The International Helicopter Safety Team (IHST)

A Bit of History

The IHST came to life in a meeting at the American Helicopter Society International headquarters in early 2004 with participants from the Helicopter Association International, the FAA, helicopter manufacturers and others interested in the reduction of helicopter accidents. In order to get the movement going, the first International Helicopter Safety Symposium was held scheduled for everyone to meet in Montreal, Canada in September 2005. Industry interest and attendance was overwhelming.

Within the calendar time frame of 2001 to 2005, statistical analysis revealed that fatal helicopter accident numbers (not rate) were basically flat. The numbers were not getting better, but they were not getting worse. However, the helicopter industry in the United States was still suffering with around 30-35 fatal accidents per year. The concept of manufacturers, operators and regulators working together was not a new strategy.

“The goal of the IHST is to reduce the helicopter accident rate 80% by 2016. It is not a complicated goal, however, it is an ambitious one!”

Dave is the VP of Flight Safety at Bell Helicopter. Prior to his current role, he was Manager for the FAA Rotorcraft Directorate in Fort Worth, Texas. Additionally, he served as Co-Chair of the International Helicopter Safety Team (I.H.S.T). Dave achieved a 33% reduction in the number of U.S. fatal helicopter accidents through a comprehensive analysis and outreach to different business segments. His accident reduction methodology has been shared with several foreign authorities for implementation.

A former U.S. Army Pilot, Dave served as an instructor pilot, instrument flight examiner, maintenance test pilot and experimental test pilot. His aviation experience includes over 4,000 hours of fixed and rotary wing accident-free flying on 125 different models. He holds an FAA Airline Transport Pilot rating as well as: single/multi engine land/seaplane and helicopter commercial pilot, and CFI ground.

Dave graduated from the University of Tennessee Space Institute with an MS and earned his BS from Embry Riddle Aeronautical University. He also graduated from the USN Test Pilot School. Dave resides in Fort Worth with his wife Diane. They have three sons.

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The Commercial Aviation Safety Team (CAST) began with a similar goal in 1996 and their 76% reduction in fatal accidents was arguably successful. The CAST methodology was then “borrowed” and IHST was born. As one might expect, the concept was fairly simple on paper, but much harder to implement in practice. “Data is data,” which sounds like rhetoric, however, data holds no emotion and when analyzed produces actionable information. It is hard to argue with fact.

How the Process Works

There are two sub-groups of IHST: the Joint Helicopter Safety Analysis Team (JHSAT) and the Joint Helicopter Safety Implementation Team (JHSIT). The JHSAT takes a year’s worth of accident reports and reviews them. The JHSAT report is an accident data breakdown by operational category and causes. The JHSIT then takes the JHSAT report to form programs that implement the JHSAT recommendations. The JHSAT will “close the loop” to document the results (accident/incident data) and whether the accident rate is declining.

To be fair, the question should be: Will it work? Let me use more history which made me believe this approach will work. In an earlier career I was part of the CAST effort. The Mineta National Civil Aviation Review Commission Report (http://www.faa.gov/NCARC/reports/pepele.htm) recommended that industry and the FAA work together and meet the 80% fatal accident reduction goal. CAST’s first 18-24 months were acrimonious. Participant’s behavior was at times barely civil in these meetings. Slowly, trust was established and there was recognition that respect was the center piece of success. In 2006 after 10 years – the data showed a 76% reduction. This is a huge success for the CAST.

Let’s look at a different operation as documented in a 2004 U.S. Army Aviation article. The 160th Special Operations Aviation Regiment (SOAR) conducts helicopter flight operations with light single-engine, medium twin-engine and large twin-engine assets. If we limit the discussion to non-combat operations – the 160th SOAR have an enviable safety record.

Many will, and have argued that they have exceptional aviators and equipment. The issue is not really better crews and equipment – it is and to quote from the Army Aviation’ article, [they] Just do the basics right. What they do have, is strict adherence to Standard Operating Procedures (SOPs), risk management, training standards and leadership. This article was written in 2004. It was in reality a Safety Management System although SMS was not a well understood concept in 2004.

Safety Management Systems are a deliberate approach to the identification, evaluation and mitigation of risk. The IHST has provided an ICAO compliant SMS Tool Kit located at the IHST web site (http://www.IHST.org). Attributes of an SMS are:

1. SMS Management Plan
2. Safety Promotion
3. Document and Data Information Management
4. Hazard Identification and Risk Management
5. Occurrence and Hazard Reporting
6. Occurrence Investigation and Analysis
7. Safety Assurance Oversight Programs
8. Safety Management Training Requirements
9. Management of Changes
10. Emergency Preparedness and Response
11. Performance Measurement and Continuous Improvement

A key point about an SMS is that it’s scaleable. By example, item #11 Performance Measurement. The SMS documentation can be, for a small organization, an Excel spreadsheet and for a large organization, a complete department. The attribute is for the organization to look at the information and then make the appropriate changes. The goal is compliance, NOT complexity.

The IHST is a truly international effort. Members of the ISHT have been to several foreign countries and successfully set up either country or regional efforts. Among these countries/regions are Canada, Europe, Brazil and India.

The IHST model has been largely followed. The exceptions to this model are due to the nature of regional language similarities and differences. The European Helicopter Safety Team (EHST) has a unique challenge. The accident reports are written in language of the country where the accident occurred. It would be impractical for the EHST to have all the reports translated into a common language.

The solution for the analysis effort was to form teams from France, Germany, UK, Italy, Spain, Switzerland, Norway, Sweden, Denmark/Finland and Ireland/Hungary. This allowed teams to analyze the accident and compile the data in an EHEST common format. The EHEST is using a portion of the CAST/ICAO Common Taxonomy Team. Taxonomy is the methodology that categorizes
information into ordered groups.

Brazil is another country that is making good progress as well as Canada. There are plans to visit Dubai this November. The CIS and the Far East are also areas to which inroads will be considered.

The one element which will necessitate a different approach is in Operations Rules for each of the states the helicopter operates. It would be impossible and impracticable to try and create a “one size fits all” set of solutions. The solutions are for each operator to voluntarily implement.

Prove It

What are the results to date? The USA domestic rate is 6.4 accidents per 100,000 flight hours. This is a decline from the 9.1 averaged between the years 2001-2005. The same trend is evident with the international data. The 2001-2005 averaged rates were 9.4 accidents per 100,000 flight hours. The most recent rate is 8.1 for 2007. This really is good news considering that approximately 800 single engine turbine aircraft are being introduced into the rotorcraft population every year. Robinson Helicopter alone will produce 800 aircraft. If the number of accidents resulting in hull losses hold, the net gain to the industry is approximately 1,400 new aircraft entering the market every year for the foreseeable future. This is no small matter.

Take Action

What can you do? An electrical extension cord carries no power. But it does connect electrical power to the tool. Each of you can connect the industry to the safety information being made available. Be aware! There will be opportunities to educate your contemporaries and share the information the IHST will produce. This industry has done great things – Hurricane Katrina and the Tsunami efforts come to mind. Safety is everyone’s business not just the safety officer and the regulatory bodies. Get involved and visit the IHST website: www.IHST.org

* Army Aviation, Page 18:20, “Just do the Basics Right!” by BG Joseph A. Smith and CPT. Andy Caine.