HELICOPTER SAFETY ADVISORY CONFERENCE (HSAC) GULF OF MEXICO OFFSHORE HELICOPTER OPERATIONS AND SAFETY REVIEW

HSAC Members: February 13, 2006

Please find attached the Helicopter Safety Advisory Conference (HSAC) "2005 Gulf of Mexico Offshore Helicopter Operations and Safety Review". The membership support and response from 21 helicopter operators for this review is not only appreciated, but vital in establishing a meaningful report. Continued support is encouraged for the future.

The 2005 Gulf of Mexico oil industry helicopter accident rate per 100,000 flight hours was 2.05 with a total of 8 accidents (6 single engine, 1 each light and medium twin) compared to a 22-year annual average accident rate of 1.89. The fatal accident rate per 100,000 flight hours during 2005 was 0.51 with a total of 2 fatal accidents (5 fatalities) compared to a 22-year average of 0.74.

During 2005, improper pilot procedures and technical fault each accounted for 3 (32%) or 6 of the 8 accidents. The additional accidents causes were 1 unknown and 1 related to fuel quality control.

In the last 5 years, there have been 47 accidents of which 15 were fatal (32%), resulting in 34 fatalities and 42 injuries. 23 (49%) of these accidents were due to pilot procedure related causes, 13 (28%) were due to technical fault, and the remaining accidents due other mixed factors. For technical accidents, there were 9 engine related events, 2 tail rotor events, and 2 for other technical causes. 13 of the 47 accidents (28%) were related to events around the helideck (5 obstacle strikes, 4 loss of control, 2 passenger control, and 1 each approach procedure / tie-down removal). The specific leading causes of accidents in the last 5 years have been:

- 9 (19%) engine related and 9 loss of control with 3 fatalities in each category (6 total)
- 4 (9%) controlled flight into terrain or water with 7 fatalities, 4 helideck obstacle strikes with 4 fatalities, and 4 fuel quality control
- 3 (6%) loose cargo striking tail rotor
- 3 (6%) unknown causes with 14 fatalities (1 night with 10 fatalities)

Note - Although night flight accounts for less than 3% of the GoM flight hours, in the last five years, the 3 night accidents accounted for 7% of the total accidents and 32% of total fatalities (11 of 34 total). 2 of the 3 events were fatal.

HSAC has published a number of Recommended Practices to address these issues and they can be reviewed at www.HSAC.org. We are optimistic that by sharing this information with all operators and other oil industry group's, safety initiatives may be developed and implemented to reduce accidents and incidents.

GULF OF MEXICO OFFSHORE HELICOPTER OPERATIONAL DATA SUMMARY

YEA	YEA NUMBERS by TYPE HELICOPTER												
R	SINGL	LIGH	MEDIU	HEAV	TOTA		HOUR						
	\mathbf{E}	T	\mathbf{M}	\mathbf{Y}	\mathbf{L}	PASSENGE	\mathbf{S}						
	ENGIN	TWIN	TWIN	TWIN	FLEE	RS	FLOW	NUMBEROF	FLIGH				
	\mathbf{E}				T	CARRIED	N	TS					
2000	385	76	106	15	582	3,451,511	441,908	1,394,679					
2001	407	87	121	17	632	3,127,449	451,712	1,473,057					
2002	411	77	121	16	625	3,088,865	402,632	,564,362					
2003	410	66	118	13	607	2,574,810	381,273	1,345,075					
2004	387	60	100	14	561	2,329,064		1,270,863					
2005	*424	48	99	18	589	2,625,322	389,544	1,310,736					

^{*} Data extracted from voluntary input of 12 helicopter operators in the Gulf of Mexico

GULF OF MEXICO OFFSHORE HELICOPTER OPERATIONAL DATA DETAILS

HOU	RS by TY	PE HE	LICOPTI	ER	OPERATIONS by TYPE HELICOPTER							
YEA R	SINGL E ENGIN E	T	MEDIU M TWIN	HEAV Y TWIN	TOTA L FLEE T	SINGL E ENGIN E	T	MEDIU M TWIN	HEAV Y TWIN)	TOTAL FLEET		
1999	316,029	38,126	79,736	8,016	441,90 8	1,051,16 0	134,03 5	192,289	17,197	1,394,67		
2000	309,429	35,318	96,548	10,417	451,71 2	1,123,39 3	125,83 2	204,285	19,547	1,473,05 7		
2002	284,226	26,610	83,556	8,240	402,63 2	1,251,94 5	99,117	195,883	17,417	1,564,36 2		
2003	275,580	22,161	76,948	6,584	381,27 3	1,102,64 4	67,399	163,869	11,163	1,345,07 5		
2004	263,258	20,436	69,479	8,341	361,51 4	1,048,85 8	65,704	144,545	11,756	1,270,86 3		
2005	275,225	21,386	80,787	12,146	389,54 4	1,062,94 2	65,076	162,476	20,242	1,310,73 6		

