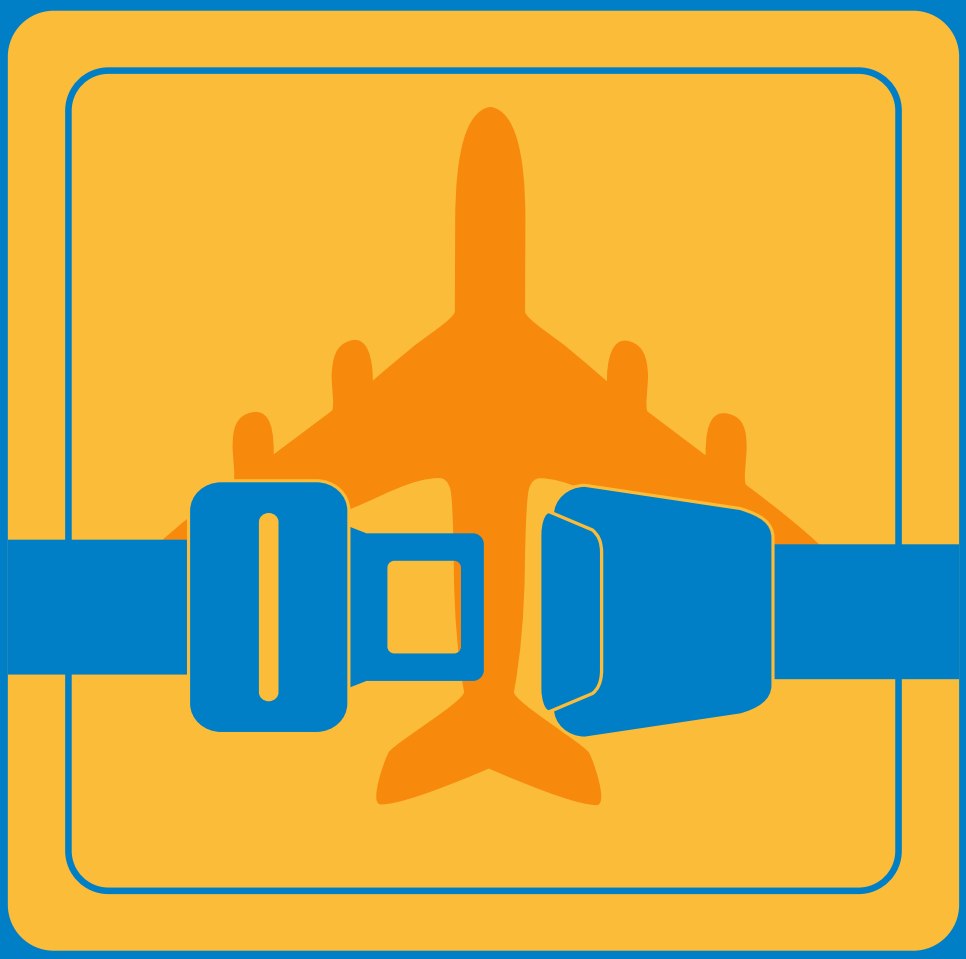
EUROPEAN AVIATION SAFETY AGENCY
AGENCE EUROPÉENNE DE LA SÉCURITÉ AÉRIENNE
EUROPÄISCHE AGENTUR FÜR FLUGSICHERHEIT

Annual Safety Recommendations Review 2013



EUROPEAN AVIATION SAFETY AGENCY
SAFETY ANALYSIS AND RESEARCH DEPARTMENT

Designed in Luxembourg

EUROPEAN AVIATION SAFETY AGENCY
AGENCE EUROPÉENNE DE LA SÉCURITÉ AÉRIENNE
EUROPÄISCHE AGENTUR FÜR FLUGSICHERHEIT

European Aviation Safety Agency
Safety Analysis and Research Department
Executive Directorate

2013 Annual Safety Recommendations Review

Executive summary:

The Annual Safety Recommendation Review is produced by the European Aviation Safety Agency (EASA). This edition provides an overview of the safety recommendations that have been addressed to EASA in 2013. It also presents the replies produced during the year.

This annual review aims at providing a feedback on the follow-up given to Safety Recommendations in the context of openness, transparency and accountability that characterises the European Public Administration.

Apart from its safety related information character, this review is also expected to provide relevant information related to raised safety concerns, both for EASA itself, as well as its stakeholders, including the European public.

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Introduction

Introduction

At European Union level, the principles governing the investigation of accidents and serious incidents are defined in Regulation (EU) No 996/2010 of the European Parliament and of the Council of 20 October 2010 on the investigation and prevention of accidents and incidents in civil aviation and repealing Directive 94/56/EC.

Regulation (EU) No 996/2010 implements international standards and recommended practices as described in Annex 13 to the Chicago Convention on International Civil Aviation. It sets an obligation for each Member State of the European Union (EU) to establish an independent permanent national civil aviation safety investigation authority which shall investigate accidents and serious incidents in order to improve aviation safety and prevent future occurrences without apportioning blame or liability. Investigation reports and the related safety recommendations shall be communicated to the concerned aviation authorities for consideration and appropriate action, as needed.

The Regulation (EC) No 216/2008 as amended ("the Basic Regulation") has transferred to the EU the competence for regulating civil aviation safety in the areas of initial and continuing airworthiness, environmental certification, aircrew licensing, air operations, ATM/ANS and aerodromes. The principal objective of the Regulation is to establish and maintain a high uniform level of civil aviation safety in Europe. Results of accident investigations play an important role in achieving this objective. This is fully recognised in the preamble to the Basic Regulation stating that "Results of air accident investigations should be acted upon as a matter of urgency, in particular when they relate to defective aircraft design and/or operational matters, in order to ensure consumer confidence in air transport".

EASA assigns high priority to the follow-up of safety recommendations. and has established effective procedures to that effect. In addition, EASA publishes this annual review of the safety recommendations handled during the year, including a statistical overview of the situation.

The aim of this annual safety recommendations review is twofold:

- first, the review presents general statistical data of the final safety recommendations that the safety investigation authorities have addressed to EASA in 2013. It gives an overview of the work performed by EASA in the area of safety recommendations.

- second, it presents the replies that EASA has given in 2013 to safety recommendations and shows the safety issues that have been managed and their follow-up.

Overview of Safety Recommendations in 2013

Overview of Safety Recommendations in 2013

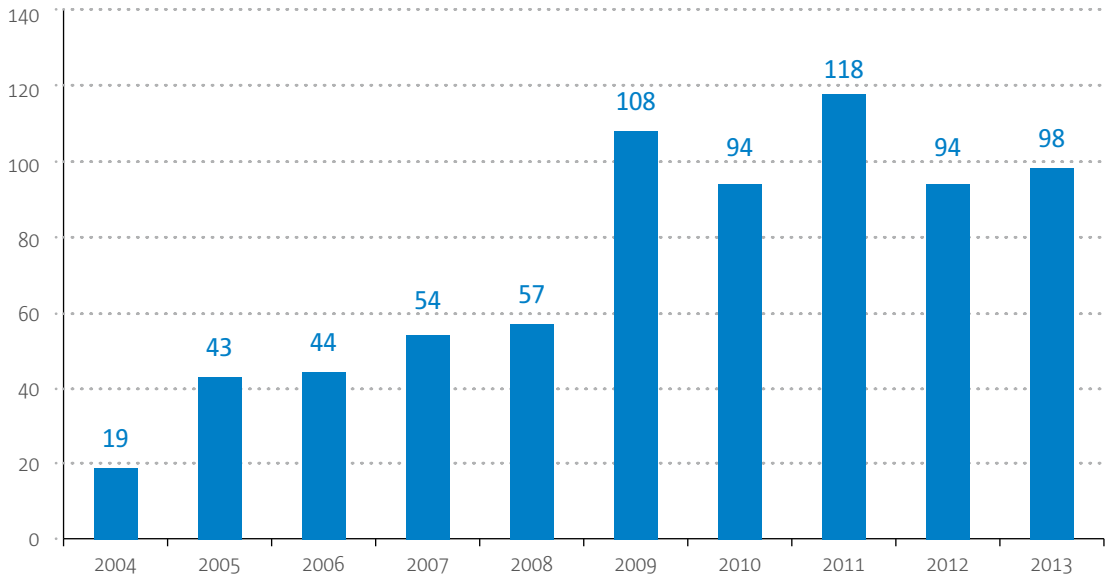
2.1 Safety recommendations received in 2013

During the year 2013, 98 final Safety Recommendations (SRs) were received by EASA. These safety recommendations were related to 3 studies and 43 different occurrences distributed as follows: 27 accidents, 11 serious incidents and 5 incidents.

The total annual number of the final safety recommendations that the Agency has received until 2013 is shown in Chart 1. The number of safety recommendations varies according to aircraft operations and number of safety events.

In 2009 it is observed a significant increase of incoming final safety recommendations that is kept since then.

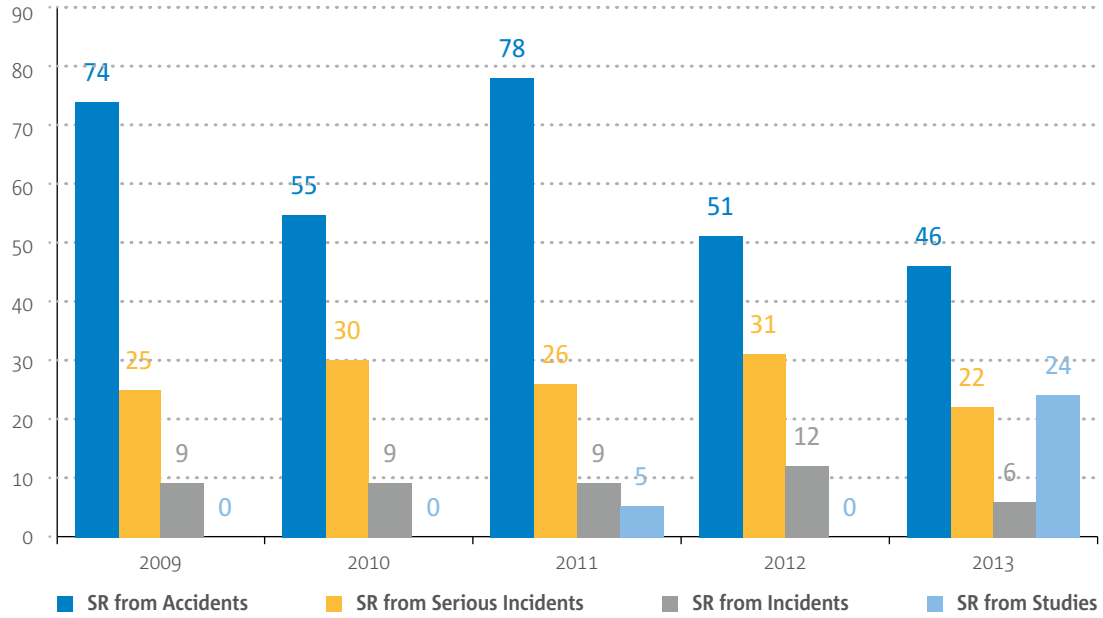
Chart 1: Final Safety Recommendations per year



It is worth mentioning that with similar amount of safety recommendations, there have been 22% less occurrences in 2013 but 3 more studies with respect to 2012.

In Chart 2 it is depicted the amount of safety recommendations coming from different occurrence classes since 2009.

Chart 2: Final Safety Recommendations (SR) by occurrence class per year



As the remit of EASA expanded, final safety recommendations related to this new remit and initially addressed to the Member States have now been transferred to EASA.

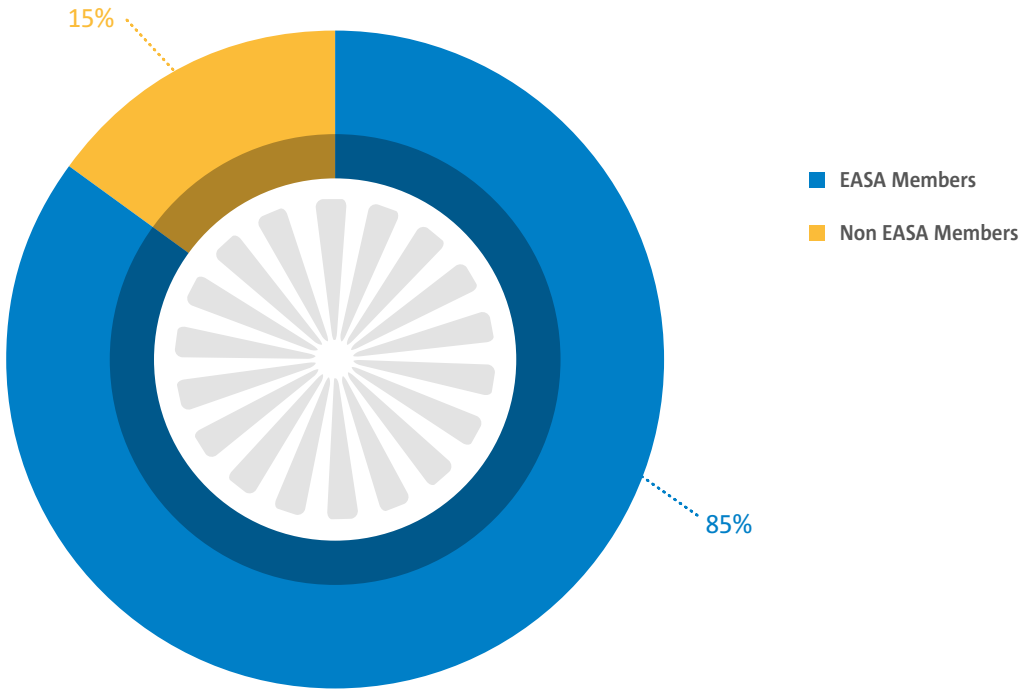
Also in some exceptional cases, EASA, acting on its own initiative, has taken on board final safety recommendations which, although they were not addressed to it, were found to fall within its area of activities.

