

*by EHSAT co-chair Michel Masson, EASA, and EHEST Communication SG Leader
Duncan Trapp, CHC Helicopter*

1st 2011 meeting of the European Helicopter Safety Analysis Team (EHSAT) of 22 March in Cologne

The final **EHEST Report of 2000-2005 European Helicopter Accidents** was presented at the **4th EASA Rotorcraft Symposium**¹ of 8-9 Dec 2010 in Cologne, a very successful event attended by more than 200 representatives from the helicopter community (manufacturers, operators and regulators) across Europe, the US, and Russia.

In parallel the EHSAT Regional Teams continue the analysis of helicopter accidents which occurred in Europe after 2005 and for some of them, like the UK EHSAT, of accidents before 2000 as well. The Regional Teams will continue the analysis of accidents reports at the rate of approximately one year of accidents per year. The information gained will be used to monitor the effects of future safety enhancements and to identify any emerging safety issues related, for instance, to operational, technological and regulatory developments.

The EHSAT is also considering launching a new safety analysis targeting 2006-2008 and was asked by the European Helicopter Safety Implementation Team (EHSIT) to make a study of Aerial Work accidents.

EHSAT is also represented on the sub group of the CAST ICAO Common Taxonomy Team (CICTT) tasked to revise the helicopter section of their taxonomy. This will allow better coding of helicopter accidents by the Safety Investigation Authorities (SIAs)² and the National Aviation Authorities using ECCAIRS.

EHSAT has also recognised the need to improve estimates of flight hours by aircraft categories in Europe to allow better estimation of accident rates. The International Helicopter Safety Team (IHST) has recently decided to address this matter at international level and has contracted MITRE³ to produce such estimates together with the major manufacturers. Better data will allow improving the monitoring of IHST action towards the objective of reducing the accident rate by 80% by 2016 worldwide. The EHSAT will follow up these developments and is offering to contribute.

1st 2011 meeting of the European Helicopter Safety Implementation Team (EHSIT) of 22-23 March in Cologne

The EHSIT processes the data analysed by the EHSAT to develop, implement and monitor safety enhancement action plans across Europe. So far, the EHSIT was composed four Specialist Teams (STs) on Operations and SMS, on Training, on

¹ <http://easa.europa.eu/events/>

² Formerly called Accident Investigation Boards (AIBs)

³ <http://www.mitre.org/>

Regulation, and on Maintenance. A fifth Specialist Team addressing Technology was created in this meeting.

Jos Stevens, NLR, gave a report on the **EHSIT ST Ops & SMS** on behalf of Stefano Burigana, Elilombarda, lead. Large operators have a Flight Ops Department, FDM data, and often sophisticated Quality and Safety Management Systems. Small operators are often in a very different situation. SMS is essential to identify, assess, and manage everyone's risks and the IHST/EHEST is focusing on two key products: the IHST SMS Toolkit (available free of charge on www.ihst.org) and the Helicopter compatible version of IS-BAO in development (see below), which will contain an SMS module. Both are designed to assist in particular the smaller operator.

The work plan for 2011 consists of:

- SMS Risk Assessment: develop a Guide to assist operators assessing risks inside a SMS program and several tools such as Pre-Flight Risk Assessment checklist.
- SOP standardisation: develop a Guide to assist operators creating company Standard Operating Procedures Manual.
- Safety Promotion: identify or produce promotion material on SMS and develop the Ops & SMS section of the EHEST website.

Walter Schneibel, pilot and NVIS Flight Instructor in REGA, a Swiss Company member of the European HEMS and Air Ambulance Committee (EHAC), has recently joined the team. REGA has renowned expertise in safety management. They have shared with the team a few examples of SOPs.

The EHSIT supports the development of a new version of **IS-BAO** also addressing helicopter operations. An agreement to develop IS-BAO (HE) was signed at the Berlin Air-show on 9 June 2010 by new EHA, the Helicopter Association International (HAI), the British Helicopter Association (BHA), and the International Business Aviation Council (IBAC). IS-BAO is a set of performance-based standards that addresses operations, maintenance, training and other related issues. As well as providing an SMS template it also provides a complete verification audit programme. Benefits are foreseen in particular for small operators. Revision work is performed by an international team led in Europe by Bob Sheffield, Shell aircraft, IHST Director Europe. The new version is expected to be published by IBAC in January 2012.

Gilles Bruniaux, Eurocopter, presented the work and plan of the **EHSIT ST Training** on behalf of Christophe Marchal, Eurocopter Training Services, lead. A first Safety Leaflet on Safety Considerations addressing important subjects such as Vortex Ring; Loss of Tail Rotor Effectiveness; Dynamic and Static Rollover; and Loss of Visual References was published in 2010. The Team has also produced a video on Flying in the Degraded Visual Environment (DVE), which is now published on the IASA-France, EHEST and IHST websites. For 2011 the team plans to produce four new Leaflets on Helicopter Airmanship Planning and Decision Making, Off Airfields Landing Site Guide, and Flight Instructor Flight Risk Analysis, and one new video on Helicopter Mission Preparation Including Off Airfield Landing. For 2012 the plan is to produce a Helicopter Flight Instructor Guide focusing on Human Factor aspects of instruction.

