

# 1999 OGP WORLD-WIDE OIL INDUSTRY HELICOPTER OPERATIONS AND SAFETY REVIEW

## 1999 WORLD-WIDE HELICOPTER OPERATIONAL DATA SUMMARY

1999 YEAR	TYPE HELICOPTER					PASSENGERS CARRIED	HOURS FLOWN	NUMBER OF FLIGHTS
	SINGLE ENGINE (SE)	LIGHT TWIN (LT)	MEDIUM TWIN (MT)	HEAVY TWIN (HT)	TOTAL FLEET			
OFFSHORE	473	95	366	137	1,070	8,005,742	795,396	2,659,056
SEISMIC	50	6	8	0	64	49,984	35,478	86,027
GEOPHYSICAL	16	2	0	0	18	0	8,366	9,097
PIPELINE	35	1	5	19	60	98,799	13,381	34,653
OTHER SUPPORT	24	10	32	20	86	514,776	31,044	96,316
<b>1999 WORLD-WIDE</b>	<b>598</b>	<b>114</b>	<b>410</b>	<b>176</b>	<b>1298</b>	<b>8,670,644</b>	<b>883,942</b>	<b>2,901,638</b>
1998 WORLD-WIDE	641	123	481	193	1440	10,284,263	1,174,476	3,699,876

## 1999 WORLD-WIDE HELICOPTER OPERATIONAL DATA DETAILS

1999 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	326,514	47,341	272,048	149,493	795,396	2,173,924	277,607	3,547,722	2,006,489	8,005,742	1,376,632	147,406	900,947	234,071	2,659,056
SEISMIC	29,638	1,026	4,813	0	35,478	18,942	4,160	26,881	0	49,984	41,317	2,975	41,735	0	86,027
GEOPHYS.	7,787	579	No Activity		8,366	No Passenger Movements					8,237	860	No Activity		9,097
PIPELINE	7,501	275	3,234	2,371	13,381	12,804	761	41,547	43,687	98,799	12,615	607	10,510	10,921	34,653
OTHER SPT	9,902	2,703	11,264	7,175	31,044	18,307	22,904	313,909	159,656	514,776	10,949	4,980	54,891	25,496	96,316
<b>1999 WORLD</b>	<b>381,474</b>	<b>52,070</b>	<b>291,359</b>	<b>159,039</b>	<b>883,942</b>	<b>2,223,792</b>	<b>305,432</b>	<b>3,930,059</b>	<b>2,211,362</b>	<b>8,670,644</b>	<b>1,449,221</b>	<b>156,686</b>	<b>1,008,083</b>	<b>287,648</b>	<b>2,901,638</b>
1998	476,427	71,027	433,153	193,869	1,174,476	2,671,556	377,518	4,860,980	2,374,209	10,284,263	1,892,480	217,607	1,295,897	293,892	3,699,876

## 1999 WORLD-WIDE HELICOPTER FLEET OPERATIONAL DATA

Averages Per Helicopter	Offshore	Seismic	Geo Physical	Pipe- line	Other Support	World -Wide	Averages Per Helicopter	Offshore	Seismic	Geo Physical	Pipe- line	Other Support	World -Wide
Pax per Day/5 Day Week	30,791	192	NA	380	1,980	33,316	Annual Hours Per Aircraft	743	552	462	223	363	681
Flights Per Day	7,285	236	25	95	264	7,878	Flights Per Aircraft	2,484	1,338	503	579	1,125	2235
Avg. Flight Duration in Min.	18	25	55	23	19	18	Pax Flown Per Year	7,480	777	NA	1,649	6,014	6679

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 the Oil and Gas Producers Association and from 126 helicopter operators worldwide.

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.

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### 1999 WORLD-WIDE HELICOPTER ACCIDENT DATA

NUMBER OF ACCIDENTS				INJURY CLASSIFICATION					AIRCRAFT DAMAGES			AVIATION ACCIDENT			
Aircraft Category				Injuries		Severity			Classification			Rates			
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Minor	Serious	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 100k Occupants	# Acc 100k Flt Stages
Single Eng	14	4	5	9	9	4	6	8	1	6	7	3.67	1.05	0.22	0.97
Light Twin	1	0	0	1	0	1	0	0	0	0	1	0.34	0.00	0.00	0.64
Med Twin	6	2	0	11	4	0	5	10	0	3	3	3.77	0.69	0.17	0.60
Heavy Twin	4	2	0	40	5	0	13	32	0	1	3	0.45	1.26	1.15	2.55
<b>1999 Totals</b>	<b>25</b>	<b>8</b>	<b>5</b>	<b>61</b>	<b>18</b>	<b>5</b>	<b>24</b>	<b>50</b>	<b>1</b>	<b>10</b>	<b>14</b>	<b>2.83</b>	<b>0.91</b>	<b>0.39</b>	<b>0.86</b>
1998 Totals	22	9	5	37	23	4	9	47	0	5	19	1.87	0.77	0.30	0.62

