
Bell Helicopter SAM-AIG Regional Meeting

Tony Randall
Manager, Continued Operational Safety

20 March 2014

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Bell Helicopter

Bell Helicopter Proprietary Information

Active Bell Aircraft in South America

Aircraft Type	Variant	Active
Bell 205	A-1	8
Bell 206	A	10
Bell 206	B2	52
Bell 206	B3	190
Bell 206	L-1	16
Bell 206	L-3	39
Bell 206	L-4	29
Bell 206	LT	1
Bell 212	-	58
Bell 222	-	4
Bell 230	-	2

Aircraft Type	Variant	Active
Bell 407	-	81
Bell 407	GX	14
Bell 412	-	10
Bell 412	EP	52
Bell 412	SP	13
Bell 427	-	6
Bell 429	-	24
Bell 430	-	13
UH-1	H	133
UH-1	N	22
UH-1	Huey II	85

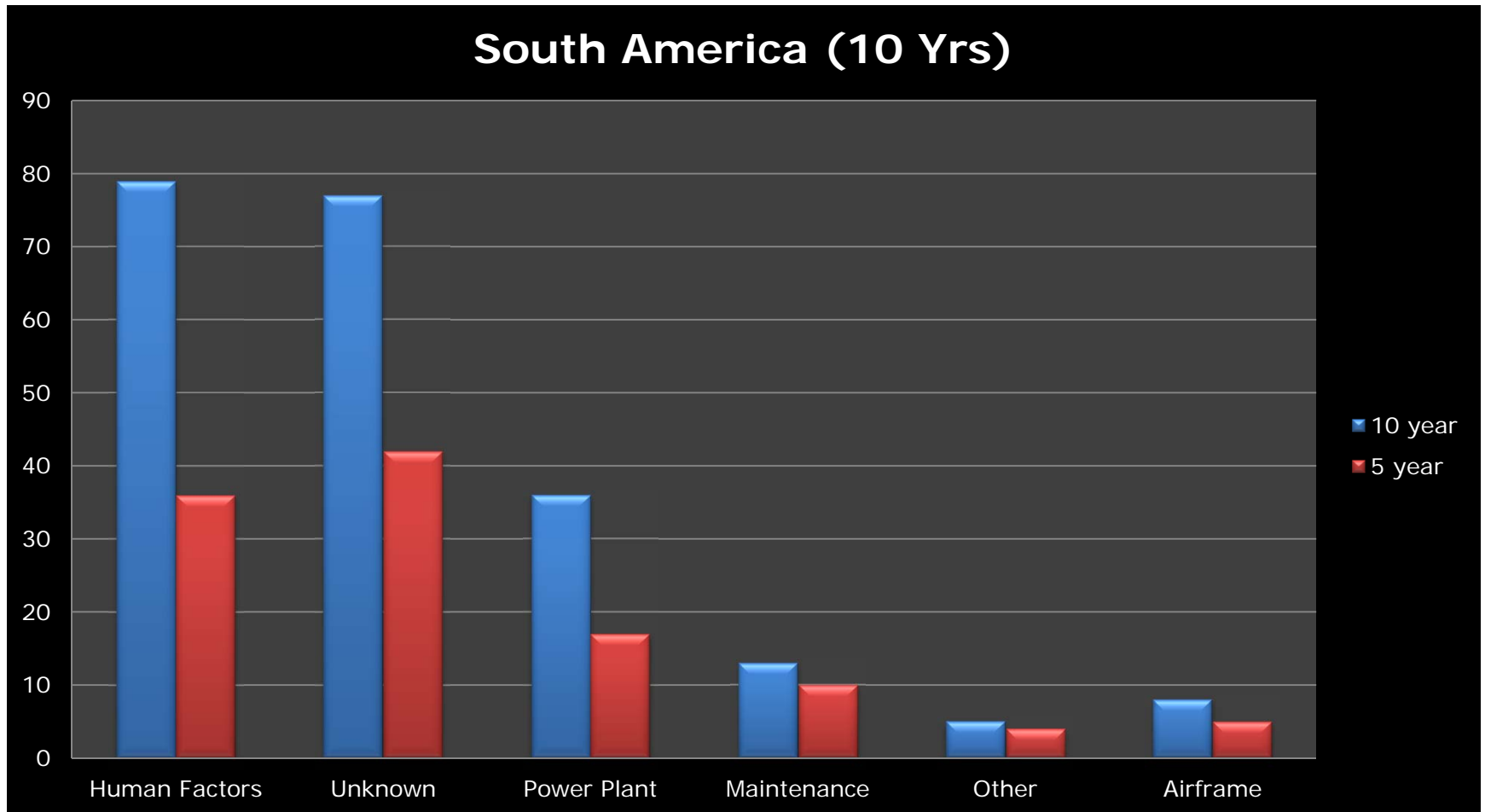
Total - 862

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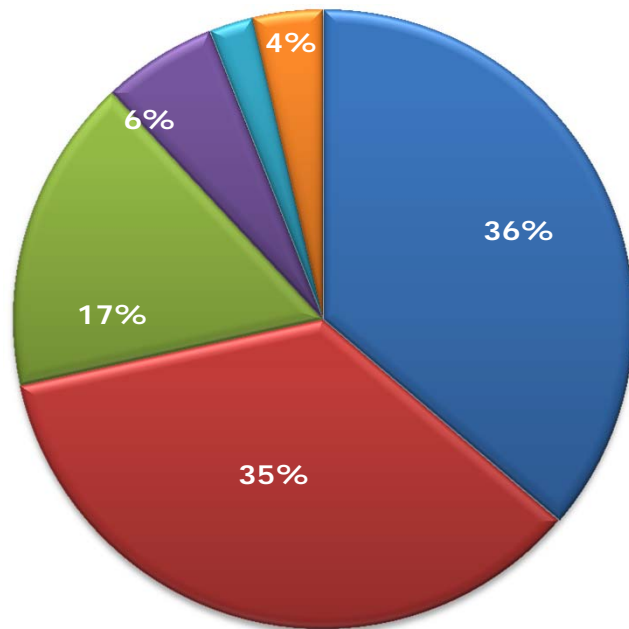
10 YEARS OF ACCIDENTS



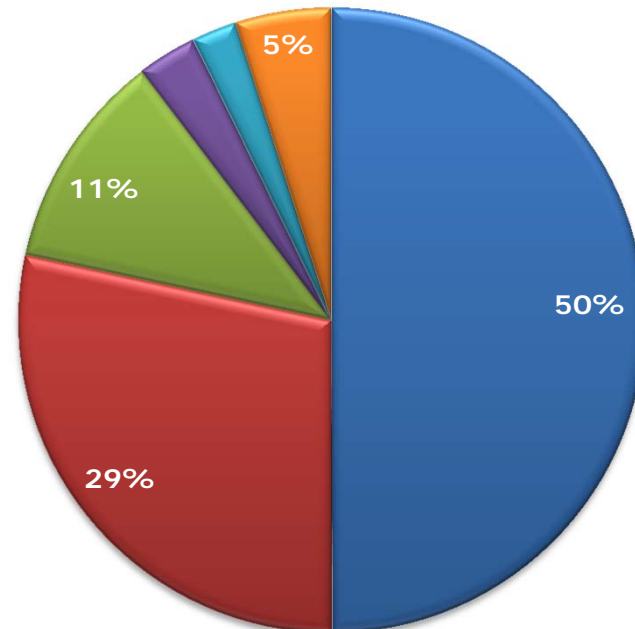
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10 Year Regional - WW Comparison