2.2 Origin of the final safety recommendations received in 2013

In 2013, Safety Investigation Authorities of 17 different States addressed 98 final safety recommendations to EASA.

With the exemption of 6 countries, which addressed to EASA 15 final safety recommendations accounting for 15% of the total amount (5% more than in 2012), the remaining part was issued by EASA Member States.

Chart 3: Final Safety Recommendations received by EASA Member and Non Member States

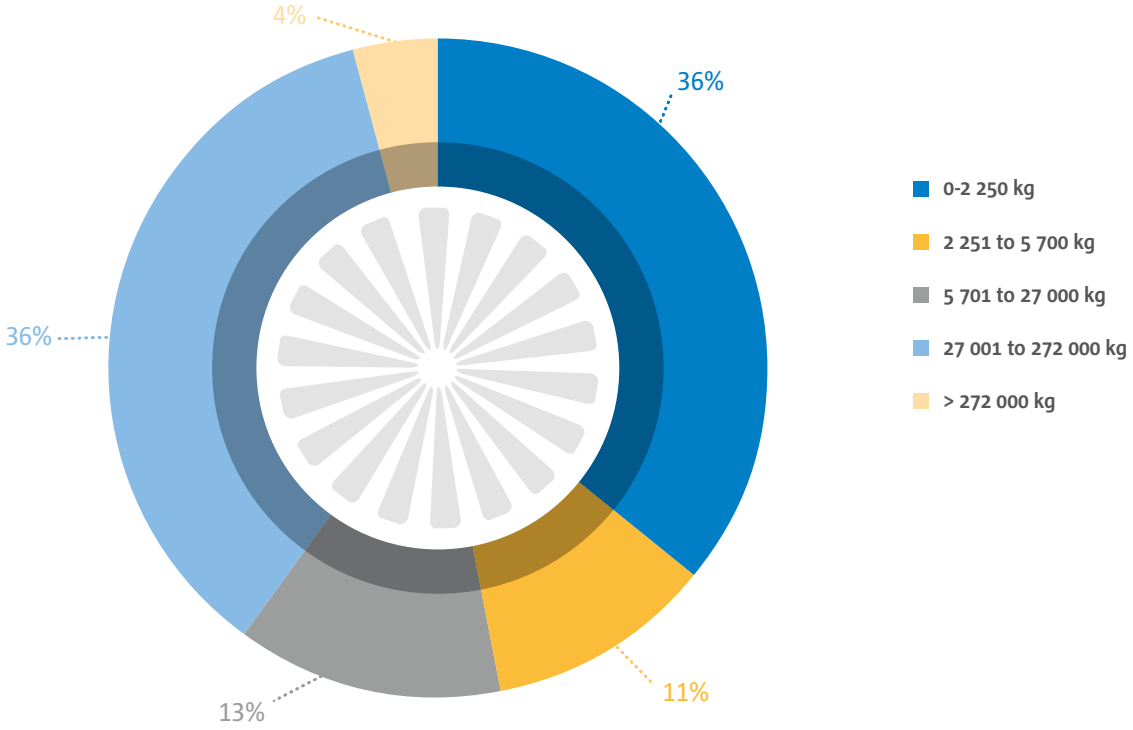


2.3 Trends of investigated occurrences giving way to safety recommendations in 2013, by categories

Drawing up a categorisation from a number of relatively limited events has to be carried out with caution. However, a distribution of the 43 occurrences addressed in 2013 to the Agency, for which safety recommendations were issued, has been done. It is noted that these statistics come from the ICAO ADREP database.

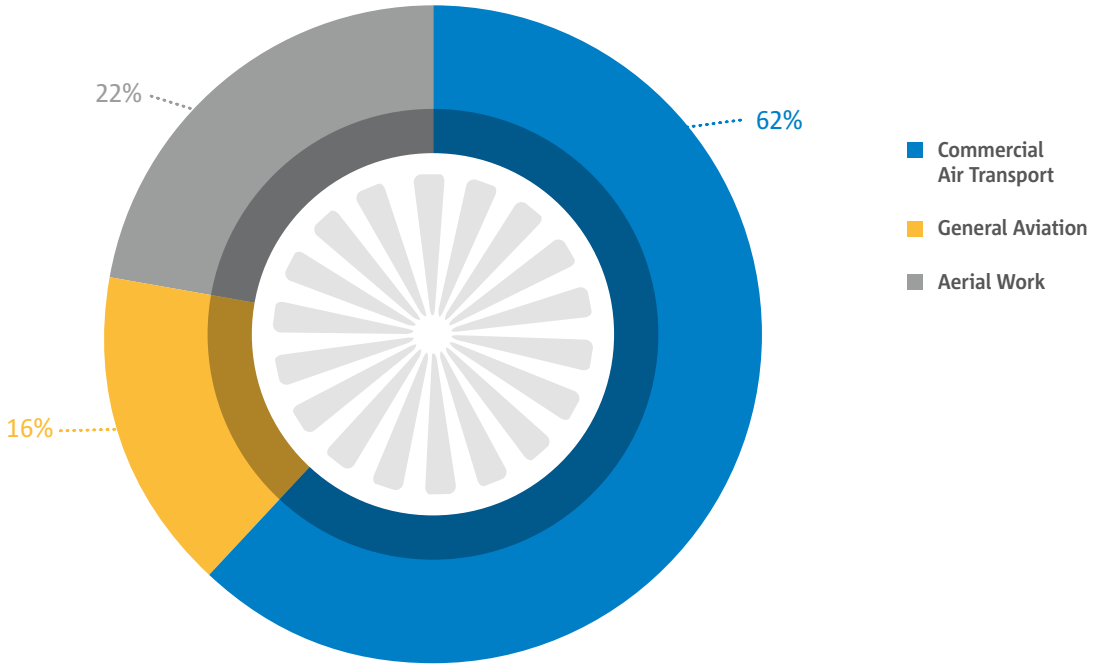
In chart 4, it is observed the percentage of aircraft involved in the referred occurrences by mass group. It shows similar pattern as in 2012, the mass group from 27 001kg to 272000kg (36%) and aircraft below 2 250 kg (36%) are the main participants.

Chart 4: Aircraft mass group involved in the occurrences in 2013



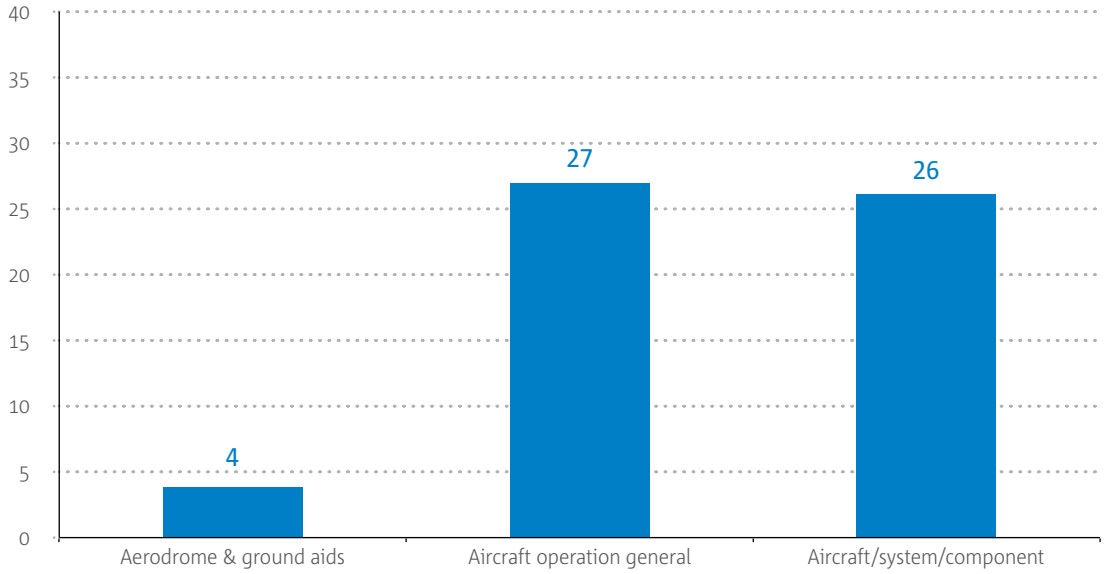
As shown in Chart 5, for 2013, the pattern of the distribution by type of operations changes with respect to 2012. "General Aviation" has decreased significantly from 32% to 16%, "Commercial Air Transport" has maintained the percentage and "Aerial Work" has increased from 7% to 23%. Again, there were not occurrences involving aircraft that conducted "State Flights" in 2013.

Chart 5: Type of operation in the occurrences in 2013



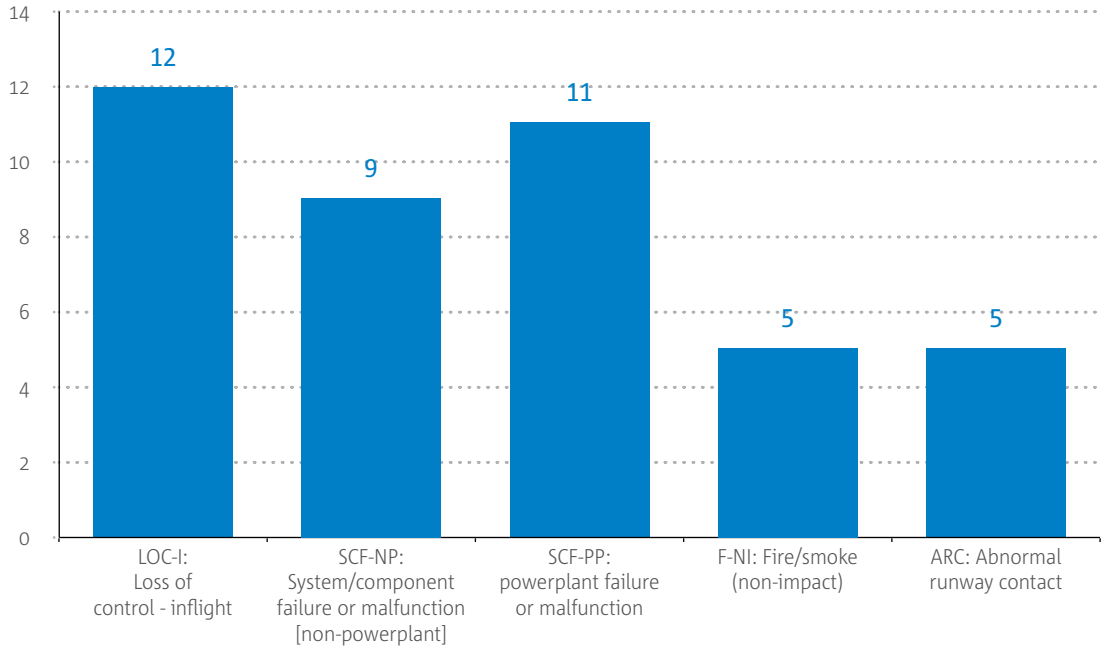
For the year 2013, the categorising occurrences by event type (Chart 6) shows, as the previous year, the events related to the aircraft system or component (27 out 43) and the aircraft operation (26 out of 43) are frequently present, but less than previous year (around 20% less). On the other hand, "Aerodrome & Ground aids" type is present on 4 of the occurrences, increasing from 0 in 2012. "Consequential events" are not depicted. This chart provides a picture of the occurrences´ context.

Chart 6: Number of Occurrences by event type within the total (43) in 2013



In terms of occurrence categories (Chart 7), the most common one found in the 43 occurrences was Loss of Control – Inflight (12); system failures were frequently present too. Fire/smoke and abnormal runway contact complete the list of the main categories in 2013.

Chart 7: Number of occurrences by Category (top 5) in 2013



2.4 Thematic distribution of final recommendations received in 2013

The thematic distribution of the final safety recommendations covers the full range of safety concerns identified by the Safety Investigation Authorities during the investigation process. Depending on the domain concerned, the safety recommendation is allocated to a specific unit that has established responsibilities to act in the domain. The various area in which the EASA is taking actions are as followed.