Tony EAGLES, UK CAA, reported on the **EHSIT ST Regulation** work on behalf of Dave Howson, UK CAA, lead. The team has aggregated all related Intervention Recommendations (IRs) coming from the EHSAT and prioritised them using two criteria accounting fatalities. The top five priority subjects are: 1. Data recording; 2. inadvertent entry into IMC/DVE; 3. Flotation, markings and exits; 4. Authority oversight; and 5. Seat and harness design. The final products of the ST Regulation may take the form of proposals for future rulemaking tasks (using standard processes)

addressed to NAAs, EASA, or ICAO depending on applicability; AMC/GM; EASA Safety Information Bulletins (SIBs), or best practices. The standard pre-Regulatory Impact Assessment (pre-RIA) methodology published by EASA is used to assess proposals. The plan for 2011 is to review and agree completed pre-RIA forms for the top 10 consolidated recommendations and to prioritise these top 10 recommendations.

Chaired by Dave Huntzinger, Eurocopter, the **EHSIT ST Maintenance** brought together European and US experts who have volunteered to develop an IHST Maintenance Toolkit. The team proudly announces that this Toolkit is now published on the IHST website. This toolkit is offered as a resource for maintenance technicians everywhere and anywhere in the world. The format is a skeletal reflection of what is known in Europe and some other regions as a Maintenance Organisation Exposition (MOE). The intent of this toolkit is for helicopter operators to assess their existing maintenance activities against these guidelines. Chapter 1 addresses the purpose of the helicopter operator's maintenance organisation, its scope of work, key roles and responsibilities, key policies (e.g. quality and safety) and resource requirements. The remaining chapters give guidelines for maintenance procedures, quality assurance, training and competence assurance, record keeping, HUMS, maintenance support equipment and fuel systems. The toolkit shows best practice used by many operators throughout the world. Many items of best practices are taken from authority regulations such as EASA and the FAA. Others are taken from the Oil & Gas Producers (OGP) standards and individual helicopter operators and major clients of helicopter operators. It is important to note that the operator's relevant Authorities regulations always take precedence over the guidelines.

Design and technology don't rate high on the list of safety issues identified in the 2005-2010 European Accidents Report⁴. But Technology can be a powerful means to improve safety, as it brings solutions to known safety problems, including of operational nature. The **EHSIT ST Technology** has been created in this March meeting to assess the benefit of technologies on mitigating safety issues. For this exercise, safety issues will be expressed using two different taxonomies: Standard Problem Statements (SPSs) used by the EHSAT and the CAST-ICAO Common Taxonomy Team (CICCT) taxonomy⁵ of accident types. Technologies are assessed using a 0-10 score combining safety impact and usability, which mixes Technology Readiness Levels (TRL)⁶ and cost considerations. Technologies include for example predictive ground collision avoidance using digital terrain referenced navigation, light Helicopter HOMP systems, deployable system for crash-load attenuation, and integration of RFID technologies in Helicopter maintenance processes. Led by Jos Stevens, NLR, participation is sought from research organisations such as NLR, DLR, and ONERA, manufacturers and equipment manufacturers, authorities and universities.

Clement Audard, EASA, gave a report on the activities of the **EHEST Communication SG** on behalf of Duncan Trapp, CHC Helicopter, lead. A comprehensive list of organisations and existing distribution networks is under development. This list will be used as an 'entry point' to the helicopter community, focusing on the GA/small operators but also reaching out to pan-European organisations and linking to International forums. The SG has also assembled a list of events where small operators and private pilots can be engaged. Membership details from new EHA can now be used and this may have a fairly strong result in sending information out but further effort must be made to better reach the small operators and the GA community.

⁴ <http://easa.europa.eu/communications/docs/ehest/EHEST%20Brochure.pdf>

⁵ <http://intlaviationstandards.org/>

⁶ <http://www.hq.nasa.gov/office/codeq/trl/trl.pdf>

IHSS 2011 planning is well underway for the event in Fort Worth, Texas, this November 8-9. Along with Bob Sheffield, Shell Aircraft, Duncan Trapp represents the views of EHEST on the Programme Committee. The theme of this edition is "Human Factors: Our Collective Challenge – Our Individual Responsibility." A key challenge in achieving the IHST goal of reducing the helicopter accident rate by 80% by 2016 lies in addressing the human factors in helicopter safety and fostering a culture in which individual members of the international helicopter community (both organisations and people) take personal responsibility for preventing accidents and enhancing safety. The agenda for this meeting will be posted soon and online registration will be available shortly on www.ihst.org.

1st 2011 meeting of the European Helicopter Safety Team (EHEST) of 23 March in Cologne

The EHEST is the plenary body, fixing strategic orientations, approving plans, and making decisions.

The candidature of Luigi Candiani as EHSAT industry co-Chair was unanimously approved. Congratulations to Luigi Candiani who is also member of the EHSAT/EHSIT Italy and of the EHSIT ST Regulation.