### 1999 WORLD-WIDE HELICOPTER ACCIDENT DATA BY ACTIVITY

NUMBER OF ACCIDENTS				INJURY CLASSIFICATION					AIRCRAFT DAMAGES			AVIATION ACCIDENT				Industry Fatal Rates per 100M Exposure Hrs Passengers & Crew	
Aircraft Category				Injuries					Severity			Rates				Accidents (IFAR)	Incidents (IFAIR)
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Minor	Serious	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 100k Occupants	# Acc 100k Flt Stages		
Offshore	17	5	3	38	11	5	18	26	1	6	9	2.14	0.63	0.22	0.64	720	138
Seismic	6	2	3	1	4	0	1	4	0	3	2	16.91	5.64	2.25	6.97	6,568	3,284
GeoPhysic	0	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00
Pipeline	1	0	0	0	0	0	0	0	0	1	0	7.47	0.00	0.00	2.89	0.00	0.00
Other Spt	1	1	0	22	3	0	5	20	0	0	3	3.22	3.22	2.89	1.04	9,285	464
<b>1999</b>	<b>25</b>	<b>8</b>	<b>6</b>	<b>61</b>	<b>18</b>	<b>5</b>	<b>24</b>	<b>50</b>	<b>1</b>	<b>10</b>	<b>14</b>	<b>2.83</b>	<b>0.91</b>	<b>0.39</b>	<b>0.86</b>	<b>1258</b>	<b>201</b>
1998 Totals	22	9	5	37	23	4	9	47	0	5	19	1.87	0.77	0.30	0.62	928	197

### 1999 WORLD-WIDE HELICOPTER ACCIDENT CAUSES/INFO

	Total	Engine Related	Other Tech	Light -ning	Flight Into Terrain, Water, or Obstacle	Tie Down Proced.	External Load Proced.	Control Malf.	Mid Air	Refuel Proced.	Pax Cont.	Wx	Acft Over Load	Hard Ldg	Helideck Design or Size Issues	Injuries Due To Engine Malf.
Single Eng	14	5	1	0	3 (1 night)	0	0	0	0	2	2	1	0	0	0	5
Light Twin	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0

Medium Twin	6	0	2	1	2	0	0	0	0	0	0	1	0	0	0	0
Heavy Twin	4	0	1	0	2	0	0	0	0	1	0	0	0	0	0	0
<b>1999 Totals</b>	<b>25</b>	<b>5</b>	<b>4</b> (1 Unknown)	<b>1</b>	<b>7</b> (1 night)	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b> (4 offshore, 1 seismic)
1998 Totals	22	5	0	1	5 (3 night)	1	2	3	2	1	0	0	1	1	0	2 (seismic)

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### 1999 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	30	63	93	1,474,726	112,083	270,217
GOM	413	81	93	14	601	2,664,848	392,712	1,459,781
OTHER	60	14	243	60	376	3,866,168	290,601	929,060
<b>1999 WORLD-WIDE</b>	<b>473</b>	<b>95</b>	<b>366</b>	<b>137</b>	<b>1,070</b>	<b>8,005,742</b>	<b>795,396</b>	<b>2,659,056</b>
1998 WORLD-WIDE	465	117	444	181	1208	9,764,538	1,029,503	3,029,243
1997 WORLD-WIDE	479	165	398	164	1206	9,771,259	950,343	3,184,797