The Executive directorate (E) concentrates the executive tasks for managing the Agency as a whole. The area in which the EASA is taking action is as followed:

E – Safety Analysis& Research for safety studies and research projects related to safety recommendations follow-up.

The Rulemaking Directorate (R) produces opinions addressed to the Commission and certification specifications, including airworthiness codes and acceptable means of compliance, as well as any guidance material for the application of Regulation and its implementing rules. The handling of Safety Recommendations is dealt with:

R – Product Safety for the initial and continuing airworthiness.

R – Flight Standard for the flight crew licensing and air operations.

R – ATM/Airport Safety for air traffic management and aerodromes.

The Certification Directorate (C) concentrates all certification tasks, consisting of type certification and continued airworthiness of products, parts and appliances; as well as the environmental approval of products; the handling of safety recommendations is dealt with:

C – Large Aeroplanes

C – General Aviation for Normal, Utility, Aerobatic, and Commuter Category Aeroplanes

C – Rotorcraft, balloons, airships

C – Propulsion

C – Part & Appliances

C – Experts section for support and assistance in technical domains

The Approvals and Standardisation Directorate (S) performs inspections, training and standardisation programmes to ensure uniform implementation of European aviation safety legislation in all Member States. It also deals with design organisations and production organisations approval; foreign organisations approval; and coordinates the European Community programme SAFA (Safety Assessment of Foreign Aircraft) regarding the safety of foreign aircraft using Community airports. The handling of Safety Recommendations is dealt with:

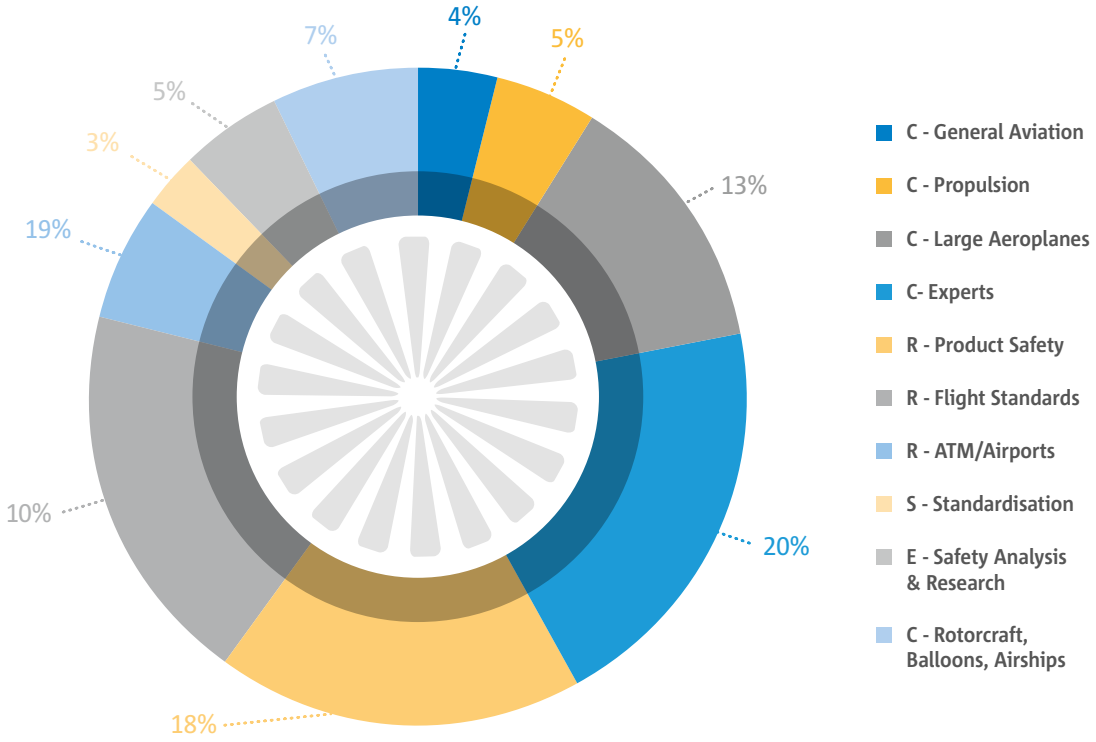
S – Organisations

S – SAFA coordination

S – Standardisation

As shown in Chart 8, in 2013 the final safety recommendations whose content was related to certification issues corresponded to 49% and 43% had a rulemaking character. The remaining 8% came within the field of Safety Analysis & Research and Standardisation.

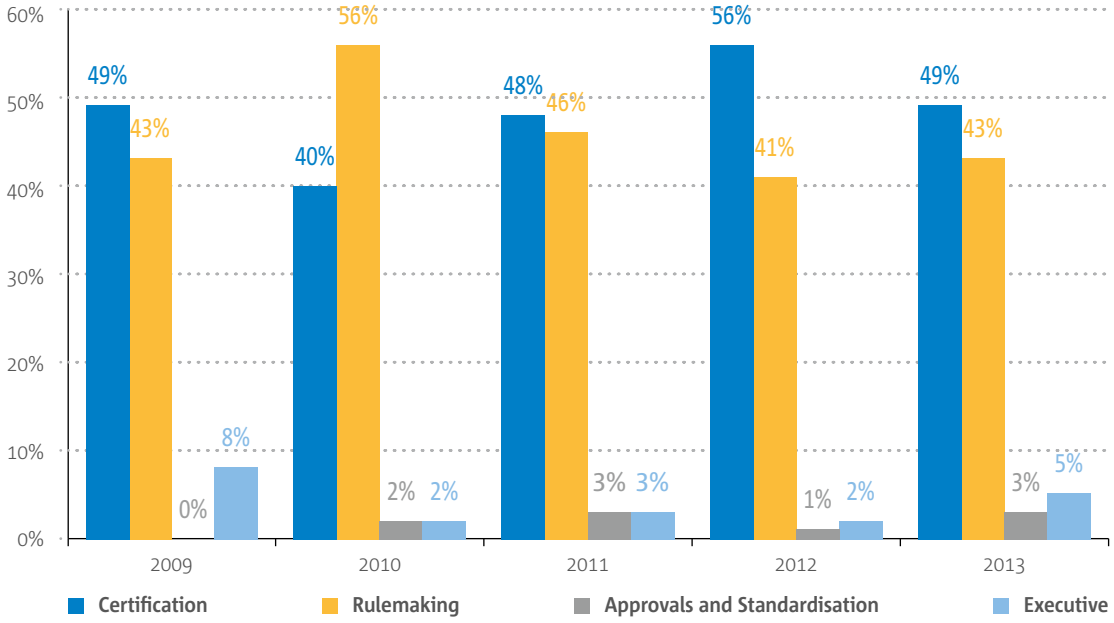
Chart 8: Thematic distribution of Final Safety Recommendations in 2013



Thus, taking into account that there are areas in which EASA's involvement is growing, it is expected that in the future, the number of safety recommendations sent to EASA will further increase, considering the new expanded EASA's competencies to other aviation areas.

In chart 9, it is depicted the trend of thematic distribution by EASA Directorates since 2009. With the exception of 2010, Certification topics are slightly ahead of Rulemaking issues.

Chart 9: Thematic distribution of Final Safety Recommendations by Directorate in 2013



Final safety recommendations replied

Final safety recommendations replied

3.1 Final Safety Recommendations replied in 2013

In 2013, EASA replied to 213 final safety recommendations, concerning 124 different events and 2 studies, similar number of replies compared to the previous year. The final safety recommendations that were reviewed and replied had been received in the following years:

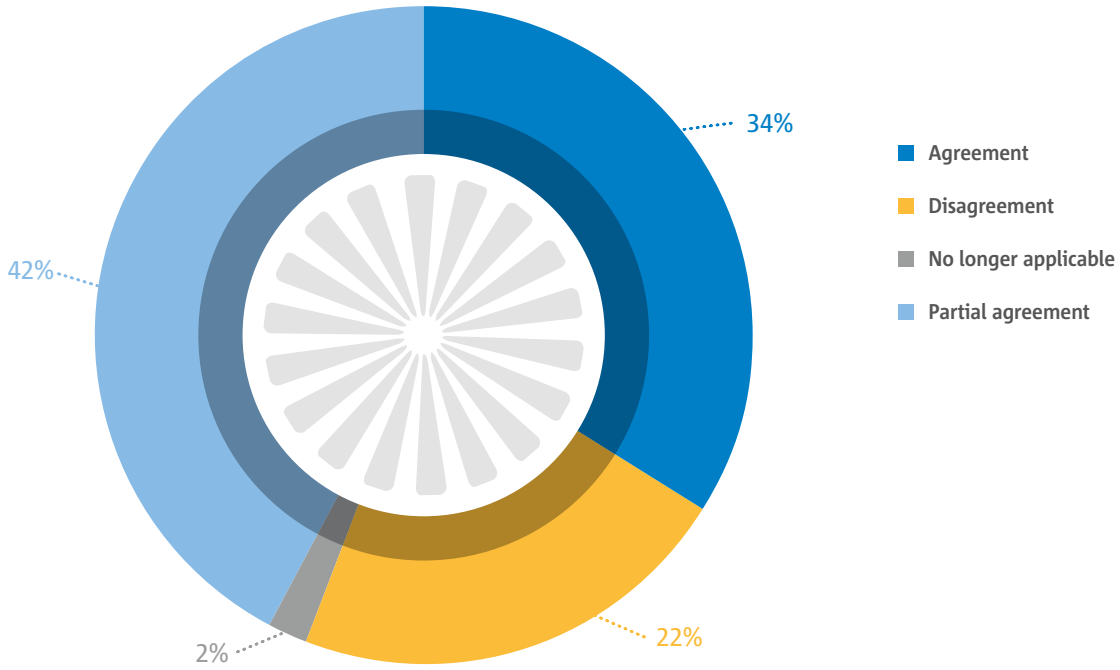
Year of Reception	Number of replies in 2013
2004	3
2005	4
2006	3
2007	6
2008	4
2009	10
2010	23
2011	30
2012	49
2013	81

When the final safety recommendation is closed, it is usually given using the definitions of classification categories[1] given in Annex C.

Thus, in 2013, 122 final safety recommendations were closed. EASA agreed and acted upon the final safety recommendations made by the Safety Investigation Authorities in 34% of the cases. Furthermore, in 42% of the cases EASA partially agreed with the final safety recommendations thus recognising the safety issue but taking other remedial actions as the one recommended. In another 22% the final safety recommendations were not followed, as depicted in Chart 10, meaning an increase of 14% with respect to 2012.

1 These definitions of classification categories have been developed in the frame of an ECAC working group involving European Accident Investigation authorities and are part of a taxonomy aimed at facilitating a the management of safety recommendations.

Chart 10: Categories of closing replies to Final Safety Recommendations in 2013

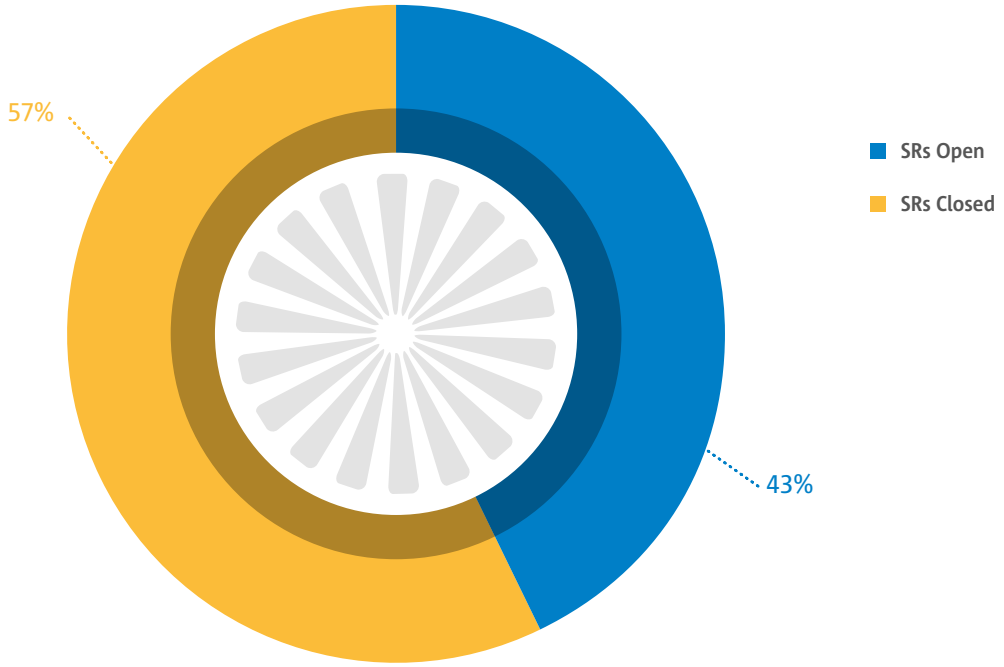


3.2 Status of final safety recommendations replied in 2013

As far as the status of the safety recommendations replied in 2013 is concerned, 122 final safety recommendations were closed (57%), while 91 remained open (43%) as it was assessed that the following activities are not yet completed. In order to ensure the monitoring of safety recommendations, their status remain open until the proposed action has reached a matured stage as displayed in Chart 11.

