	0	1

† Includes one single piston - Canada

2003 other industry helicopter accident data

Number of accidents				Injury classification				Aircraft damages classification			Aviation accident rates			
	Aircraft Category			Injuries		Severity								
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Injured	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 1M Occupants	# Acc 100k Flt Stages
Med Twin	1	0	0	5	0	5	0	0	0	1	13.91	0.00	0.00	3.49
2003 Totals	1	0	0	5	0	5	0	0	0	1	1.87	0.00	0.00	1.10
2002 Totals	7	1	3	2	2	3	1	1	5	1	13.48	1.93	2.65	7.74
1998-2001	12	2	1	36	10	20	26	0	8	4	5.21	1.38	10.45	2.80

1998-2003 other industry support helicopter accident causes/info

	Pilot procedure	Engine related	Flight into terrain, water	Hostile act	Fuel mgmt	Obstacle strike	Other technical	# Fatal due to single engine malfunction
Medium Twin	0	0	0	0	0	1	0	0
2003	0	0	0	0	0	1	0	0
1998-2002	6	4	4	1	1	2	1	0

Appendix B – Accident details

Helicopters 2003

					Injuries		Severity			
Date	Activity	Model	Type	Location	Pax	Crew	Inj	Fatal	Cause	Description
04 Jan	Off	AS365N	MT	Nigeria	6	2	4	4	Tail rotor	Fenestron failure
09 Jan	Off	AS350B	SE	GoM	4	1	5	0	Loose cargo	Tail rotor failure, damage from open baggage compartment door, tools fell out and struck TR. Autorotated and landed in marsh.
16 Jan	Off	B206L1	SE	GoM	3	1	3	1	Loss of control or improper procedure	Pilot approached platform downwind, entered settling with power, rejected landing to helideck and hit platform. Fire resulted
21 Jan	Off	B206L1	SE	GoM	0	0	0	0	Loss of control or improper procedure	Inadvertaent IMC with loss of control. Hard landing while landing on beach to avoid weather. Break day, 16th day on duty
04 Feb	Off	AS365N	MT	Cameroon	0	0	0	0	CFITW	CFTIT, bad weather
06 Feb	Seis	AS350B	SE	US	1	1	2	0	Sling load	Pilot departed without remembering the long line was attached, caught in tail rotor
16 Feb	Off	B407	SE	GoM	4	1	3	2	Engine	Engine failure, aircraft rolled on landing, passengers not recovered for several hours, potential hypothermia fatalities
22 Feb	Off	B407	SE	GoM	1	0	0	1	Pax/HLO Trng & ctrl	Passenger struck by main rotor
06 Mar	Off	AS350	SE	GoM	0	0	0	0	CFITW	CFIT in foggy weather
14 Mar	Off	S76A++	MT	Azerbaijan	0	0	0	0	Loss of control or improper procedure	Hard landing during training, acft burnt
24 Mar	Off	B407	SE	GoM	0	0	0	0	Tail rotor	Tail rotor hangat bearing failure, loss of TR thrust
25 Mar	Off	AS365N	MT	Angola	0	0	0	0	Tail rotor	Fenestron failure
31 Mar	Seis	H369	SE	US	0	0	0	0	Sling load	Sling caught on external mirror, which broke and struck the main rotor blade
31 Mar	Seis	H369	SE	Canada	0	1	1	0	Engine	Loss of engine power, with long line
28 Apr	Off	B412	MT	Abu Dhabi	0	0	0	0	Obstacle strike	Tail rotor struck safety fence on landing
11 May	Off	B407	SE	GoM	0	0	0	0	Engine	Engine failed in cruise flight, Fadec related
29 May	Off	R44	SP	GoM	0	1	0	1	CFITW	Night single pilot flight, unknown cause but suspect CFITW
29 May	Pipe	R22	SP	Canada	0	0	0	0	Loss of control or improper procedure	Low rotor RPM during patrol ops
06 Jul	Off	S76	MT	Brazil	3	2	0	5	Obstacle strike	Tail rotor hit ship mast on landing
07 Jul	Off	AS350	SE	GoM	0	0	0	0	Obstacle strike	Tail rotor trike on safety fence rail 10-12 inches above deck
08 Jul	Off	EC120	SE	GoM	0	0	0	0	Obstacle strike	Main rotor blades hit obstacle on helideck on an obstructed helideck. Aircraft had to ditch. Not wearing corrective lenses
11 Aug	Off	MI172	HT	India	25	4	2	27	Unknown	Helo crashed at sea, acft believed to have catastrophic failure of tail rotor
12 Aug	Other	UH-1H	MT	Georgia	5	0	5	0	Obstacle strike	TR strike on photo mission
13 Aug	Off	B206L3	SE	GoM	4	1	2	3	Obstacle strike	Helo skid caught obstacle on helideck and rolled over, fell in sea
12 Sep	Off	B206	SE	GoM	0	1	1	0	Loss of control or improper procedure	On start, helideck was slick with bird droppings, and during start sequence helicopter began to spin and slid off deck into ocean
15 Sep	Seis	R44	SP	Canada	0	0	0	0	Sling load	Pilot forgot long line was attached, tried to depart and it tangled, helo crashed, pilot unhurt
11 Oct	Off	B206L3	SE	GoM	2	1	0	3	CFITW	CFIT, adverse weather conditions
15 Oct	Off	AS365N	MT	Angola	0	0	0	0	Loss of control or improper procedure	Aircraft came in hot, flared and hit helideck hard
30 Oct	Off	AS365N	MT	India	3	2	4	1	Unknown	Unknown cause
13 Nov	Seis	B206L	SE	Brazil	5	1	4	2	Engine	Engine failure, pilot attempted to return to landing point, hit trees
28 Nov	Off	MI8	HT	Russia	0	0	0	0	Loss of control or improper procedure	On shutdown, main rotor struck tail boom of aircraft
01 Dec	Off	B407	SE	GoM	0	1	0	1	Engine	#3 turbine burst and unsuccessful autorotation
01 Dec	Off	B230	LT	Qatar	0	0	0	0	Obstacle strike	Tail rotor struck safety fence on takeoff. Pilot sat helo back on deck
08 Dec	Pipe	MI2	SE	Russia	4	2	5	1	Unknown/Engine	Crashed while on gas pipeline patrol, unknown causes
10 Dec	Off	AS355	LT	India	0	0	0	0	Loss of control or improper procedure	Helo skid caught in rope net on takeoff, helo rolled onto side, caught fire, put out with AFFF