GULF OF MEXICO HELICOPTER FLEET OPERATIONAL DATA

Averages Per	2002	2003	2004	2005	Averages Per	2002	2003	2004	2005
Helicopter					Helicopter				

Passengers per Day per 5 Day Week	11,880	9,903	8,958	10,097	Annual Hours Per Aircraft	644	628	644	662
Flights Per Day	4,286	3,685	3,482	3,591	Flights Per Aircraft	2,503	2,216	2,265	2,227
Average Flight Duration in Min.	15	17	17		Passengers Flown Per Year	4,942	4,242	4,152	4,461

As a service to the Helicopter Safety Advisory Conference (HSAC) membership, this Gulf of Mexico Offshore 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 HSAC assumes no liability for accuracy or completeness.

2005 GULF OF MEXICO OFFSHORE HELCOPTER ACCIDENT DATA

	BER OF			IJURY LASSII					AVIATION ACCIDENT						
Aircra	aft Cat	egor	y In	Injuries Severity					Classificati	ion	R	Rates			
Type		#	# Eng Relat ed					Mir or	n Substant ial		Acc 100l	Acc 100 k Hou	# Fatal 1 M Occupa nts	# Acc 100k Flt Stag es	
Singl e Eng.	6	2	1	6	1	7	5	0	3	3	2.18	0.73	1.98	0.56	
Light Twin	0	0	0	0	0	0	0	0	0	0	4.68	0.00	0.00	1.54 00	
Med. Twin	0	0	0	0	0	0	0	0	0	0	1.24	0.00	0.00	0.62	
Heav y Twin	0	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	
2005 Totals	8	2	2	16	8	19	5	0	4	4	2.05	0.51	1.21	0.61	
2004	10	4	2	16	6	7	15	0	3	7	2.77	1.11	3.99	0.79	

^{*} Note - There was one additional ditching in 2009 due to loss of power that was not

recorded as an accident.

2005 GULF OF MEXICO OFFSHORE HELICOPTER ACCIDENT CAUSES/INFO

e	er Loss , mult i- caus e	er	do wn Pro c.	Impro	se Car go	Into Terrai n, Water (CFIT W)	Mg mt	Strike Helide	Oth	l Qu	her	k	Cont rol or HLO Proce d.	ck Desig n or	Engin e
	l cen	шса	1 110	i i i occu	iui e i	xciaicu									
Sing le Eng	3	1	0	0	0	1	2	1	0	0	0	1	0	1	0
Lig ht Twi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
n															
Me d. Twi n	0	0	0	0	0	0	0	0	0	o	0	0		0	0
Hvy Twi n	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
200 5	2	1	0	2	0	0	0	1	0	1	0	1	0	0	0
99-	15	6	1	9	3	7	5	7	1	3	2	5	3	7	4

FIVE YEAR GULF OF MEXICO OFFSHORE HELICOPTER ACCIDENT DATA Injuries

Number Of Accidents	•	Injury C	lassification	Aircraft Damages Aviation Accident									
Aircraft	Categor	Severity	Classification	ì	Rate	es							
y Year #		Eng						#	#	# Fatal			
Accide		elate		_					Fat		Acc		
ts	Fatald	Pax	Cre Injured	_		Substant	ial			-			
			W	al	or	al		k	Acc	ets	Flt		
							Los	Hrs	100)	Stage		
							S		k		S		
									Hrs				

2001 8	1	1	8	3	10	1	3	2	3	$\begin{array}{ccc} 1.7 & 0.2 \\ 7 & 2 \end{array}$ 0.32	0.54
2002 6	1	1	1	2	2	1	0	4	2	$\frac{1.4}{9} \frac{0.2}{5} 0.21$	0.38
2003 15	7	3	17	8	13	12	3	2	10	3.9 1.8 3 4 2.93	1.12
2004 10	4	2	16	6	7	15	0	3	7	2.7 1.1 7 1 3.99	0.79
2005 8	2	2	16	7	18	5	0	4	4	2.0 0.5 5 1 1.21	0.61
5 Yr. Avg. 9.4	3.0	2.2	11.8	5.2	10.2	6.8	3 0.4	3.6	5.2	$\begin{array}{ccc} 2.4 & 0.7 \\ 0 & 9 \end{array}$ 1.71	0.69

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