The percentages are similar to those in 2012. The biggest contribution was in the field of rulemaking and directives issuance (see 3.3).

Chart 11: Status of Final Safety Recommendations replied in 2013



3.3 Concluding actions

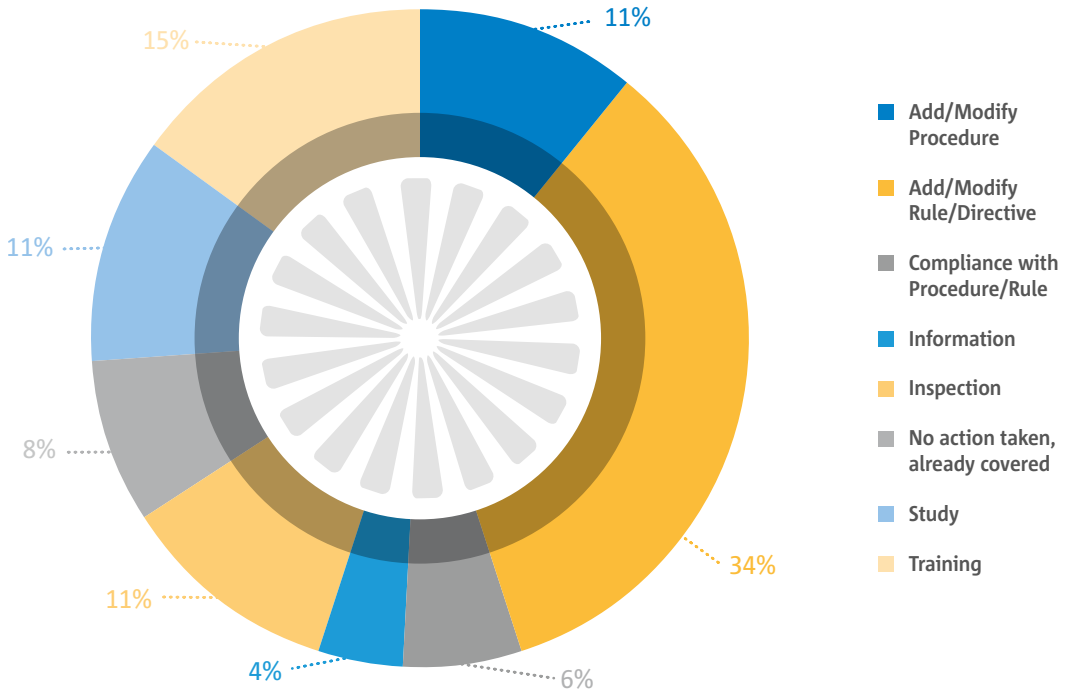
When a safety recommendation is closed, if the closing status is "Agreement" or "Partial Agreement" a concluding action is always decided. Whenever the closing status is "Disagreement", no concluding action will be run.

As shown in Chart 12, the majority of the closed final safety recommendations classified as "agreement" or "partial agreement" led to a new/modified rule/directive (34%) in 2013.

It has to be reminded that rule changes require time, thus affecting the overall picture of the open final safety recommendations. As such, a regulatory modification has a wider impact on the overall aviation system and needs to be carefully assessed before being implemented. Such rulemaking activity requires getting the feedback of stakeholders and needs a minimum of stability and continuity to be implemented by organisations and States.

This is why the processing of some rulemaking activities and associated recommendations can take years. Since 2011, once the Terms of References for a Rulemaking Task are published, the Safety Recommendation is closed. The traceability of the following rulemaking process and its deliverables is then fully available online on the EASA website, thus allowing an easy monitoring of the recommendation follow-up till the final publication of the rule.

Chart 12: Concluding actions taken from Safety Recommendations in 2013



The definition of actions included in each category is given in Annex C.

Since 2011 a process to assess and mitigate risks at European level has been established as an integral part of the European Aviation Safety Programme (EASP). It represents a move towards a more pro-active approach that attempts to anticipate potential safety risks in order to further reduce the likelihood of an accident. The outcome of this process is a European Aviation Safety Plan (EASp), which describes what the major risks in Europe´s aviation system are together with the numerous actions that are underway to mitigate them. Information about this new process can be found at www.easa.europa.eu/sms.

Safety Recommendations contain information on the hazards as well as the solutions that are proposed to mitigate the associated safety risks to the aviation system. They constitute a knowledge base and are therefore a valuable input to the safety risk management process at European level. Several EASp actions originate from Safety Recommendations received by the Agency.

3.4 CONCLUSIONS

Since 2009, the number of final safety recommendations addressed to EASA is sustained, being 98 in 2013.

While the safety recommendations coming from occurrences have a downward trend, in 2013 a significant contribution of the studies must be pointed out, namely over 20% of total.

The total amount of EASA replies to safety recommendations (255 in 2013) is similar to the previous year.

The majority (85%) of the 98 final safety recommendations has been addressed to EASA by the Safety Investigation Authorities of the EASA Member States, but the Non EASA Members have increased in 5% their contribution to EASA.

The most common occurrence category in the reports leading to safety recommendations to EASA was Loss of Control – In flight. Furthermore, System failures were frequently present too.

The largest portion of the safety recommendations received in 2013 have implications on the certification activity (49%) and rulemaking (43%). With the exception of 2010, the distribution is kept similar since 2009.

Replies to Recommendations in 2013

Replies to Recommendations in 2013

The responses made in 2013 to Final Safety Recommendations are listed below. In the case of multiple replies sent during the year, only the latest reply is provided. They are sorted by country of origin and grouped by occurrence.

Australia

Registration	Aircraft Type	Location	Date of event	Event Type
VH-OQA	AIRBUS A380	Singapore Aerodrome 144° M 33K	04/11/2010	Accident

Synopsis of the event: On 4 November 2010, while climbing through 7,000 ft after departing from Changi Airport, Singapore, the Airbus A380 registered VH-OQA, sustained an uncontained engine rotor failure (UERF) of the No. 2 engine, a Rolls-Royce Trent 900. Debris from the UERF impacted the aircraft, resulting in significant structural and systems damage.

The flight crew managed the situation and, after completing the required actions for the multitude of system failures, safely returned to and landed at Changi Airport.

Safety Recommendation ASTL-2013-039 (ATSB):
The Australian Transport Safety Bureau recommends that the European Aviation Safety Agency, in cooperation with the US Federal Aviation Administration, review the damage sustained by Airbus A380-842, VH-OQA following the uncontained engine rotor failure overhead Batam Island, Indonesia, to incorporate any lessons learned from this accident into the advisory material.

Reply:

The Agency is reviewing the available data from this event and is cooperating with the Federal Aviation Administration.

Further information on the Agency's actions and decisions is expected to be provided in an updated response.

Status: Open – **Category:**

Austria

Registration	Aircraft Type	Location	Date of event	Event Type
	BELL 204	Maria Alm, Ortsteil Hinterthal, Bereich Gabühel, Austria	23/07/2010	Accident

Synopsis of the event: Der Pilot startete nach einer wetterbedingten Pause am 23. Juli 2010 mit dem Hubschrauber der Type Bell 204B zu einem Arbeitsflug (Außenlastflug mit Betonkübel) von einem Außenlandeplatz (Start- und Landeplatz) zum zu errichtenden Fundament einer Seilbahnstütze. Der Pilot als einziger Insasse befand sich am Kopilotensitz und navigierte durch das Bubble Window. An beiden Rändern der steil ansteigenden Lifttrasse befanden sich Bäume. Das vom Piloten ausgewählte Seil mit Gehänge hatte eine Gesamtlänge von 25m. Der Hubschrauber berührte nach dem Entleeren des Betonkübels beim Wegdrehen nach links mit dem Heckrotor einen Nadelbaum. Der außer Kontrolle geratene Hubschrauber drehte sich daraufhin im Uhrzeigersinn und stürzte in den Wald. Der Pilot erlitt tödliche Verletzungen, am Hubschrauber entstand Totalschaden.

Safety Recommendation AUST-2011-010 (AAIB):

Bell Helicopter Textron; FAA; EASA. Es sollten die technischen sowie flugbetrieblichen Unterschiede der beiden Hubschrauber Typen Bell 204B und Bell 205 im Detail evaluiert werden und die Notverfahren (Emergency Procedures: Directional Control Failure) im Flughandbuch AFM 204B entsprechend angepasst und erweitert werden. (SE/UUB/LF/10/2011)

Reply:

The Rotor Flight Manual (RFM), in accordance with the applicable rules (27/29.1581 & subsequent), provides the pilot with instructions in order to allow proper reaction to an emergency condition. These procedures are based on experience acquired in the operation of helicopters, in general, and on flight tests conducted during the Type Certificate (TC) process.

For the specific case, the B204 RFM emergency procedure for direction control failure provides an emergency procedure requiring an immediate autorotation landing for which additional information are detailed in the specific paragraph dealing with the autorotation manoeuvre. The instruction provided by the B204 RFM can be considered adequate to act in response to an emergency condition related to the tail rotor (TR) loss of control. It is important to take also into account that these instructions have been in place (for the Bell and Agusta models) for operators and pilots.

The more detailed instruction provided by B205 RFM for the same malfunction are mainly related to the identification of partial tail rotor loss of control condition. They do not provide additional information for the specific model but just highlight general considerations and advises on the helicopter behaviour following a TR loss of control that are typically part of basic pilot training courses.

Based on the above, EASA considers that the requested instructions of the B204 (and consequently AB204, too) RFM emergency procedure related to the tail rotor loss of control occurrence (direction control failure) are adequate.

Status: Closed – **Category:** Disagreement

Safety Recommendation AUST-2011-011 (AAIB):
FAA; EASA. Um dem erhöhten Gefahrenpotential bei Arbeitsflügen (Außenlastflügen) zu begegnen, sollten Hubschrauber mit aufprallresistenteren Pilotensitzen, die zumindest annähernd den gültigen Zertifizierungsvorschriften CS 27 (FAR 27) und CS 29 (FAR 29) entsprechen, ausgerüstet sein. In diesem Zusammenhang sollte die Gewährung von Grandfather Rights (CAR 7) überdacht und in einem geeigneten, technisch möglichen Ausmaß evaluiert und Verbesserungen im Bereich der Aufschlagsicherheit und der Rückhaltesysteme vorgenommen werden. (SE/UUB/LF/11/2011)

Reply:

All rotorcraft type-certificated to EASA Certification Specifications (CS) 27 or CS-29, Joint Aviation Requirement (JAR) 27 or JAR-29, or Federal Aviation Administration (FAA) Part 27 (from Amendment 27-25 dated November 1989) or FAA Part 29 (from Amendment 29-29 dated November 1989), are required to meet the dynamic impact requirements for seats and occupant restraint systems. Where application for type-certification was received before the FAA rules amendments mentioned above, the rotorcraft may not meet the dynamic impact requirements.

To establish the case for retroactive application of the dynamic impact requirements to earlier rotorcraft, the Agency will, before December 2013, undertake a Preliminary Regulatory Impact Assessment (Pre-RIA) to determine both the safety benefits and the impacts on existing rotorcraft and their operation. Any future Agency action will be dependent on the outcome of the Pre-RIA.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
	CESSNA F182	Flugplatz Gmunden, Austria	29/05/2011	Accident

Synopsis of the event: Nach dem Start am Flugplatz Gmunden fiel während des Steigfluges die Drehzahl des Triebwerkes TCM O-470-U von 2400 RPM auf 1500 RPM ab. Bei der Notlandung auf der Piste 26 des Flugplatzes Gmunden überschoss das Luftfahrzeug das Pistenende. Bugfahrwerk und Propeller wurden beschädigt. Der Drehzahlabfall ist wahrscheinlich auf eine vorübergehende Beeinträchtigung der Kraftstoffzufuhr zurückzuführen, deren Ursache jedoch nicht feststellbar war. Aufgrund hoher Aufsetzgeschwindigkeit in Verbindung mit spätem Aufsetzen auf der Piste konnte das Luftfahrzeug nicht innerhalb der verbleibenden Pistenlänge zum Stillstand gebracht werden.

Safety Recommendation AUST-2012-008 (AAIB):
Nr. SE/UUB/LF/8/2012, ergeht an EASA und nationale Zivilluftfahrtbehörden:

Die Lufttüchtigkeitsforderungen für die Kalibrierung der Kraftstoffvorratsanzeigen gemäß CS-23, Certification Specifications for Normal, Utility, Aerobatic, and Commuter Category Aeroplane, sehen lediglich vor, dass das Erreichen des nicht ausfliegbaren Kraftstoffvorrats im Horizontalflug exakt angezeigt wird (CS 23.1337 (b) Fuel quantity indicator: ... calibrated to read “zero” during level flight ...).

