IHSS 2009
International Helicopter Safety Symposium

Montreal, September 29, – October 1, 2009

Allianz

Aviation Underwriting:

Analysis of risk components of the aviation industry to evaluate and qualify aviation operations using exposure analysis and loss trends to develop pricing models that consistently produce underwriting profits.

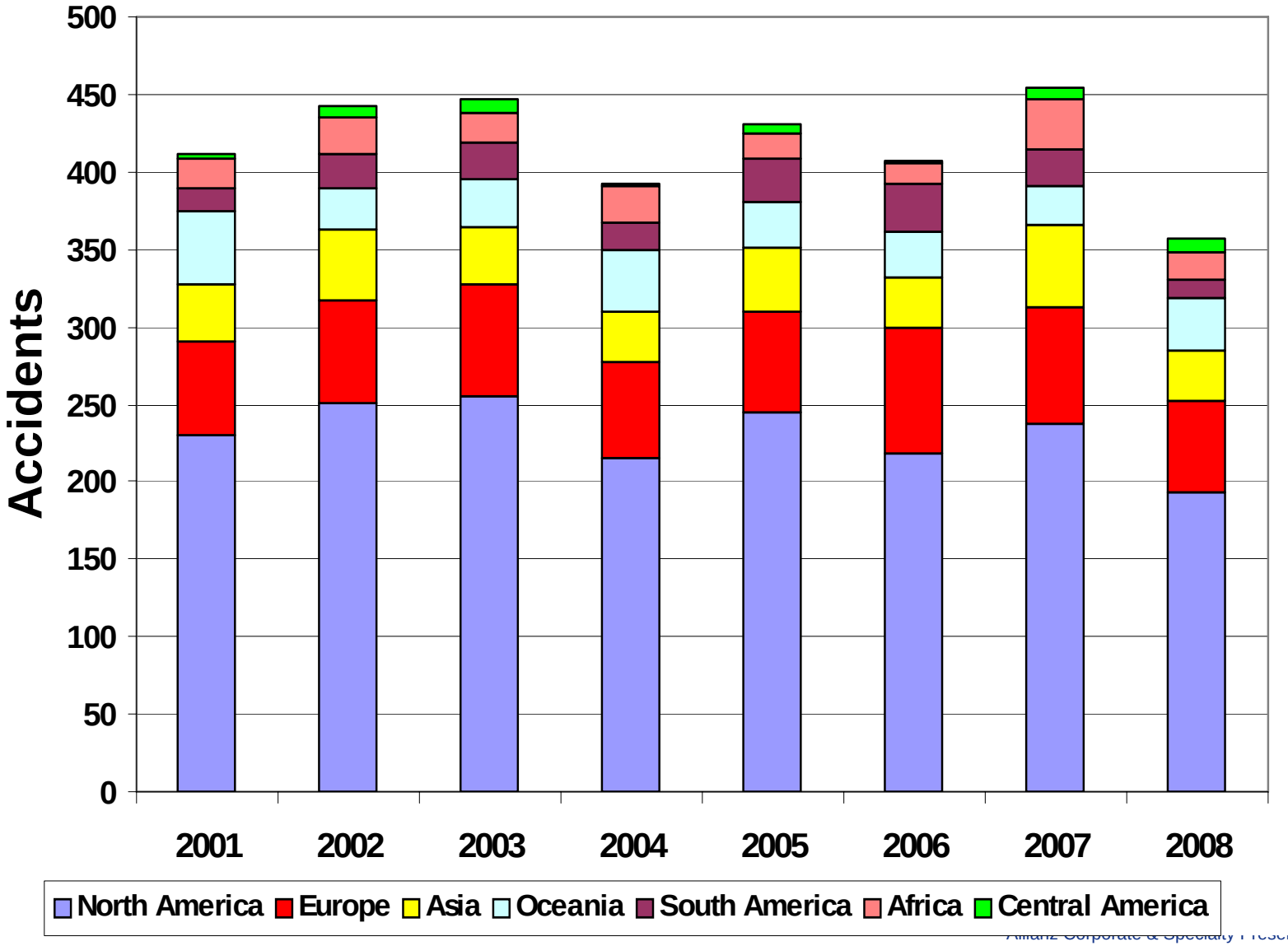
Keys to Effective Underwriting

- Risk Analysis
- Exposure Analysis
- Loss Projection
- Rate Adequacy

Underwriting Tools

- Risk Selection (AET)
- Pricing Tool (technical rate)
- Loss Study (burning rate)
- Industry Involvement (knowledge)

WE HAVE A WORLDWIDE PROBLEM !



U.S. CIVIL TURBINE ENGINE ACCIDENTS

	2004	2005	2006	2007	2008
Accidents	89	89	77	82	61
Fatal Accidents	21	19	12	**14**	**19**
Fatalities	51	33	21	**27**	**59**

U.S. Civil Turbine Engine Accident Rates

(per 100k hours flown)

	2004	2005	2006	2007	2008
Accident Rate	4.41	3.65	3.05	3.14	2.27
Fatal Accident Rate	1.04	.78	.48	**.54**	**.71**
Fatalities Rate	2.52	1.35	.83	**1.03**	**2.19**

What Happened in 2008?