### 1999 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	26,242	85,841	112,083	0	0	296,373	1,178,353	1,474,726	0	0	136,143	134,074	270,217
GOM	280,150	38,218	66,071	8,273	392,712	1,728,053	208,650	610,913	117,232	2,664,848	1,161,888	124,480	158,175	15,238	1,459,781
OTHER	46,634	9,123	178,735	55,379	290,601	1,445,871	248,957	2,649,436	710,904	3,866,168	214,744	22,926	606,629	84,579	929,058
<b>1999</b>	<b>326,514</b>	<b>47,341</b>	<b>272,048</b>	<b>149,493</b>	<b>795,396</b>	<b>2,173,924</b>	<b>277,607</b>	<b>3,547,722</b>	<b>2,006,489</b>	<b>8,005,742</b>	<b>1,376,632</b>	<b>147,406</b>	<b>900,947</b>	<b>234,071</b>	<b>2,659,056</b>
1998	372,688	68,152	404,058	184,605	1,029,503	2,442,448	361,797	4,598,209	2,362,044	9,764,538	1,404,852	213,711	1,204,177	269,503	3,029,243
1997	359,341	96,270	301,671	193,061	950,343	2,753,768	686,145	4,159,934	2,171,412	9,771,259	1,561,146	330,917	1,050,120	242,614	3,184,797

## 1999 WORLD-WIDE 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	5,672	10,249	30,791	Annual Hours Per Aircraft	1,212	653	743
Flights Per Day	740	3,999	7,285	Flights Per Aircraft	2,921	2,429	2,484
Average Flight Duration in Min.	25	16	18	Passengers Flown Per Year	15,943	4,434	7,480

N SEA = NORTH SEA

GOM = Gulf of Mexico

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### 1999 WORLD-WIDE OFFSHORE HELICOPTER ACCIDENT DATA

NUMBER OF ACCIDENTS				INJURY CLASSIFICATION					AIRCRAFT DAMAGES			AVIATION ACCIDENT			
Aircraft		Category		Injuries		Severity			Classification			Rates			
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Minor	Serious	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 100k Occupants	# Acc 100k Flt Stages
Single Eng	9	3	3	9	7	4	5	7	1	3	5	2.76	0.92	0.20	0.65
Light Twin	1	0	0	1	0	1	0	0	0	1	0	2.11	0.00	0.00	0.68
Med Twin	5	1	0	10	2	0	5	7	0	3	2	1.84	0.37	0.13	0.55
Heavy Twin	2	1	0	18	2	0	8	12	0	0	2	1.34	0.67	0.48	0.85
<b>1999 Totals</b>	<b>17</b>	<b>5</b>	<b>3</b>	<b>38</b>	<b>11</b>	<b>5</b>	<b>18</b>	<b>26</b>	<b>1</b>	<b>7</b>	<b>9</b>	<b>2.14</b>	<b>0.63</b>	<b>0.22</b>	<b>0.64</b>
1998 Totals	11	6	2	25	16	2	4	35	0	2*	11*	1.07	0.58	0.24	0.36
1997 Totals	11	5	2	41	13	7	5	42	1	3	8	1.16	0.53	0.29	0.35

### 1999 GOM OFFSHORE HELICOPTER ACCIDENT DATA

NUMBER OF ACCIDENTS				INJURY CLASSIFICATION					AIRCRAFT DAMAGES			AVIATION ACCIDENT			
Aircraft		Category		Injuries		Severity			Classification			Rates			
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Minor	Serious	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 100k Occupants	# Acc 100k Flt Stages
Single Eng	7	1	2*	4	5	3	4	2	1	3	3	2.50	0.36	0.07	0.60
Light Twin	1	0	0	1	0	1	0	0	0	1	0	2.62	0.00	0.00	0.80
Med Twin	1	0	0	0	0	0	0	0	0	0	1	1.51	0.00	0.00	0.63
Heavy Twin	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00
<b>1999 Totals</b>	<b>9</b>	<b>1</b>	<b>2</b>	<b>5</b>	<b>5</b>	<b>4</b>	<b>4</b>	<b>2</b>	<b>1</b>	<b>4</b>	<b>4</b>	<b>2.29</b>	<b>0.25</b>	<b>0.05</b>	<b>0.62</b>
1998 Totals	3	1	1	0	2	1	0	1	0	1	3	0.66	0.22	0.02	0.22
1997 Totals	6	1	1	6	6	7	4	1	1	2	4	1.27	0.21	0.02	0.35

\* 1 minor injury due to engine failure

### 1999 NORTH SEA OFFSHORE HELICOPTER ACCIDENT DATA

NUMBER OF ACCIDENTS				INJURY CLASSIFICATION					AIRCRAFT DAMAGES			AVIATION ACCIDENT			
Aircraft		Category		Injuries		Severity			Classification			Rates			
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Minor	Serious	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 100k Occupants	# Acc 100k Flt Stages
Single Eng	No Activity No Activity														
Light Twin															
Med Twin	2	0	0	0	0	0	0	0	0	2	0	7.62	0.00	0.00	0.74
Heavy Twin	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00
<b>1999 Totals</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>1.78</b>	<b>0.00</b>	<b>0.00</b>	<b>0.47</b>
1998 Totals	1	0	0	0	0	0	0	0	0	1	0	0.61	0.00	0.00	0.39
1997 Totals	3	2	1	11	2	0	0	13	0	1	2	1.78	1.19	0.49	1.08