Zur Bestimmung des ausfliegbaren Kraftstoffvorrats sollte neben einer exakten und lückenlosen Führung des Bordbuches hinsichtlich Flugzeiten und Kraftstoffaufnahmen die Verwendung einfacher Messvorrichtungen durch die Flugbesatzung zur Bestimmung der Füllhöhe des Kraftstofftanks unabhängig vom angezeigten Kraftstoffvorrat vorgesehen werden.

Reply:

In addition to the mentioned CS 23.1337(b)(1) requirement for fuel quantity indicators during flight, CS 23.1337(b)(4) requires the following:

"(4) There must be a means to indicate the amount of usable fuel in each tank when the aeroplane is on the ground (such as by a stick gauge)."

The Agency considers that this meets the intent of this safety recommendation.

Status: Closed – **Category:** No longer applicable

Registration	Aircraft Type	Location	Date of event	Event Type
	CESSNA 172	Ebul, Belgium	02/01/2010	Accident

Synopsis of the event: The airplane took off from the airfield of Ursel at 15.00 UTC with two persons on board for a local flight. Around 15:20 UTC, the meteorological conditions around Ursel degraded rapidly, involving an important snowfall. At 15:40 the airfield staff called by radio the OO-TRB without success. Later after contacting the neighbouring airfields it became evident that the airplane was missing. A search action was initiated, involving a SAR helicopter from the Military and a Federal Police helicopter. The wreckage of the airplane was found around 21:00 UTC at a short distance North of the airfield. The two occupants were fatally injured.

Safety Recommendation BELG-2010-007 (AIB):
AAIUbe recommends the BCAA/EASA to promote that pilots activate systematically the transponder (if installed), not only to facilitate air traffic control but also in order to eventually reduce the time to find a crashed airplane.

Reply:

During 2013 the Agency will publish a Notice of Proposed Amendment (NPA) under RMT.0601 "Requirements of air Navigation Service Provision" (former 'SERA PART C'), aiming at complementing the Single European Rules of the Air included in Commission Implementing Regulation (EU) No 923/2012. It is recalled that SERA regulations transpose and make mandatory selected ICAO SARPS and PANS provisions.

As regards the use of SSR transponder, the Agency will propose to transpose into implementing rules, and therefore making it a mandatory provision, the content of PANS-OPS-Vol I-Part III- Section 3, Chapter 1, 1.1.1, such as:

(currently identified as draft SERA.13001):"Operation of SSR transponder

When an aircraft carries a serviceable transponder, the pilot shall operate the transponder at all times during flight, regardless of whether the aircraft is within or outside airspace where secondary surveillance radar (SSR) is used for ATS purposes."

This specific provision is complemented by the transposition of other provisions from PANS-OPS and PANS-ATM regarding the use of the SSR codes for ATS purposes which, within the NPA, are all grouped under a single Section (currently identified as draft Section 13 'Use of SSR transponder').

Status: Closed – **Category:** Agreement

Belgium

Registration	Aircraft Type	Location	Date of event	Event Type
	AVIONS ROBIN DR400	a field in the Commune of Pecq, Belgium	02/08/2011	Serious incident

Synopsis of the event: At the end of a gliding flight exercise the engine did not respond to the command when the pilot pushed the throttle forward. The pilot moved the throttle several times forward causing the engine reviving briefly before returning to low speed. At 400 ft, the pilot selected a wheat field adequate for a forced landing and landed the airplane successfully.

Safety Recommendation BELG-2011-023 (AIB):

Recommendation Number 2011-P-23 to EASA to request the airframe TC holder to publish a detailed guideline in order to:

- Properly inspect and, if necessary, repair the exhaust shrouds and mufflers allowing penetration of contaminants in the carburettor heat induction system;

- Adequately drain, rinse or flush the carburettor float chamber.

Reply:

EASA, together with the Type Certificate Holder, has been reviewing the case from both a design and maintenance point of view. Revised maintenance instructions have been drafted and are under evaluation for approval.

Status: Open – **Category:**

Safety Recommendation BELG-2011-024 (AIB):

Recommendation Number 2011-P-24 to EASA to request the airframe TC Holder to improve the design and/or the manufacture of carburettor heat induction system in order to avoid penetration and/or retain of contaminant inside the carburettor heater system.

Reply:

EASA, together with the Type Certificate Holder, has been reviewing the case from both a design and maintenance point of view. A design solution has been identified and is under evaluation for approval.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
	DIAMOND DA42	EBAW Airport	25/04/2012	Incident

Synopsis of the event: After refuelling and performing a pre-flight check without any findings, the airplane took-off from EBAW airport. The first part of the take-off was uneventful, but in crosswind leg at approx. 400 ft AGL, the crew noticed a yaw to the right and a loss of RPM and load on engine #2. The instructor observed a white smoke coming out of the nacelle of the engine. He considered this as being an engine fire and took over controls. He switched off the master switch of engine #2 whereupon the propeller blades were feathered correctly. In downwind, he made a mayday call to EBAW TWR, stating they had an engine fire and requested a clearance for an emergency landing. The landing further happened uneventful except that there was no nose gear green light indication (While the nose wheel landing gear was actually extended and secured).

Safety Recommendation BELG-2012-015 (AIB):

AAIU(be) recommends EASA to publish an Airworthiness Directive rendering mandatory the application of Service Bulletin TM TAE 125-0022, Rev. 0 entitled "Sealing the crankcase Assembly Opening" [2012-P-15]

Reply:

The European Aviation Safety Agency has issued on 22 May 2013 the Airworthiness Directive EASA AD 2013-0109 regarding Thielert Aircraft Engines – TAE 125-01, rendering mandatory the application of Service Bulletin TAE TM/SB No. TAE 125-0022, Initial Issue, dated 08 August 2012 and/or future revisions.

Status: Closed – **Category:** Agreement

Brazil

Registration	Aircraft Type	Location	Date of event	Event Type
PR-MBB	AIRBUS A320	Natal, Rio Grande do Norte State	17/12/2007	Serious incident

Synopsis of the event: The serious incident in question involved an Airbus 320 232 aircraft, on a flight operated by TAM Airlines, originated in Natal International Airport (SBNT) and destined to Brasilia International Airport (SBBR). After leveling at FL380 (38,000ft ASL), the aircraft sustained a sudden loss of power, with the N1 parameters going below 52%, which consequently set up a complete engine flameout due to lack of fuel supply in both engines. The aircraft got temporarily without electrical power, and the crew performed the procedures for restarting the engines. After losing about 6.000ft and having restarted the engines, the captain chose to return to SBNT, where the aircraft landed successfully. There was no injury to the occupants of the aircraft. The aircraft sustained no damage. In Natal, the aircraft remained on the ground until the investigation of the serious incident gathered information which allowed the aircraft to resume its flight condition. The investigation of the event had the participation of representatives of the operator, of a BEA Accredited Representative from France, the State of Manufacture of the aircraft and of an NTSB Accredited Representative from the United States of America, State of Manufacture of the aircraft engines.

Safety Recommendation BRAZ-2012-400 (CENIPA):

To reassess before the ANAC whether the current architecture of the fuel system and alerts comply with the certification requirements applicable to the type design, since it allows the start-up of the second engine with the fuel pumps turned off without exhibiting any alerts, when the alert has been cancelled at the start-up of the first engine.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:** Partial agreement

Safety Recommendation BRAZ-2012-401 (CENIPA):
To re-evaluate before the ANAC the appropriateness of the alert colour and type displayed in the engine start-up with the fuel pumps turned off, as well as the need to include a procedure in the AFM concerning the start-up with fuel pumps turned off.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:** Partial agreement

Safety Recommendation BRAZ-2012-402 (CENIPA):
To assess before the ANAC the need to review the aircraft checklist and insert a specific item to verify whether fuel pumps are ON.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:** Partial agreement

Canada

Registration	Aircraft Type	Location	Date of event	Event Type
HB-IWF	MCDONNELL DOUGLAS MD11	Peggy's Cove, Nova Scotia 5 nm SW, Canada	02/09/1998	Accident

Synopsis of the event: On 2 September 1998, Swissair Flight 111 departed New York, United States of America, at 2018 eastern daylight savings time on a scheduled flight to Geneva, Switzerland, with 215 passengers and 14 crew members on board. About 53 minutes after departure, while cruising at flight level 330, the flight crew smelled an abnormal odour in the cockpit. Their attention was then drawn to an unspecified area behind and above them and they began to investigate the source. Whatever they saw initially was shortly thereafter no longer perceived to be visible. They agreed that the origin of the anomaly was the air conditioning system. When they assessed that what they had seen or were now seeing was definitely smoke, they decided to divert. They initially began a turn toward Boston; however, when air traffic services mentioned Halifax, Nova Scotia, as an alternative airport, they changed the destination to the Halifax International Airport. While the flight crew was preparing for the landing in Halifax, they were unaware that a fire was spreading above the ceiling in the front area of the aircraft. About 13 minutes after the abnormal odour was detected, the aircraft's flight data recorder began to record a rapid succession of aircraft systems-related failures. The flight crew declared an emergency and indicated a need to land immediately. About one minute later, radio communications and secondary radar contact with the aircraft were lost, and the flight recorders stopped functioning. About five and one-half minutes later, the aircraft crashed into the ocean about five nautical miles southwest of Peggy's Cove, Nova Scotia, Canada. The aircraft was destroyed and there were no survivors.

Safety Recommendation CAND-1999-003 (TSB):

As of 01 January 2005, for all aircraft equipped with CVRs having a recording capacity of at least two hours, a dedicated independent power supply be required to be installed adjacent or integral to the CVR, to power the CVR and the cockpit area microphone for a period of 10 minutes whenever normal aircraft power sources to the CVR are interrupted. (A99-03)

Reply:

The Agency has identified this subject for rulemaking, and the previously mentioned rulemaking task RMT.0076 has been merged into rulemaking task RMT.0308/0309, which are scheduled in the published Agency's rulemaking programme.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
C-GZCH	SIKORSKY S92	St. John's, Newfoundland and Labrador, 35 nm E, Canada	12/03/2009	Accident

Synopsis of the event: On 12 March 2009, at 0917 Newfoundland and Labrador daylight time, a Cougar Helicopters' Sikorsky S-92A (registration C-GZCH, serial number 920048), operated as Cougar 91 (CHI91), departed St. John's International Airport, Newfoundland and Labrador, with 16 passengers and 2 flight crew, to the Hibernia oil production platform. At approximately 0945, 13 minutes after levelling off at a flight-planned altitude of 9000 feet above sea level (asl), a main gearbox oil pressure warning light illuminated. The helicopter was about 54 nautical miles from the St. John's International Airport. The flight crew declared an emergency, began a descent, and diverted back towards St. John's. The crew descended to, and levelled off at, 800 feet asl on a heading of 293° Magnetic with an airspeed of 133 knots. At 0955, approximately 35 nautical miles from St. John's, the crew reported that they were ditching. Less than 1 minute later, the helicopter struck the water in a slight right-bank, nose-high attitude, with low speed and a high rate of descent. The fuselage was severely compromised and sank quickly in 169 metres of water. One passenger survived with serious injuries and was rescued approximately 1 hour and 20 minutes after the accident. The other 17 occupants of the helicopter died of drowning. There were no signals detected from either the emergency locator transmitter or the personal locator beacons worn by the occupants of the helicopter.

Safety Recommendation CAND-2011-001 (TSB):

The Board recommends that The Federal Aviation Administration, Transport Canada and the European Aviation Safety Agency remove the "extremely remote" provision from the rule requiring 30 minutes of safe operation following the loss of main gearbox lubricant for all newly constructed Category A transport helicopters and, after a phase-in period, for all existing ones.

Reply:

Changes to FAA Advisory Circular AC 29.927 have been published and the Joint cooperation Team (JCT) completed its tasking with the publication of a final report in December 2012. The report recommends establishing a rulemaking group to further consider the technical details and the need for rule changes in the fields of design requirements, operating rules and emergency procedures. This should include removing "extremely remote" from FAR/CS 29.927.

The Agency has accepted the JCT report and has taken the lead in initiating rulemaking task RMT.0608 which will establish an international group of experts, including FAA and TCCA specialists. This task is scheduled to start in early 2014. As part of the rulemaking group's tasking, a regulatory impact assessment will be undertaken which will establish the case for action to the existing fleet.

Status: Open – **Category:**

China

Registration	Aircraft Type	Location	Date of event	Event Type
B-6167	AIRBUS A319	Huanghua International Airport, Changsha	19/06/2008	Serious incident

Synopsis of the event: On June 19, 2008, China Eastern Airlines Corporation Limited Northwest Branch was operating flight MU2261 from Chongqing to Wenzhou on aircraft A319/B-6167, with 108 passengers and 9 crew members on board. The flight was diverted to Changsha because of a fire in the passenger oxygen system behind AFT cargo compartment. Sidewall linings Parts of system and structure of the aircraft were damaged, but there were no personal injuries.

Safety Recommendation CHIN-2011-005 (AIB):

It is recommended that EASA, FAA and CAAC perform HP oxygen shock tests to oxygen regulation device equipped on civilian aircraft.