EHEST Co-Chair David Huntzinger, Eurocopter, reported on the recent IHST Executive Committee (EXCOM) meeting. The EXCOM is focusing on strategic planning, internationalisation and pooling of resources, and data collection. The EXCOM also plays an essential role in organising IHSS 2011.

EHEST Co-Chair John Vincent, EASA, presented the role of EHEST in the **European Aviation Safety Plan (EASP)**. The first edition addresses 2011-2014 and the plan will be reviewed on a yearly basis. The overall European approach with regard to safety planning combines a Plan, a Program, and a Strategy. The Plan is the technical document while the Programme has more statements of methodological and political nature. The Plan and Program were designed to be presented to ICAO as evidence to comply with the State Safety Program (SSP) requirements, in addition to the National Plans. Developed by the European Commission, the strategy is a higher level document providing direction for aviation safety in Europe. Content of the EASP has been endorsed by the EASA Management Board on 15 Dec 2010. Actions will be voluntarily implemented until the Plan is officially adopted at political level. Actions allocated to the EHEST concern the development and promotion of SMS best practices for helicopter operations, the development of risk awareness and safety promotion and training material and the development of a communication network focusing on small operators and GA (these actions already figure on the EHEST work programme).

Ryan Hunnighaus, FOCA, participated in the meeting as observer. Ryan Hunnighaus is a member of the EASA Safety Advisory Committee (EASAC), a strategic group advising the Agency on the European Aviation Safety Plan and Program. EASAC recognises the expertise provided by the EHEST. The intention is to strengthen the role of the EHEST and of the other ESSI teams⁷ in the implementation and revision of the EASP.

EHEST Secretary Michel Masson, EASA, reported that cooperation has been established with the **Gulf Helicopter Safety Team**⁸ following their invitation to participate in the

⁷ <http://www.easa.europa.eu/essi/>

⁸ <http://gfsc.aero/en/gcchst/Pages/home.aspx>

January meeting organised by the CAA of Sharjah, United Arab Emirates (UAE). Cooperation started on exchanging best practices on night off-shore operations.

EHEST Co-Chair John Black, EHOc, mentioned the invitation by **India** to initiate a SMS synergy with EHEST. This might result in an invitation to visit India to provide a leadership start for SMS and Safety Culture.

Deliverables in brief

- The **EHSIT training video on Flying in the Degraded Visual Environment (DVE)** is published on the IASA-France, EHEST, and IHST websites.
- The **IHST Maintenance Toolkit** has been released for publication on the IHST website.
- A mixed European-US Team is developing the helicopter compatible **revision of IS-BAO**, planned to be published by IBAC in January 2012.

Conferences in brief

- AIRMED 2011 will take place on 24-27 May in Brighton, UK. <http://airmed2011.com/>
- The European Rotorcraft Forum 2011 organised by AgustaWestland will take place on 13-15 Sep in Cascina Costa, Italy. <http://www.erf2011.org/>
- IHSS 2011 will take place on 8-9 Nov in Forth Worth, TX, USA. <http://www.ihst.org>
- The EASA Rotorcraft Symposium 2011 will take place on 7-8 Dec (to be confirmed), in Cologne, Germany. <http://easa.europa.eu/events/events.php>

Background information on EHEST

The EHEST brings together helicopter manufacturers, operators, EASA and National Aviation Authorities, helicopter and pilots associations, research organisations, accident investigators and military operators from across Europe. EHEST has members from organisations including: Eurocopter, AgustaWestland, EASA, UK CAA, MoD UK DASC, IAAA, DGAC France, BEA France, ENAC Italy, CAA Norway, FOCA CH, new EHA, EHOc, EHAc, QinetiQ, RAeS, Irish AAIB, AIB Hungary, UK AAIB, BFU Germany, Bristow Group, CHC helicopter, Shell Aircraft Ltd, NLR, DLR, AviateQ Int., APYTHEL, AIB and CAA Spain, Swiss Helicopter Association, etc.

EHEST addresses the broad spectrum of helicopter operations across Europe; from commercial air transport to General Aviation and flight training activities. EHEST brings together around 130 participants, from which around 70 are actively involved in the analysis and implementation activities.



Governance

- **EHEST co-Chairs:** John Vincent, EASA, John Black, EHOc, and David Huntzinger, Eurocopter
- **EHSAT co-Chairs:** Michel Masson, EASA, and Luigi Candiani, AgustaWestland
- **EHSIT co-Chairs:** John Steel, IAA, José Esteve, INAER, and Gilles Bruniaux, Eurocopter
- **EHSIT Specialist Team Operations & SMS Lead:** Stefano Burigana, Elilombarda
- **EHSIT Specialist Team Training Lead:** Christophe Marchal, Eurocopter
- **EHSIT Specialist Team Regulation Lead:** Dave Howson, UK CAA
- **EHSIT Specialist Team Maintenance Lead:** David Huntzinger, Eurocopter
- **EHEST Communications Sub Group Lead:** Duncan Trapp, CHC Helicopter

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