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### FIVE YEAR WORLD-WIDE OFFSHORE HELICOPTER ACCIDENT DATA

Number Of Accidents				Injury Classification					Aircraft Damages			Aviation Accident				Industry Fatal Rates Per	
Aircraft		Category		Injuries		Severity			Classification			Rates				100M Exposure Hrs Passengers & Crew	
Year	# Accidents	# Fatal	# Eng Related	Pax	Crew	Minor	Serious	Fatal	Minor	Major	Total Loss	# Acc 100k Hrs	# Fatal Acc 100k Hrs	# Fatal 100k Occupants	# Acc 100k Flt s	Accidents (IFAR)	Incidents (IFAIR)
1995	10	6	NR	35	8	19	0	24	0	2	5	1.36	0.82	0.21 E	0.41	671	168
1996	15	7	NR	8	8	0	0	16	1	3	11	1.82	0.85	0.12 E	0.59	432	189
1997	11	5	2	41	13	7	5	42	1	3	8	1.16	0.53	0.29	0.35	963	115
1998	11	6	2	25	16	2	4	35	0	2	11	1.07	0.58	0.24	0.36	709	122
1999	17	5	3	38	11	5	18	26	1	7	9	2.14	0.63	0.22	0.64	720	138
<b>5 Yr Avg</b>	<b>12.8</b>	<b>5.8</b>	<b>1.4</b>	<b>29.4</b>	<b>11.2</b>	<b>6.6</b>	<b>5.4</b>	<b>28.6</b>	<b>0.6</b>	<b>3.4</b>	<b>8.8</b>	<b>1.51</b>	<b>0.68</b>	<b>0.20</b>	<b>0.47</b>	<b>573</b>	<b>146</b>

### FIVE YEAR GOM OFFSHORE HELICOPTER ACCIDENT DATA

Number Of Accidents				Injury Classification					Aircraft Damages			Aviation Accident			
Aircraft		Category		Injuries		Severity			Classification			Rates			
Year	# Accidents	# Fatal	# Eng Related	Pax	Crew	Minor	Serious	Fatal	Minor	Major	Total Loss	# Acc 100k Hrs	# Fatal Acc 100k Hrs	# Fatal 100k Occupants	# Acc 100k Flt Stages
1995	5	3	NR	7	3	1	1	8	1	1	3	1.21	0.73	0.14 E	0.33
1996	7	4	NR	7	4	0	0	11	1	2	4	1.58	0.91	0.19 E	0.42
1997	6	1	1	6	6	7	4	1	1	2	4	1.27	0.21	0.02	0.35
1998	3	1	1	0	2	1	0	1	0	1	3	0.66	0.22	0.02	0.22
1999	9	1	2	5	5	4	4	2	1	4	4	2.29	0.25	0.05	0.62

5 Yr Avg	6.0	2.2	0.8	5.0	4.0	2.6	1.8	4.6	0.8	2.0	4.0	1.40	0.46	0.08	0.39
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### FIVE YEAR NORTH SEA OFFSHORE HELICOPTER ACCIDENT DATA

Number Of Accidents				Injury Classification					Aircraft Damages			Aviation Accident			
Aircraft		Category		Injuries		Severity			Classification			Rates			
Year	# Accidents	# Fatal	# Eng Related	Pax	Crew	Minor	Serious	Fatal	Minor	Major	Total Loss	# Acc 100k Hrs	# Fatal Acc 100k Hrs	# Fatal 100k Occupants	# Acc 100k Flt Stages
1995	2	0	0	0	0	0	0	0	0	2	0	1.65 E	0.00	0.00	0.85 E
1996	2	0	0	0	0	0	0	0	0	1	1	1.26 E	0.00	0.00	1.20 E
1997	3	2	1	11	2	0	0	13	0	1	2	1.78	1.19	0.49	1.08
1998	1	0	0	0	0	0	0	0	0	1	0	0.61	0.00	0.00	0.39
1999	2	0	0	0	0	0	0	0	0	2	0	1.78	0.00	0.00	0.74
5 Yr Avg	2.0	0.4	0.2	2.2	0.4	0	0	2.6	0	1.4	0.6	1.42	0.24	0.10	0.85