Reply:

The Agency accepts to review the specifications for gaseous oxygen systems. A generic Certification Review Item (CRI) entitled Oxygen Fire Hazard in Gaseous Oxygen Systems has been created by the Agency for certification of Large Aeroplanes (CS-25) and is applicable since 2012. This CRI addresses the various ignition mechanisms which may be foreseen in gaseous oxygen system (centralised, decentralised or portable) which includes temperature rise from oxygen compression.

It provides to the applicant considerations in terms of system design and installation, failure mode and safety analysis, hazard analysis (i.e. assessment of the potential ignition and combustion mechanism).

A similar CRI has also been raised for CS-23 aeroplanes applications.

The Agency also launched rulemaking task RMT.0458 which will propose amending applicable certification specifications, to include the lessons learnt from this incident and the outcome from discussions with the industry when applying above mentioned CRIs. The Terms of Reference were published on 05 September 2013 on the Agency Website.

Status: Closed – **Category:** Agreement

Hong Kong

Registration	Aircraft Type	Location	Date of event	Event Type
B-HRN	AEROSPATIALE AS332	Shing Mun Reservoir	27/12/2010	Accident

Synopsis of the event: The accident occurred whilst the helicopter was carrying out a fire fighting operation. After the sixth water pickup from the nearby reservoir the number 2 engine gas generator rotation speed wound down due to the functioning of the automatic overspeed protection system. The helicopter then ditched in a controlled manner into the reservoir and was then kept afloat by the four emergency floats. There was no injury to the three crew members on board or other person on the ground.

Safety Recommendation CHNH-2013-001 (AIB):

It is recommended that the European Aviation Safety Agency (EASA) mandate the installation of an MGB modified in accordance with Eurocopter modification 0752472 (Reinforced casing for 332 MK2 MGB) on AS332 L2 Super Puma which are operated for carriage of heavy loads with torque variation cycles.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Cyprus

Registration	Aircraft Type	Location	Date of event	Event Type
D-BAVG	CESSNA 750	Larnaca Airport, Stand 75, Apron 2	10/12/2012	Accident

Synopsis of the event: A potable water truck collided with a parked aircraft during flight preparation. The water truck approached from the rear of the aircraft to collide at the right wing tip. The aircraft's wing broke the windshield and entered the truck's cabin trapping the driver between the wing and his seat. The driver was freed by the RFFS and taken to Larnaca General Hospital.

The AAIIB was informed at 22:51, by the Department of Civil Aviation airport supervisor, to say there was an incident, a collision of a water truck with a parked aircraft and the truck driver was not hurt, but was in a state of shock therefore was taken to Larnaca General Hospital.

The truck driver died at 02:30 in Larnaca General Hospital. The AAIIB received this information next morning and visited the accident scene to commence the investigation.

Safety Recommendation CYPR-2013-007 (AIIB):
It is recommended that ICAO, EASA and the FAA evaluate the relevance of making mandatory both the wing tip and tail rear position lights, in order to indicate the extremities of an aircraft structure. (AAIIB/7.13.)

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Unless the Agency has substantial progress to report from the follow-up activities related to this specific Safety Recommendation within the 90 day period, this reply shall serve to fulfil compliance with Article 18 of Regulation (EU) No 996/2010 (ICAO Annex 13, paragraph 6.10).

Status: Open – **Category:** Disagreement

Denmark

Registration	Aircraft Type	Location	Date of event	Event Type
OY-RBB	DIAMOND DA40	1 nm west of Copenhagen Airport, Roskilde (EKRK), Denmark	07/06/2007	Incident

Synopsis of the event: The flight, during which the incident occurred, was a local test flight, VFR from Copenhagen Airport, Roskilde (EKRK). The purpose of the test flight was to check the function of a new Engine Control Unit (ECU) that was installed in the aircraft. The test flight was performed at 2000 ft without it leading to any technical remarks. The pilot moved the engine power control lever towards idle and initiated a descent back to EKRK. At left hand base leg to runway 11 the pilot advanced the engine power control lever to adjust the glide to the threshold of runway 11. There was no reaction from the engine when the pilot added full power. The engine did not respond to the pilot input but stayed at low power, he observed no warnings. At this point it was not possible to reach the runway. An emergency was declared by the pilot and he informed EKRK TWR that he was forced to land west of the airport. The landing was successful without any damage to the aircraft.

Safety Recommendation DENM-2011-001 (AAIB):

The Danish Accident Investigation Board recommends EASA to a review of the TAE-125-01 diesel engine design with the emphasis on the fail-safe design principle and how it's been applied to an individual engine component, as well as to the complete power plant system including its electronic failure modes.

Reply:

EASA has reviewed the fail safe design existing on the Thielert Aircraft Engines (TAE) 125-01. Most parts of engine controls are redundant but some sensors are single. It is therefore concluded that the fail safe design principle is applied but not unilaterally. As there is no explicit certification requirement to impose fail safe design, it is not possible to identify a non-compliance nor any Unsafe Condition (per Part 21).

Certification Specifications on engines (CS-E) paragraph 210 (a) requires to perform a failure analysis and prevent a single fault or a double fault if one of the faults is a dormant fault, leading to unsafe engine conditions. The associated Acceptable Means of Compliance (AMC) CS-E 210 does not detail what are the unsafe engine conditions for piston engines. A generic CS-E Certification Review Item (CRI) is currently applied on new product/design changes to provide further guidance. Neither the CRI nor the existing AMCs are providing a relation between the "unsafe engine conditions" and an In-Flight Shut Down (IFSD) rate objective. Such an attempt might be challenging as the IFSD rate is dependent also on the powerplant installation (in CS-23 for normal, utility, aerobatic and commuter aeroplanes) that contributes to the overall IFSD rate on top the engine contribution (in CS-E) itself.

As CS-23 does not provide supplementary details, it is common practices to use Federal Aviation Regulations (FAR) 23 and Advisory Circular (AC) 23-1309-1E guidance to set quantitative safety objectives. Those latest are dependent on the aircraft category, as for instance, for a failure condition classified Major for a Class I aircraft (Typically Single Reciprocating Engine of 6000 lbs or less) associates a probability of 1E-04. An engine IFSD, at aircraft level, would be assessed either Minor (1E-03) or maximum Major (1E-04) for that class of aircraft (Class I).

In order to assess whether an Unsafe Condition or non-compliance existed with regards to CS-E and CS-23, EASA reviewed the IFSD rate for the TAE 125-01 on Diamond DA40D and DA42 and concluded that there was no potential Unsafe Condition (per Part 21). Applicant has implemented corrective actions with regards to maintenance aspects (Engine Maintenance Manual revision), and training (crimping process part of the training) to address the cable harness defects. This, in combination with event tracking, allowed to continuously reduce the number of IFSD and Power Loss for the DA40D and DA42 fleet since 2008.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
OY-CIM	ATR ATR72	Copenhagen Airport, Kastrup (EKCH), Denmark	13/09/2011	Serious incident

Synopsis of the event: Shortly after take-off from runway 22R while climbing through approximately 134 feet Radio Altitude (RA), a cockpit Master Warning was triggered referring to left engine low oil pressure. The cockpit Master Warning was silenced. Subsequently, a cockpit Master Caution was triggered referring to left engine high Inner stage Turbine Temperature (ITT). Smoke was present in the cockpit and in the passenger cabin. The flight crew decided to shut down the left engine (memory items). While climbing through approximately 750 feet RA, a cockpit Master Warning was triggered referring to left engine fire. The cockpit Master Warning was silenced. A Mayday call to Kastrup Tower was made. A left hand visual circling to runway 22L was initiated. The flight crew noted the left engine fire warning lights. Sequentially, both engine fire agents were discharged and the flight crew decided to land on runway 30. Descending through approximately 486 feet RA, a cockpit Master Warning was triggered. The Master Warning was silenced. A single engine landing was performed. On runway 30, the flight crew observed that the fire had extinguished and they cancelled the emergency evacuation of the aircraft.

Safety Recommendation DENM-2012-003 (AAIB):
EASA to review the emergency procedures on ATR aircraft in order to ensure efficient removal of persisting smoke and appropriate cockpit/passenger cabin ventilation.

Reply:

EASA has reviewed the latest approved standardised wording of the relevant procedures, published through mainly Avions de Transport Régional (ATR) Aircraft Flight Manual (AFM) and Flight Crew Operational Manual (FCOM).

ATR Emergency procedures are considered to be adequate as:

- They ensure the continued safe flight and landing,
- They direct the crew to isolate and eliminate the origin of the smoke.

In addition to these actions, ATR states that by design, cabin differential pressure ensures sufficient removal of the smoke.

EASA has requested ATR to make a comprehensive check of all reported case of smoke in cabin or cockpit, in order to evaluate the number of occurrences, if any, of persisting smoke following the proper application of these procedures. This action is on-going, EASA will monitor its completion and, based on the result, should a problem of smoke removal efficiency be evidenced, will take appropriate action.

Status: Closed – **Category:** Partial agreement

Safety Recommendation DENM-2012-004 (AAIB):
EASA to consider the need to harmonize the procedures, or to review the existing documentation as necessary, in order to establish in all cases a time limit within which to make effective in the AFM owned by operators the amendments approved by EASA.

Reply:

The Agency understands that the intention of the Safety Recommendation is to establish a time limit for operators to apply changes in the aircraft flight manual (AFM) as provided to them by the manufacturers.

This Safety Recommendation is being considered within the framework of rulemaking tasks RMT.0516 and RMT.0517 'Updating Authority Requirements (Part-ARO) and Organisation Requirements (Part-ORO)', which were launched on 16 September 2013 with the publication of the associated Terms of Reference.

Status: Closed – **Category:** Partial agreement

Finland

Registration	Aircraft Type	Location	Date of event	Event Type
OH-SAK	BAE AVRO146RJ	Helsinki-Vantaa airport, Finland	17/12/2009	Incident

Synopsis of the event: On 17 December 2009, at approximately 17:05 an incident occurred to a Blue1 airliner which was on the scheduled flight BLF284 from Vaasa airport to Helsinki-Vantaa airport. The incident was caused by a fuel feed problem. The aircraft, registration OH-SAK, was a four-engine Avro 146-RJ85 manufactured by BAE Systems Limited. There were 64 passengers and four crew members onboard.

Approximately 11 minutes after takeoff, during the climb, the master warning panel annunciated the following right wing inner feed tank warning: R FEED TANK LO LEVEL. The flight crew began completing the related emergency checklist. The checklist instructs the flight crew to LAND ASAP, unless the warning disappears. The flight crew continued the flight to their destination even though the warning light remained on. As they were passing the city of Tampere the flight crew noticed that the fuel quantity in the right wing's outer feed tank had begun to decrease. Ap-proximately two minutes later the warning system also generated a fuel level warning from the left wing's inner feed tank. At that point in time the flight crew had simultaneous problems with three separate feed tanks. When the aircraft landed at Helsinki-Vantaa airport the flight crew used the normal trailing edge flap setting of 33 degrees. The checklist that relates to this particular mal-function calls for 24 degrees flaps.

The rescue units alerted by the air traffic control were ready at their stations, poised to provide assistance as the flight landed at its destination. The incident did not result in any injuries to per-sons nor damage.

A technical inspection following the landing showed that frozen water in the fuel probably obstructed the transfer of fuel from the main tank to the engines' feed tanks. This caused the fuel level in the feed tanks to drop during the flight. In a normal situation each engine's feed tank is always full of fuel. According to the information received from the aircraft's manufacturer, other operators, too, have had similar fuel feed problems, particularly during cold winters. The number of such occurrences decreased when operators increased the fuel tank water drain frequency. The manufacturer-recommended minimum fuel temperatures must also be observed during water draining so as to make the procedure adequately efficient. Blue1 also began to add an anti-icing additive to its fuel.

The flight crew's decision to disregard the emergency checklist's LAND ASAP instruction also contributed to the incident. Due to its location, good weather and runway conditions Tampere-Pirkkala airport would have been a suitable en-route alternate. Contributing factors included the flight crew's poor airmanship and decision-making. The layout of the checklist for this emergency is both complex and verbose.

Safety Recommendation FINL-2012-005 (AIB):
It is recommended that the EASA oblige BAE Systems Limited, the aircraft manufacturer, to make the Feed Tank Low Level checklist easier to use.

Reply:

As a consequence of the reported Feed Tank Low Level warning, BAE Systems amended the Feed Tank Low Level checklist in a manner that would more clearly identify essential information and information pertinent to different stages of flight. The proposed checklist will be incorporated into the Flight Crew Operating Manual (FCOM) at its next revision, which will take place in 2013. In the meantime, operators have been made aware of the forthcoming change to the checklist by way of a Flight Operations Support Information Letter (FOSIL 019/12 146 RJ dated 13 November 2012). Although the FOSIL does not convey approved data it will provide an opportunity for operators to incorporate these enhancements into their Emergency Checklists in lieu of the next FCOM revision. EASA reviewed the BAE actions and consider that they constitute an appropriate and acceptable response to the Safety Recommendation.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
OH-LXL	AIRBUS A320	flight level 360, north of the Island of Öland in the airspace of southern Sweden	05/03/2011	Serious incident

Synopsis of the event: On 5 March 2011 at approximately 06:50 a pressurisation failure caused a serious incident on Finnair flight AY831. An Airbus A320-214 airliner, registration OH-LXL, was on a scheduled flight from Helsinki to London. The aircraft was flying in Swedish airspace, north of the Island of Öland at Flight Level (FL) 360 (ca. 10950 m). The only working bleed air system of the aircraft failed. As a result of this, the flight crew had to execute an abnormally rapid descent to a safe altitude.