Region



World Wide Accidents

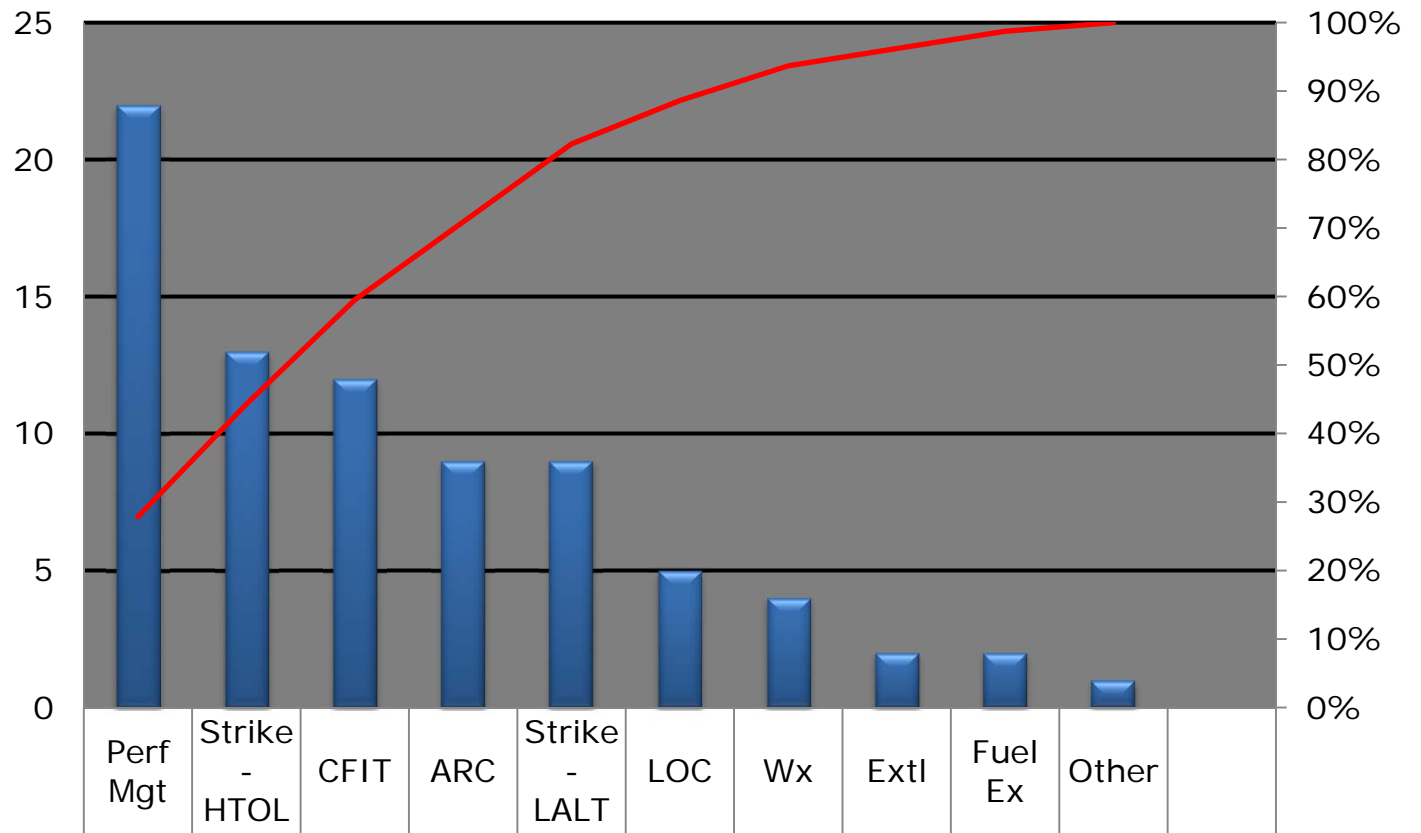


- Human Factors
- Unknown
- Power Plant
- Maintenance
- Other
- Airframe

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10 YEARS OF PILOT ERROR

Pilot Error Cause Factors



Number of Incidents	22	13	12	9	9	5	4	2	2	1	
Cumulative Percentage	28%	44%	59%	71%	82%	89%	94%	96%	99%	100%	

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U.S. Accidents—Bell Reports to either TSB or NTSB

Type	Helicopters	T.C. Held by:	Bell Supports U.S. Investigations as:
Light Light Twins-----	206A/B/B3 206L/L1/L3/L4 407/GX 427 & 429	Transport Canada	Technical Advisor to TSB of Canada Accredited Rep
Intermediate	222/B/U 230 430	Transport Canada	Technical Advisor to TSB of Canada Accredited Rep
Medium	204B 205A1 212 412/SP/HP/EP	FAA	Party member to NTSB directly
Mil Surplus/214	UH-1B/F/H/V OH-58A/C 214B/ST-----	FAA Restricted (3 rd Party) OR Surplus FAA	Party member to NTSB directly

Three Ways Bell Can Help

- **On-Site Support**
 - Before or after recovery of wreckage
- **Follow-On Support**
 - Lab Work
 - Field Investigation Lab (Failure Analysis)
 - Functional Test of Components (Hyd & Electrical)
 - Bell Engineering Analysis
 - Simulation/Recreation
 - Simulation possible if FDR or GPS data exists
 - Recreate flight in FTD if flight information exists
- **Remote Support**—accident photo analysis, research issues and answer questions

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Field Investigations Laboratory Overview

- **F.I. LAB DUTIES**
 - Failure Analysis
 - Document Parts' Condition
 - Dimensional Checks on Parts
 - Detective Work
- **F.I. CAPABILITIES AND EQUIPMENT**
 - Part Disassembly/Tear-Down and Sample Preparation
 - Non-Destructive Examination
 - Microscopes

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Lab Resources Within Bell

- **NDE Group-Eddy Current, Ultra Sound, X-ray**
- **Metrology-Thread Profiles, Gear Profiles**
- **Hydraulic Test Bench**
- **Training Academy**
- **Overhaul Repair Facility**
- **Engineering Support**

ENGINEERING ANALYSIS

- **Fatigue Analysis**
- **Crack Growth Analysis**
- **Acoustical Analysis**
- **Manufacturing and Material Conformity**
- **Simulation and recreation of recovered FDR or GPS information**

TRANSPORTATION SAFETY INSTITUTE

HOME OF THE "NATIONAL AIRCRAFT ACCIDENT INVESTIGATION SCHOOL"