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### 1999 WORLD-WIDE OFFSHORE HELICOPTER ACCIDENT CAUSES/INFO

	Engine Related	Bird Strike	Lightning	Flight Into Terrain Or Water Or Obstacle	Tie Down Procedure	External Load Procedure	Tail Rotor	Fuel Proced	Control Malf.	Weather	Pax Control	Mid Air	Helideck Design or Size Issues	Injuries Due To Engine Malfunction
Single Eng	3	0	0	3	0	0	0	0	1	1	1	0	0	4**
Light Twin	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Medium Twin	0	0	1	1	0	0	2	0	0	1	0	0	0	0
Heavy Twin	0	0	0	0	0	0	0	1	1*	0	0	0	0	0
<b>1999 Totals</b>	<b>3</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>4**</b>
97-98 Totals	4	1	2	7	1	1	1		2			3	0	12

\* Cause unknown

\*\* 1 fatal

### 1998-99 GOM OFFSHORE HELICOPTER ACCIDENT CAUSES/INFO

	Engine Related	Bird Strike	Flight Into Terrain. Water or Obstacle	Tail Rotor	Tie Down Procedure	Severe Weather	Pas Control	Mid Air	Helideck Design or Size Issues	Injuries Due To Engine Malfunction
Single Eng	2	0	3	0	0	1	1	0	0	1
Light Twin	0	0	0	0	0	1	0	0	0	0
Medium Twin	0	0	0	1	0	0	0	0	0	0
<b>1999</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
1998	1	0	0	0	1	0	0	1	0	0

### 1998-99 NORTH SEA OFFSHORE HELICOPTER ACCIDENT CAUSES/INFO

	Engine Related	Lightning	Flight Into Terrain Or Water	Severe Weather	Helideck Design or Size Issues	Injuries Due To Engine Malfunction
Medium Twin	0	1	0	1	0	0
<b>1999</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>
1998	0	1	0	0	0	0

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### 1999 SEISMIC HELICOPTER ACCIDENT DATA

NUMBER OF ACCIDENTS				INJURY CLASSIFICATION					AIRCRAFT DAMAGES			AVIATION ACCIDENT			
Aircraft		Category		Injuries		Severity			Classification			Rates			
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Minor	Serious	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 100k Occupants	# Acc 100k Flt Stages
Single Eng	5	1	3	0	2	0	1	1	0	3	2	16.87	3.37	1.66	12.10
Light Twin	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00
Med. Twin	1	1	0	1	2	0	0	3	0	0	1	20.78	97.44	2.72	2.40
Heavy Twin	No Activity Reported														
<b>1999 Totals</b>	<b>6</b>	<b>2</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>16.91</b>	<b>5.64</b>	<b>2.25</b>	<b>6.97</b>
1998 Totals	7	0	3	3	4	2	5	0	0	3	4	8.91	0.00	0.00	1.59

### 1999 SEISMIC HELICOPTER ACCIDENT CAUSES/INFO

	Engine Related	Flight into Terrain	Snagged Load	Rapid Refuel Procedure	Fuel Procedure	Unknown	Hard Landing	Over Loaded Aircraft	Injuries Due To Engine Malf.
Single Eng	3	0	0	0	1	1	0	0	1
Medium Twin	0	1	0	0	0	0	0	0	0
<b>1999</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>
1998	3	0	1	1	0	0	1	1	2

### 1999 GEOPHYSICAL HELICOPTER ACCIDENT DATA

NUMBER OF ACCIDENTS				INJURY CLASSIFICATION					AIRCRAFT DAMAGES			AVIATION ACCIDENT			
Aircraft Category				Injuries		Severity			Classification			Rates			
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Minor	Serious	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 100k Occupants	# Acc 100k Flt Stages
<b>1999 Totals</b>	<b>NO ACCIDENTS</b>														
1998 Totals	1	1	0	1	1	0	0	2	0	0	1	8.88	8.88	22.48	12.66

### 1998-1999 GEOPHYSICAL HELICOPTER ACCIDENT CAUSES/INFO

	Engine Related	Injuries Due To Engine Malfunction	Flight Into Terrain, Waterr Or Obstacles
Single Eng (98)	0	0	1

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### 1999 PIPELINE HELICOPTER ACCIDENT DATA