Safety Recommendation FINL-2013-001 (AIB):
The Safety Investigation Authority, Finland recommends that the EASA oblige Airbus S.A.S. to compile all engine bleed air failure-related emergency procedures that pilots use, and display the complete set of instructions on the ECAM.

Reply:

EASA supports the intent of having all engine bleed air failure-related procedures on the Electronic Centralized Aircraft Monitor (ECAM).

In this spirit, the following improvements related to bleed faults have been achieved:

- The Type Certificate Holder (TCH) Operating Engineering Bulletin OEB40, which purpose is to prevent from the loss of the remaining engine bleed by reducing the bleed air demand when a first engine bleed has been lost, is cancelled by upgrade of Flight Warning Computer (FWC) to standard F6 and subsequent standards because the new ECAM actions are now detailing the content of the OEB40.

It is to be noted that FWC F7 will be introduced as a fleetwide standard in the near future.

- A new ECAM alert "AIR ENG 1+2 BLEED FAULT" with an associated procedure covering bleed reset, descent initiation and then referring to Quick Reference Handbook (QRH) is being created for A320 and A330.

Status: Closed – **Category:** Partial agreement

Safety Recommendation FINL-2013-002 (AIB):
The aircraft manufacturer's Operations Engineering Bulletin (OEB) contains flight crew procedures for a bleed air system fault if one or both systems fail. It contains the instructions for reducing stress to the single operative system by means of actions prior to the departure as well as those for the procedure during an in-flight failure.

The Safety Investigation Authority, Finland recommends that the EASA oblige Airbus S.A.S. to amend the OEB in a manner that clearly segregates the procedures for prior to the flight and during the flight. Additionally Airbus S.A.S. needs to assure that all the appropriate actions included in the OEB are in line with QRH.

Reply:

The operational procedure Master Minimum Equipment List (MMEL) 36-11-01, applicable for actions prior to the flight, has been modified to incorporate the actions contained in the subject Operating Engineering Bulletin (OEB) directly in the MMEL Operational section. This modification is available from 12 April 2013 and ensures that the operational procedure applicable on ground is in a single document.

For actions to be carried out when a first engine bleed occurs in flight, the applicable OEB does not refer to actions to be carried out on ground.

The Manufacturer is updating the Flight Warning Computer (FWC) standard to remove the need of the OEB.

Therefore, EASA has not planned further actions on this topic.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
OH-FLM	BOMBARDIER BD100 1A10	Moscow TMA	23/12/2010	Accident

Synopsis of the event: An accident took place in the Moscow Terminal Control Area (TMA) on Thursday, 23 December 2010 at 16:10 UTC. A Bombardier BD–100–1A10 Challenger 300 business jet, registration OH-FLM, experienced a sudden in-flight pitch upset during the climb phase on a flight from Moscow to St Petersburg. The course of events began during the initial climb when the Engine Indication and Crew Alerting System (EICAS) annunciated an Autopilot Stabilizer Trim Failure (AP STAB TRIM FAIL) warning; in accordance with the checklists the captain disengaged the autopilot. This resulted in a porpoising oscillation which was quickly brought back under control. The flight crew continued the climb under manual control. As a result of the occurrence two passengers were injured. The cabin interior was also damaged. The aircraft returned to Sheremetyevo Airport and the injured persons were taken to hospital in Moscow. The flight was a familiarisation flight for the co-pilot in accordance with the European Union Regulation on Air Operations (EU-OPS). Before the flight it was agreed that the co-pilot would act as the Pilot Flying (PF).The occurrence was caused by the pilot overcontrolling the aircraft pitch attitude immediately after the autopilot was disengaged. Contributing factors included the characteristics of the aircraft's artificial pitch feel system as well as the pilots' unfamiliarity with the system's operating principle. Moreover, shortcomings were evident in the manner in which the flight crew performed checks as well as in crew cooperation, both before and during the flight. As a result of these, the flight crew was already overloaded to the point that when the trim fault appeared they postponed taking action until the phase of the climb when they had already reached a high airspeed. High airspeed was a contributing factor to the considerable acceleration (g) forces experienced during the upset.

Safety Recommendation FINL-2013-003 (AIB):
Safety Investigation Authority, Finland recommends that the European Aviation Safety Agency (EASA) call attention to the content of the type training class-room instruction and simulator training of artificial feel system operating principles, especially with regard to aircraft types in which the system does not directly adjust in relation to airspeed.

Reply:

EASA issued on 04 September 2013 the Safety Information Bulletin (SIB) 2013-13 "Pilot Training – Artificial Pitch Control Feel". This SIB addresses the intent of the safety recommendation.

Status: Closed – **Category:** Agreement

France

Registration	Aircraft Type	Location	Date of event	Event Type
3X-GDO	BOEING 727	Cotonou, Republic of Benin	25/12/2003	Accident

Synopsis of the event: On 25 December 2003, arriving from Conakry (Guinea), the Boeing 727-223 registered 3X-GDO undertaking flight GIH 141 to Kufra (Libya) and Beirut (Lebanon) and Dubai (United Arab Emirates) stopped over at Cotonou. During takeoff, the airplane, overloaded in an anarchic manner, was not able to climb at the usual rate and struck an airport building located a hundred and eighteen meters past the runway end on the extended runway centerline, crashed onto the beach and ended up in the ocean.

Safety Recommendation FRAN-2005-001 (BEA):
The BEA recommends that the Civil Aviation Authorities, in particular the FAA in the United States and the EASA in Europe, modify the certification requirements so as to ensure the presence, on new generation airplanes to be used for commercial flights, of on-board systems to determine weight and balance, as well as recording of the parameters supplied by these systems.

The BEA recommends that the Civil Aviation Authorities put in place the necessary regulatory measures to require, where technically possible, retrofitting on airplanes used for commercial flights of such systems and the recording of the parameters supplied.

Reply:

The European Organization for Civil Aviation Equipment (EUROCAE) working group (WG-88) conducted a feasibility study and delivered their report in April 2013.

WG-88 concluded that standardization of On-Board Weight and Balance Systems (OBWBS) specification is feasible and recommended. Nevertheless, the report also mentions that some operators of such systems reported concerns in the past. The greatest concern was the accuracy of the systems resulting in differences between on board measured results and crew primary weight & balance computations that finally led some operators to deactivate the system.

At the same time, it is recognized that OBWBS technologies have evolved and some are promising in term of accuracy and reliability, although their maturity levels are still quite low.

WG-88 deems feasible to develop a Minimum Operational and Performance Specification (MOPS) for OBWBS.

Therefore a second phase should start for WG-88 to work on the drafting of a MOPS. The Agency will consider rulemaking options to be proposed once a standard is available.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
F-GMPG	FOKKER F28	Pau Pyrénées	25/01/2007	Accident

Synopsis of the event: L'avion décolle en piste 13. Peu après l'envol, il s'incline à gauche, à droite, puis à gauche. L'aile gauche de l'avion, maintenant en descente, frotte sur le revêtement en limite droite du bord de piste. L'avion touche le sol légèrement incliné à droite, rebondit, roule dans les servitudes à droite de la piste, traverse le grillage d'enceinte de l'aérodrome et franchit une route en heurtant la cabine d'un camion. Les trains d'atterrissage principaux heurtent le talus opposé de la route et se séparent de l'avion. Celui-ci glisse dans un champ sur environ 535 mètres, à droite de la rampe d'approche de la piste 31.

Safety Recommendation FRAN-2009-001 (BEA):
Le BEA recommande que tout en veillant à maintenir les exigences opérationnelles relatives au contrôle du dégivrage avant le vol, l'AESA s'attache à faire évoluer les spécifications de certification pour demander l'analyse du comportement des avions lorsque les surfaces d'ailes sont contaminées au sol et pour garantir le maintien des marges de sécurité acceptables en cas de contamination légère.

Reply:
This recommendation will be taken into account in the frame of Rulemaking Task RMT.0118 which has been included in the Rulemaking Program 2014-2017.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
F-GZCP	AIRBUS A330	en route between Rio de Janeiro and Paris	01/06/2009	Accident

Synopsis of the event: On 31 May 2009, flight AF447 took off from Rio de Janeiro Galeão airport bound for Paris Charles de Gaulle. The airplane was in contact with the Brazilian ATLANTICO ATC on the INTOL – SALPU – ORARO – TASIL route at FL350. At around 2 h 02, the Captain left the cockpit. At around 2 h 08, the crew made a course change of about ten degrees to the left, probably to avoid echoes detected by the weather radar. At 2 h 10 min 05, likely following the obstruction of the Pitot probes in an ice crystal environment, the speed indications became erroneous and the automatic systems disconnected. The airplane's flight path was not brought under control by the two copilots, who were rejoined shortly after by the Captain. The airplane went into a stall that lasted until the impact with the sea at 2 h 14 min 28.

Safety Recommendation FRAN-2009-016 (BEA):
The BEA recommends that EASA and ICAO extend as rapidly as possible to 90 days the regulatory transmission time for ULB's installed on flight recorders on airplanes performing public transport flights over maritime areas.

Reply:

Amendment 36 to Part I of ICAO Annex 6, mandates that flight recorders have securely attached an automatically activated underwater locating device (ULD) operating at a frequency of 37.5 kHz. At the earliest practicable date, but not later than 1 January 2018, this device shall operate for a minimum of 90 days.

The Agency has supported SAE for amending the industry standard SAE AS8045. The new edition AS8045a has been published on 03 August 2011. The Agency's Notice of Proposed Amendment (NPA) 2012-16 proposes to update ETSO-C121a to edition 'b' based on this standard. The main purpose is to extend the minimum transmission time of the ULD to 90 days. The related Executive Director (ED) Decision which will provide ETSO C121b is planned for 2013.

In addition, the Agency has issued on 24 September 2012 the terms of reference for Rulemaking Tasks RMT.0400 and RMT.0401, which includes a review of the Air Operations Regulation (Commission Regulation 965/2012) regarding the minimum transmission time for ULDs installed on flight recorders.

Status: Closed – **Category:** Agreement

Safety Recommendation FRAN-2009-017 (BEA):
The BEA recommends that EASA and ICAO make it mandatory, as rapidly as possible, for airplanes performing public transport flights over maritime areas to be equipped with an additional ULB capable of transmitting on a frequency (for example between 8.5 kHz and 9.5 kHz) and for a duration adapted to the pre-localisation of wreckage.

Reply:

Amendment 36 to Part I of ICAO Annex 6 mandates the carriage of an additional underwater locating device (ULD) on all aeroplanes with a maximum certificated take-off mass (MTOM) over 27 tons and used for Commercial Air Transport (CAT) on long-range over-water flights; compliance is required no later than 1 January 2018. This additional automatically activated ULD shall transmit on the frequency of 8.8 kHz for a minimum of 30 days.

The Agency's Notice of Proposed Amendment (NPA) 2012-16 proposes a new ETSO-C200 "Low-frequency Underwater Locating Device (ULD)" operating at the low frequency of 8.8 kHz and transmitting for at least 30 days. This new ETSO is based on SAE Aerospace Standard AS6254 dated February 2012. The related Executive Director (ED) Decision which will provide ETSO-C200 is planned for 2013.

In addition, the Agency has issued on 24 September 2012 the terms of reference for Rulemaking Tasks RMT.0400 and RMT.0401, which includes a review of the Air Operations Regulation (Commission Regulation EU 965/2012) regarding the carriage of low frequency ULDs with appropriate underwater range on aeroplanes performing long-range overwater flights.

Status: Closed – **Category:** Agreement

Safety Recommendation FRAN-2009-020 (BEA):
The BEA recommends that EASA in coordination with the other regulatory authorities, based on the results obtained, modify the certification criteria.

Reply:

The Agency will soon amend CS-25 and CS-E with the introduction of new environmental icing conditions for ice crystals and mixed phase (rulemaking tasks RMT.0058 and RMT.0179).

A new Appendix P to CS-25 will be introduced. These conditions were recommended by the Ice Protection Harmonization Working Group (IPHWG) based on the best available scientific knowledge from the different domains of expertise.

The Agency funded a study EASA.2011.OP.28 entitled "HighIWC – Ice Water Content of clouds at High altitude" which delivered its final report in December 2012. Part of this study, an evaluation of the proposed Appendix P environment was conducted against the most recent available information from research literatures, large aeroplane manufacturers and research institute flight tests, and known in-service events.