MIKE MONRONEY AERONAUTICAL CENTER, OKLAHOMA CITY, OKLAHOMA



❖ THE AVIATION SAFETY DIVISION OFFERS TRAINING IN

- ✓ AIRCRAFT ACCIDENT INVESTIGATION
 - ✓ BASIC, ADVANCED, AND ROTORCRAFT
- ✓ SAFETY MANAGEMENT SYSTEMS (SMS) AND AVIATION SAFETY PROGRAM MANAGEMENT
- ✓ HUMAN FACTORS
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❖ COURSE MANAGERS AVERAGE MORE THAN 30 YEARS OF AVIATION EXPERIENCE

TRANSPORTATION SAFETY INSTITUTE

UNITED STATES DEPARTMENT OF TRANSPORTATION



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REPRESENTATIVE TUITIONS

(ABBREVIATED COURSE LISTING)

BASIC AIRCRAFT ACCIDENT INVESTIGATION

EIGHT DAYS / TUITION \$ 2066.00

BASIC ROTORCRAFT ACCIDENT INVESTIGATION

SEVEN DAYS / TUITION \$ 2309.00

SAFETY MANAGEMENT SYSTEMS

EIGHT DAYS / TUITION \$ 1850.00

HUMAN FACTORS IN ACCIDENT INVESTIGATION

THREE DAYS / \$ 990.00

EXPERIMENTAL AIRCRAFT ACCIDENT INVESTIGATION

THREE DAYS / TUITION \$ 504.00

HELIPORT EVALUATION

THREE DAYS / TUITION \$ 801.00

FOR INFORMATION CALL **(405) 954-3614**

Report an Accident/Request Support

- **Bell Flight Safety Contacts**
 - *Email:* flightsafety@bh.com
 - *Phone:* (817)280-2676 (Bus. Hrs. 8-4:30 pm)
 - *24-Hour Accident Line:* (817)280-4600
 - During "Off" hours, Bell Security will record accident information & contact Bell investigator
 - Call-back by Bell investigator

General Bell Contacts

- **Websites**
 - www.bellhelicopter.com (Main web site)
 - www.bellcustomer.com (ASBs, TBs, OSNs, ILs)
 - www.bellhelicopter.net (Pubs, must register)
 - FAA/Government entities approved for free access to Bell Pubs, but must register with Govt email address
- **Bell Ft. Worth General Contact Number**
 - (817) 280-2011
 - Automated Operator

Bell Product Support

- **Non-Accident Investigation Technical Info**
- **Commercial Product Support at Bell Canada**
 - Light Helicopters—(450) 437-2862
 - Medium Helicopters—(450) 437-6201
 - Intermediate Helicopters—(450) 437-2077
 - Emails—pselight/psemedium/pseinter@bh.com
- **Military & Surplus Product Support—Ft. Worth**
 - Light (OH-58A/C/D)—(817) 280-5029
 - Medium (UH-1; AH-1; 210)—(817) 280-3548
 - Emails—MTS-light/MTS-medium@bh.com



IHST

International Helicopter Safety Team

Our Vision: An International Civil Helicopter Community With Zero Accidents



IHST

International Helicopter Safety Team

Our Vision An International Community With Zero Accidents



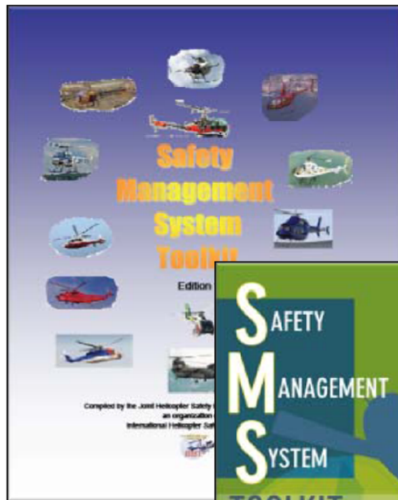
**& Land
& LIVE**
AN HAI PROGRAM



IHST

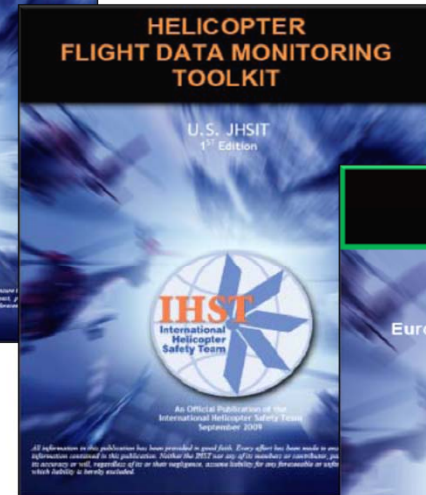
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SMS 1st Edition



Edition 2

Edition 2



Translation of toolkits in progress.



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We encourage you to add the www.ihst.org link to your company website.

Questions

Thank you for your participation!



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