NUMBER OF ACCIDENTS				INJURY CLASSIFICATION					AIRCRAFT DAMAGES			AVIATION ACCIDENT			
Aircraft Category				Injuries		Severity			Classification			Rates			
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Minor	Serious	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 100k Occupants	# Acc 100k Flt Stages
Single Eng	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00
Light Twin	0	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	0.00	0.00	0.00	0.00



Heavy Twin	1	0	0	0	0	0	0	0	0	1	0	42.18	0.00	0.00	9.16
<b>1999 Totals</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>7.47</b>	<b>0.00</b>	<b>0.00</b>	<b>2.89</b>
1998 Totals	2	1	0	3	1	0	0	4	0	0	2	17.48	8.74	4.92	2.86

### 1998-1999 PIPELINE HELICOPTER ACCIDENT CAUSES/INFO

	Engine Related	Injuries Due To Engine Malfunction	Flight Into Terrain, Water Or Obstacles	Control Problems
Heavy Twin (99)	0	0	1	0
Medium Twin (98)	0	0	0	2

### 1999 OTHER INDUSTRY HELICOPTER ACCIDENT DATA

NUMBER OF ACCIDENTS				INJURY CLASSIFICATION					AIRCRAFT DAMAGES			AVIATION ACCIDENT			
Aircraft		Category		Injuries		Severity			Classification			Rates			
Type Aircraft	# Accidents	# Fatal	# Eng Related	Pax	Crew	Minor	Serious	Fatal	Minor	Major	Total Loss	# Acc 100k Hours	# Fatal Acc 100k Hours	# Fatal 100k Occupants	# Acc 100k Flt Stages
Single Eng	0	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00
Light Twin	0	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	0.00	0.00	0.00	0.00
Heavy Twin	1	1	0	22	3	0	5	20	0	0	1	13.94	13.94	9.49	3.92
<b>1999 Totals</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>22</b>	<b>3</b>	<b>0</b>	<b>5</b>	<b>20</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3.22</b>	<b>3.22</b>	<b>2.89</b>	<b>1.04</b>
1998 Totals	1	1	0	5	1	0	0	6	0	0	1	2.29	2.29	1.29	0.81

### 1998-1999 OTHER INDUSTRY SUPPORT HELICOPTER ACCIDENT CAUSES/INFO

	Engine Related	Injuries Due To Engine Malfunction	Flight Into Terrain, Water Or Obstacles
Single Eng (98)	0	0	1
Heavy Twin (99)	0	0	1

## 1999 OGP WORLD-WIDE OIL INDUSTRY ACCIDENTS

1999					Accidents		INJURIES					AIRCRAFT DAMAGES			CAUSES OF ACCIDENTS						NARRATIVE	
DATE	Activity	Model	Type	Country	#	# Fatal	Min.	Ser.	Fat.	Pax	Crew	Helo Damages							Obstacle	Pax		Severe
												Min	Subs	Lost	Tech	FITW	LTNG	Fuel	Strike	Cont		Wx
12-Jan-99	Seismic	H369D	SE	Canada	1	1			1		1			1				1				Fuel Starvation
19-Jan-99	Pipeline	MI8	HT	Russia	1								1			1						Pilot lost visual clues on approach
01-Feb-99	Offshore	B206L3	SE	GOM	1								1						1			Tail Rotor Strike on Wind Sock
05-Feb-99	Offshore	B206B3	SE	GOM	1		1				1			1								Aircraft flew into water in fog at night
16-Feb-99	Seismic	H369	SE	US	1			1			1		1		Eng							Hard Ldg after eng decel, PC airline B nut failure
16-Mar-99	Other Spt	MI8	HT	Russia	1	1		5	20	22	3			1		1						Apparent CFIT, heavy snow showers
17-Mar-99	Offshore	AS350B2	SE	GOM	1	1		2	2	3	1			1					1			Skid Strap may have caught under helideck escape hatch cover, fell into water inverted
05-Apr-99	Offshore	B412	MT	Indonesia	1	1		5	7	10	2			1	T/R							T/R Hangar Brng Installation
14-Apr-99	Offshore	B206B3	SE	Indonesia	1	1			4	3	1			1	XMSN							Xmsn Spindle failed, possibly due to repairs to Assy during maint
30-Apr-99	Offshore	B206B3	SE	GOM	1			1			1	1								1		Tail Rotor positioned over stairwell, person walked up stairwell into T/R
01-Jun-99	Offshore	B206B3	SE	GOM	1								1		Eng							Eng failure, hard landing tail boom severed, no injuries, N1 Splined Shaft Failure
07-Jun-99	Offshore	S76A++	MT	Thailand	1								1						1			T/R Strike to guard rail or crane on helideck Hard Landing
09-Jun-99	Offshore	B412	MT	GOM	1									1	T/R							Loss of Tail Rotor Assy
22-Jun-99	Seismic	H369E	SE	Canada	1								1		Eng							Loss of Power Sling Load
27-Jun-99	Seismic	B205A1	SE	Canada	1								1		Eng							Uncontrolled Eng Failure
10-Jul-99	Offshore	AS332	HT	China	1								1					1				Fuel Starvation
12-Aug-99	Offshore	BO105	LT	GOM	1		1			1			1								1	BO105 spun on helideck, struck B206, B206 pushed off deck into water
26-Aug-99	Offshore	B206L3	SE	GOM	1		1	1		1	1		1								1	B206 ready for departure blown off helideck onto platform deck
21-Sep-99	Offshore	B212	MT	UK	1								1								1	M/R strike on Tail Boom due to strong wind gust
02-Oct-99	Offshore	B214St	HT	Saudi Arabia	1	1		8	12	18	2			1	??							Crashed into water after takeoff
06-Oct-99	Seismic	B412	MT	Mexico	1	1			3	1	2			1		1						Flew into terrain, wx related
11-Nov-99	Seismic	MD500E	SE	US	1									1							1	Unknown
17-Nov-99	Offshore	S76A++	MT	UK	1								1					1				Lightening Strike
30-Nov-99	Offshore	B206L	SE	Angola	1	1	1	1	1	2	1			1				1				Power Loss
05-Dec-99	Offshore	B206L1	SE	GOM	1		1				1			1	Engin e							Power Loss
		<b>Total =</b>			<b>25</b>	<b>8</b>	<b>5</b>	<b>24</b>	<b>50</b>	<b>61</b>	<b>18</b>	<b>1</b>	<b>10</b>	<b>14</b>	<b>9</b>	<b>4</b>	<b>1</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>3</b>	