2008 HEMS LOSSES

Average annual HEMS accidents for the 10 year period 01/01/1998 through 01/01/2007 **11.2**

Average annual HEMS fatalities for the 10 year period 01/01/1998 through 01/01/2007 **9.7**

2008 HEMS accidents through 10/17/2008 **17**

2008 HEMS fatalities through 10/17/2008 **29**

AAM 2008 HEMS accidents through 10/17/2008 **8**

AAM 2008 HEMS fatalities through 10/17/2008 **21**

Allianz Aviation Managers
Helicopter Operator Loss Study

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Helicopter Operator Loss Study

Introduction:

In light of the recent catastrophic loss experience in the worldwide commercial helicopter arena and in an effort to develop an effective tool to measure losses along with exposure change on an overall industry basis, individual account basis and industry sub-segment basis, we have developed the following study.

Helicopter Operator Loss Study

Methodology:

Estimating future losses along with the impact of exposure changes will always present a challenge to effective underwriting. Getting the pricing component correct is critical to producing consistently good results but is impossible to achieve without a sound trend monitoring method. This study will focus on capturing actual policy year loss experience, fleet value and average unit insured value changes for a wide range of commercial helicopter operations. This data will then be used to calculate historical burn rates and exposure changes to be used as a rate benchmarking tool.

Helicopter Operator Loss Study

Data Acquisition:

Data fidelity is key to any effective loss trend analysis. In addition to accurate loss data, any known or expected change in exposure must be a part of any study so as to avoid gaps between actual loss and expected loss costs. The favored method for gathering both loss experience and exposure change data is from broker provided underwriting submissions. As policy year loss data matures annual submissions capture any loss development.

Helicopter Operator Loss Study

Industry Sub-segments:

- Offshore Oil Support
- Emergency Medical Services
- Tour Operators
- Utility/Heavy Lift/Firefighting
- Mega Accounts ($10,000,000. premium)

Combined Group Burning Rate

Pol Year	Named Insured	Inception Fleet Value	Fleet #	Average Value	Hull Incurred	Liability Incurred	Hull Burn	Liability Burn	Combined Burn
2004	Combined Group	3,272,773,267	1395	2,346,074	44,063,511	18,371,358	1.35	0.56	1.90
2005	Combined Group	3,711,729,994	1530	2,425,967	30,832,185	16,977,849	0.83	0.46	1.28
2006	Combined Group	4,832,500,173	1759	2,747,300	59,466,417	30779826	1.23	0.64	1.87
2007	Combined Group	5,927,132,136	1876	3,159,452	89,236,726	64379240	1.51	1.09	2.59
2008	Combined Group	6,943,003,371	2118	3,278,094	53,320,412	30824165	0.77	0.44	1.21
		24,687,138,941	8678	2844795.914	276,919,251	161,332,438	1.12	0.65	1.78

EMS Group Burning Rates

Pol Year	Named Insure	Inception Fleet Value	Fleet #	Average Value	Hull Incurred	Liability Incurred	Hull Burn	Liability Burn	Combined Burn
2004	EMS GROUP	542,004,752	339	1,598,834	10,646,004	10,085,809	1.96	1.86	3.83
2005	EMS GROUP	705,068,983	427	1,651,215	2,141,218	907,790	0.30	0.13	0.43
2006	EMS GROUP	824,595,607	487	1,693,215	8,020,096	10471841	0.97	1.27	2.24
2007	EMS GROUP	1,020,852,945	530	1,926,138	18,602,671	30470852	1.82	2.98	4.81
2008	EMS GROUP	1,406,716,627	659	2,134,623	1,785,877	176734	0.13	0.01	0.14
		4,499,238,914	**2442**	**1,842,440**	**41,195,866**	**52,113,026**	0.92	1.16	2.07

Exposure Change Analysis

- Fleet Value / Average Aircraft Value Exposure Change
  - Fleet Modernization has been a Two-Edge Sword
  - Utility/Heavy Lift
  - Demand causing inflated values for used equipment
  - Forecast is for demand to remain high
- Liability Exposure Change
  - Passenger Liability Exposures
  - EMS Community vs. Traditional Models
  - Off-Shore / Deep Water
  - Tour Operations

Conclusions

1. We have a worldwide challenge/opportunity
2. Accident rate (frequency) on the decline but remains unacceptable
3. Increases in exposures (severity) have grown dramatically in recent years (values and seating)
4. Forecast is for continued Exposure Growth
5. Over-Capacity and lack of market leadership stunting a much needed market correction
6. Predicting hull frequency of loss relatively easy but severity of hull loss much more challenging
7. Predicting who will have the large liability loss remains difficult

Opportunities

- Market rates trending slightly upward
- Helicopter industry acknowledgement and willingness to take corrective action
- Advancements in technology should have a positive impact on safety
- Government mandated changes. NTSB Most Wanted List
- SMS, Risk Matrix Profiling, Accreditation Programs, et al, should improve loss trends
- Growth in simulator training options

Thank You