Totals:

No. accidents: 35
Passengers injured: 70
Crew injured: 23
Number of injuries (excl. fatalities): 41
Number of fatalities: 52

Sling load: 3
CFITW: 4
Loose cargo: 1
Obstacle strike: 7
Loss of control or improper procedure: 8

Unknown: 3
Engine: 6
Tail rotor: 3
Pax/HL O Trng & Control: 1

Airplanes 2002

Date	Activity	Model	Type	Country	Injuries		Severity of injuries		Cause	Descripton
					Pax	Crew	Injury	Fatal		
21 Jan	Pipe	C152	SP	US	0	1	0	1	Loss of control or improper procedure	Apparent loss of control while circling over pipeline
16 Jun	Pipe	Bellanca 8G	SP	US	0	1	1	0	Engine	Apparent loss of power on takeoff

Totals:

No. accidents: 2
Passengers injured: 0
Crew injured: 2
Number of injuries (excl. fatalities): 1
Number of fatalities: 1

Loss of control or improper procedure: 1
Engine: 1

Totals all aircraft, 2002

No. accidents: 37
Passengers injured: 70
Crew injured: 25
Number of injuries (excl. fatalities): 42
Number of fatalities: 53

Sling load: 3
CFITW: 4
Loose cargo: 1
Obstacle strike: 7
Loss of control or improper procedure: 9

Unknown: 3
Engine: 7
Tail rotor: 3
Pax/HL O Trng & Control: 1

What is OGP?

The International Association of Oil & Gas Producers encompasses the world's leading private and state-owned oil & gas companies, their national and regional associations, and major upstream contractors and suppliers.

Vision

- To work on behalf of all the world's upstream companies to promote responsible and profitable operations.

Mission

- To represent the interests of the upstream industry to international regulatory and legislative bodies.
- To achieve continuous improvement in safety, health and environmental performance and in the engineering and operation of upstream ventures.
- To promote awareness of Corporate Social Responsibility issues within the industry and among stakeholders.

Objectives

- To improve understanding of the upstream oil and gas industry, its achievements and challenges and its views on pertinent issues.
- To encourage international regulators and other parties to take account of the industry's views in developing proposals that are effective and workable.
- To become a more visible, accessible and effective source of information about the global industry, both externally and within member organisations.
- To develop and disseminate best practices in safety, health and environmental performance and the engineering and operation of upstream ventures.
- To improve the collection, analysis and dissemination of safety, health and environmental performance data.
- To provide a forum for sharing experience and debating emerging issues.
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