AIRPLANES																					
03-Dec-99		F27	MT	Indonesia	1																Acft Overran Runway on SE approach

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## WORLD-WIDE OIL INDUSTRY HELICOPTER ACTIVITY DATA by COUNTRY

Country	Type Helicopter					Passengers Carried					Hours Flown					Landings and Takeoffs				
	SE	LT	MT	HT	TOTAL	SE	LT	MT	HT	TOTAL	SE	LT	MT	HT	Ttl Hrs	SE LTO	LT LTO	MT LTO	HT LTO	Ttl LTO
Angola			8	0	8	0	0	45,722	0	45,722	0	0	4,326	0	4,326	0	0	7,667	0	7,667
Argentina			6	0	6	0	0	28,085	0	28,085	0	0	3,538	0	3,538	4,882	0	30,588	0	35,470
Asia Pacific	5	2	1	2	10	6,806	540	2,625	1,000	10,971	4,080	60	750	450	5,340	5,150	100	525	900	6,675
Australia	13	1	22	9	45	3,189	6,307	206,630	52,195	268,321	1,291	907	10,897	5,108	18,203	2,582	4,819	12,069	4,467	23,937
Azerbaijan			1	1	2			5,600	12,000	17,600			350	400	750			700	800	1,500
Bangladesh			1		1			4,000		4,000			270		270			500		500
Bohai			1		1			20		20			18		18			10		10
Brazil	0	0	35	5	40	0	0	404,410	77,580	481,990	0	0	41,021	4,393	45,414	0	0	77,130	4,936	82,066
Brunei	0	0	1	3	4	0	0	2,400	83,350	85,750	0	0	200	3,422	3,622	0	0	300	14,299	14,599
Cabinda	11		4		15	76,220		70,160		146,380	15,979		5,251		21,230	47,937		10,503		58,440
Cameroon			2		2			11,316		11,316			1,018		1,018			2,962		2,962
Canada	17	2	2	6	27	4,405	300	4,500	58,000	67,205	14,684	203	710	11,540	27,137	14,581	1,494	3,548	5,623	25,246
China	2	0	1	8	11	0	0	14,079	82,845	96,924	100	0	553	8,561	9,214	100	0	4,486	9,950	14,536
Colombia	6	3	18	31	58	7,429	7,843	238,901	165,746	419,919	1,256	861	13,273	6,404	21,793	5,347	1,929	53,283	23,341	83,900
Congo			1		1			14,066		14,066			329		329			994		994
Denmark	0	0	4	2	6	0	0	34,410	17,871	52,281	0	0	3,079	4,286	7,365	0	0	6,616	2,381	8,997
Ecuador	7	0	1	0	8	4,000	0	4,000	0	8,000	2,800	0	900	0	3,700	2,800	0	1,500	0	4,300
Egypt	8		15		23	41,151		255,467		296,618	3,956		11,351		15,306	5,164		9,248		14,412
Emirates			13		13			237,917		237,917			16,036		16,036			136,306		136,306
Eq Guinea			2		2			12,000		12,000			1,225		1,225			1,600		1,600
Equador					1	1				12,703	12,703				891	891				6,432
Gabon	2		3	5	10	15,909		31,278	47,187	94,374	940		2,073	3,013	6,026	5,730		8,774	14,504	29,008
Indonesia	6	2	41	0	49	10,592	400	290,170	0	301,162	566	1,324	9,119	0	11,008	6,638	133	71,450	0	78,221
Ireland	1	0	0	1	1	0	50	0	800	1,000	250	0	0	250	250	0	0	0	1,671	1,671
Kazakhstan	0	0	5	0	5	0	0	31,427	0	31,427	0	0	1,099	0	1,099	0	0	10,823	0	10,823
Libya				2	2				18,394	18,394				961	961				1,665	1,665
Malaysia	0	9	12	11	31	1	16,601	100,824	156,633	274,059	1,057	3,479	11,637	10,252	25,217	1,447	6,409	24,242	14,552	46,306
Mexico	4	6	2	0	10	2,011	40,141	26,787	0	68,363	1,970	5,016	1,811	0	7,023	2,382	7,295	6,616	0	17,393
Morocco	3				3					0	2,406				2,406	1,026				1,026
Myanmar			3		3			18,000		18,000			1,750		1,750			1,800		1,800

Namibia			2		2			9,250		9,250			1,072		1,072			3,017		3,017
Netherlands	0	0	17	4	21	0	0	157,284	17,138	174,422	0	0	17,612	1,539	19,151	0	0	67,436	18,220	85,656

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### WORLD-WIDE OIL INDUSTRY HELICOPTER ACTIVITY DATA by COUNTRY

Country	Type Helicopter					Passengers Carried					Hours Flown					Landings and Takeoffs				
	SE	LT	MT	HT	TOTAL	SE	LT	MT	HT	TOTAL	SE	LT	MT	HT	Ttl Hrs	SE LTO	LT LTO	MT LTO	HT LTO	Ttl LTO
New Zealand	1	0	3	0	4	323	0	23,638	0	23,961	98	0	1,433	0	1,531	199	0	6,719	0	6,918
Nigeria	11	4	30	0	45	248,026	17,941	434,349	0	700,316	14,372	1,620	22,633	0	38,625	109,541	5,061	131,551	0	246,153
Norway	0	0	4	26	30	0	0	87,179	623,967	711,146	0	0	4,659	40,312	44,971	0	0	57,115	64,161	121,276
Peru	5	1	0	1	8	4,419	1,346	0	6,941	14,889	3,386	172	0	15	1,416	1,557	1,563	0	1,108	4,331
Philippines	0	1	3	0	4	0	2,082	18,898	0	20,980	0	8	90	0	98	0	452	6,663	0	7,115
PNG				2	2				13,882	13,882				1,173	1,173				2,216	2,216
Qatar			16		16			110,000		110,000			9,500		9,500			4,438		4,438
Yemen	2	0	2	2	4	2,623	0	8,500	23,984	11,121	24,488	0	1,862	1,517	2,366	5,745	0	13,208	2,995	21,948
Russia				2	2				28	28				2,925	2,925				28	28
South Africa	13	3	11	7	29	22,222	530	137,221	84,580	244,020	6,495	530	9,312	3,340	18,618	22,139	432	37,584	14,225	73,418
Sumatra			2		2			5,760		5,760			660		660			366		366
Tbilisi, Georgia				1		1			1,800	1,800				210		210			350	560
Trinidad	0	0	10	2	12	0	0	141,241	40,000	181,241	0	0	8,286	2,050	10,336	0	0	19,766	2,000	21,766
UK	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
USA	##	84	99	14	650	1,756,995	211,928	658,930	117,232	2,742,805	296,744	39,271	69,008	8,273	412,946	1,196,128	127,185	167,600	25,026	1,515,939
Venezuela	23	0	1	0	23	12,877	0	280	0	13,157	9,815	0	199	0	10,014	8,818	0	261	0	9,079