The proposed Appendix P was specifically designed for engines testing. However, it has been confirmed by the above evaluation that for flight instrument probes, in particular Pitot probes, additional test conditions should be prescribed to reflect the fact that Pitot probes are more sensitive to ice crystals peak concentration values. A similar recommendation was made by EUROCAE WG-89 in charge of preparing a new standard applicable to Pitot probes ETSO/TSO.

Therefore the Agency included in its proposal for amending CS-25 some additional specifications applicable to flight instrument probes, taking into account the recommendations received. It is considered that the future amendment will provide an adequate level of protection covering known in-service occurrences. Furthermore, a generic Special Condition (SC) is used by the Agency for all CS-25 aeroplane applications made after January 2010. The technical content of the SC is consistent with the proposed amendment of CS-25 for flight instrument probes ice protection.

Nevertheless, to perform a statistical approach of the analysis of the new Appendix P in terms of concentrations, and to better understand the microphysical properties and structure of deep convective cloud systems, additional results and measurements of the atmosphere are needed.

These results should be provided as part of an international flight test campaign that is being prepared.

The Agency will continue to be deeply involved in this activity. A second EASA study is being prepared for 2013, which will contribute to the European HAIC (High Altitude Ice Crystals) project and the international HIWC (High Ice Water Content) project, dedicated to the flight test campaign preparation (planned in 2014). After this campaign, a data analysis phase will be conducted and, depending on the conclusions, this may lead to a future amendment of EASA Certification Specifications.

Status: Closed – **Category:** Agreement

Safety Recommendation FRAN-2011-009 (BEA):
The BEA recommends that EASA review the content of check and training programmes and make mandatory, in particular, the setting up of specific and regular exercises dedicated to manual aircraft handling of approach to stall and stall recovery, including at high altitude.

Reply:

Part-FCL of Commission Regulation (EU) No 1178/2011 (Regulation Aircrew) establishes the requirements for the issue of pilot licences and associated ratings and certificates and the conditions of their validity and use. Approach-to-stall and stall recovery training and checking is covered in these provisions, although "at high altitude" is not explicitly mentioned.

Commission Regulation (EU) No 965/2012 (Regulation Air Operations) contains provisions directed to the operator on recurrent training, including proficiency checks on normal, abnormal and emergency procedures. Although manual aircraft handling of approach-to-stall and stall recovery is not explicitly referred to, it is covered under "automation" in the crew resource management training subjects.

Rulemaking tasks RMT.0581 and RMT.0582 'Loss of Control Prevention and Recovery Training' were launched by the Agency on 20 August 2013 with the publication of the associated Terms of Reference. This includes a review of how far specific and regular exercises dedicated to manual aircraft handling of approach to stall and stall recovery should be included in initial, type and recurrent training.

Status: Closed – **Category:** Partial agreement

Safety Recommendation FRAN-2011-010 (BEA):
The BEA recommends that EASA define additional criteria for access to the role of relief Captain so as to ensure better task-sharing in case of relief crews.

Reply:

Rulemaking tasks RMT.0190 and 0191 [former FCL.004(a) & (b)] were launched on 02 November 2012 with the title 'Requirements for Relief Pilots'.

The rulemaking group is actively considering the development of additional criteria for the role of relief captain and relief co-pilot in terms of training, examination and operational requirements.

This work is being undertaken in conjunction with RMT.0411 on Crew Resource Management (CRM), which is in the process of determining whether the existing Acceptable Means of Compliance (AMC) and Guidance Material (GM) for CRM training require more detailed training elements in the context of relief pilots.

Status: Closed – **Category:** Partial agreement

Safety Recommendation FRAN-2011-012 (BEA):
The BEA recommends that EASA and the FAA evaluate the relevance of requiring the presence of an angle of attack indicator directly accessible to pilots on board airplanes.

Reply:

It is agreed that providing Angle of Attack (AoA) based information can improve pilot awareness to help avoid loss of control due to aerodynamic stall.

Although a direct AoA indicator may improve flight crew awareness in some specific circumstances, such as in proximity to a stall, the installation/presence of it in the cockpit would necessitate specific flight crew training. Having an additional gauge to monitor would also marginally increase pilot workload in regular flying where the information is of little benefit.

Providing AoA values directly is only one way of presenting information; AoA based information can also be presented on airspeed scales (such as speed bands on Airspeed scales). This information can be presented even if the airspeed itself has become invalid. In this way, the AoA information is less prone to misinterpretation, does not require another gauge to be monitored, and uses scales with which pilots are already familiar.

Thus in the absence of research data to the contrary, we support the presentation of AoA derived information but we do not support the direct display of AoA values.

The Agency is involved in a working group together with other regulatory agencies and aircraft manufacturers whose aim is to review the current low speed/energy awareness concepts in order to determine whether or not the existing regulation need to be amended and whether there is a need for retrofit of the existing fleet (Avionic System Harmonisation Working Group).

Status: Closed – **Category:** Partial agreement

Safety Recommendation FRAN-2012-039 (BEA):
The BEA recommends that EASA ensure the integration, in type rating and recurrent training programmes, of exercises that take into account all of the reconfiguration laws. The objective sought is to make its recognition and understanding easier for crews especially when dealing with the level of protection available and the possible differences in handling characteristics, including at the limits of the flight envelope.

Reply:

Commission Regulation (EU) No 1178/2011 (Regulation Aircrew), as amended by Commission Regulation (EU) No 290/2012, and Commission Regulation (EU) No 965/2012 (Regulation Air Operations) contain appropriate obligations on organisations and operators to take into account Operational Suitability Data (OSD) when establishing flight crew training programmes.

As control laws are so far not specifically mentioned in the type and recurrent training and checking requirements, this will be considered within the framework of rulemaking tasks RMT.0581 and RMT.0582 'Loss of control prevention and recovery training' which were launched by the Agency on 20 August 2013 with the publication of the associated Terms of Reference.

Status: Closed – **Category:** Partial agreement

Safety Recommendation FRAN-2012-040 (BEA):
The BEA recommends that EASA ensure that type rating and recurrent training programmes take into account the specificities of the aircraft for which they are designed.

Reply:

Commission Regulation (EU) No 1178/2011 (Regulation Aircrew), as amended by Commission Regulation (EU) No 290/2012, and Commission Regulation (EU) No 965/2012 (Regulation Air Operations) contain appropriate obligations on organisations and operators to take into account Operational Suitability Data (OSD) when establishing flight crew training programmes.

Control laws are so far not specifically mentioned in the type and recurrent training and checking requirements. This issue is being reviewed within the framework of rulemaking tasks RMT.0581 and RMT.0582 'Loss of Control Prevention and Recovery Training' which were launched by the Agency on 20 August 2013 with the publication of the associated Terms of Reference.

Provisions concerning the training of configuration laws can only be of general nature as the configuration laws and aircraft handling are type specific. Type specific data will be generated through the implementation of the future OSD process.

Status: Closed – **Category:** Partial agreement

Safety Recommendation FRAN-2012-041 (BEA):
The BEA recommends that EASA define recurrent training programme requirements to make sure, through practical exercises, that the theoretical knowledge, particularly on flight mechanics, is well understood.

Reply:

Rulemaking tasks RMT.0581 and RMT.0582 'Loss of Control Prevention and Recovery Training' were launched by the Agency on 20 August 2013 with the publication of the associated Terms of Reference. This Safety Recommendation is being considered within the framework of these tasks.

Status: Closed – **Category:** Partial agreement

Safety Recommendation FRAN-2012-046 (BEA):
The BEA recommends that EASA ensure the introduction into the training scenarios of the effects of surprise in order to train pilots to face these phenomena and to work in situations with a highly charged emotional factor.

Reply:

This Safety Recommendation is being considered within the framework of rulemaking tasks RMT.0581 and RMT.0582 'Loss of Control Prevention and Recovery Training' which were launched by the Agency on 20 August 2013 with the publication of the associated Terms of Reference.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
F-GVCE	AEROSPATIALE AS350	Montferrier	27/05/2009	Accident

Synopsis of the event: Le déroulement du vol a été restitué à partir des témoignages recueillis. Le 27 mai 2009, le pilote décolle à 8 h 20 de l'hélistation de Préchac (65) pour deux jours de travail aérien dans les Pyrénées. Le programme comporte des ravitaillements au profit de refuges en altitude et des enlèvements de pylônes d'un ancien téléphérique minier sur le versant boisé d'une montagne. Vers 16 h 30, pour la sixième fois consécutive, le pilote se présente en vol stationnaire au cap 220° à la verticale d'un morceau de pylône dont la masse est estimée entre 700 et 1 000 kg. L'opérateur au sol accroche le crochet de l'élingue au fardeau. Il est en contact radiophonique avec le pilote. Après l'accrochage, l'opérateur prévient le pilote qu'il peut lever la charge. Alors que l'élingue se tend, le crochet se coince dans le câble entourant la charge puis se décoince. L'hélicoptère tangue puis part subitement et rapidement en rotation par la gauche. Pour reprendre le contrôle en lacet, le pilote enfonce le palonnier droit mais sans résultat. Il diminue alors le pas collectif mais n'obtient aucun effet sur le lacet. L'hélicoptère en rotation heurte les arbres et s'écrase sur le dos à proximité du fardeau.

Safety Recommendation FRAN-2010-001 (BEA):

The BEA recommends that The European Aviation Safety Agency (EASA) makes it mandatory for helicopter crews to wear protective headgear, at least for certain activities.

Reply:

On 16 April 2012 the Agency has published an Opinion (No. 02-2012) containing the implementing rules for specialised operations such as, but not limited to, aerial work (Part-SPO). In this Opinion paragraphs SPO.IDE.A.205 and SPO.IDE.H.205 require that each person on board shall wear individual protective equipment that is adequate for the type of operation being undertaken.

The associated draft decision includes guidance material (GM1-SPO.IDE.A.205 and GM1-SPO.IDE.H.205) specifying that personal protective equipment should include, but is not limited to: flying suits, gloves, helmets, protective shoes, etc.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
D-AXLA	AIRBUS A320	Canet-Plage (by Perpignan), France	27/11/2008	Accident

Synopsis of the event: Flight GXL888T from Perpignan – Rivesaltes aerodrome was undertaken in the context of the end of a leasing agreement, before the return of D-AXLA to its owner. The programme of planned checks could not be performed in general air traffic, so the flight was shortened. In level flight at FL320, angle of attack sensors 1 and 2 stopped moving and their positions did not change until the end of the flight. After about an hour of flight, the aeroplane returned to the departure aerodrome airspace and the crew was cleared to carry out an ILS procedure to runway 33, followed by a go around and a departure towards Frankfurt/Main (Germany). Shortly before overflying the initial approach fix, the crew carried out the check on the angle of attack protections in normal law. They lost control of the aeroplane, which crashed into the sea.

Safety Recommendation FRAN-2010-003 (BEA):
The BEA recommends that EASA, in liaison with the other regulatory authorities, ensures that, in order to certify the adequacy of an item of equipment in relation to the regulatory requirements as well as to the specifications defined by a manufacturer, the equipment installation conditions during tests performed by equipment manufacturers are representative of those on the aeroplane.

Reply:

The today's Certification Specifications (CS) 25.1301, amongst other paragraphs, requires the equipment to perform its intended function. That means that there is a need to verify that the testing done by the equipment manufacturer is valid for the installation of the equipment under review. In addition, any basic assumption of equipment qualification such as environmental conditions are validated during aircraft ground/flight test to ensure that equipment testing conditions were representative of the actual conditions under which the equipment would be exposed to.

For equipment under European Technical Standard Order (ETSO) Authorisation, the current CS-ETSO conditioned the ETSO Authorisation for installation by stating that this ETSO Authorisation does not constitute an installation approval. "It is the responsibility of those installing this article to determine that the aircraft installation conditions are within the ETSO standards. "CS 25.1301(c) regarding installing equipment according to its limitations and CS-ETSO Authorisation conditions for installation are deemed sufficient to cover this Safety Recommendation.

Status: Closed – **Category:** Disagreement

Safety Recommendation FRAN-2010-004 (BEA):
The BEA recommends that EASA undertake a safety study with a view to improving the certification standards of warning systems for crews during reconfigurations of flight control systems or the training of crews in identifying these reconfigurations and determining the immediate operational consequences.

Reply:

The Agency reviewed the Certification Specifications (CS) for large aeroplanes (25) and concluded that they are adequate. CS 25.1322 'Flight Crew Alerting' and its related Acceptable Means of Compliance (AMC) have been upgraded (Amendment 11 of CS-25 dated 04 July 2011). This improved standard is of benefit to alerts generated during reconfiguration of flight controls.

In addition, the Agency conducted a review of the Operational Evaluation Board (OEB) reports for Airbus fly-by-wire aircraft in order to evaluate possible improvements of training specifications with regard to flight controls systems reconfigurations. The lessons learnt will be taken into account in the future Operational Suitability Data (OSD) when identifying training requirements specific to fly-by-wire aircraft.

Concerning the training of crews in identifying flight controls systems reconfigurations, it is acknowledged that today recurrent training programs do not combine it with abnormal attitudes or upset recovery training.

Rulemaking tasks RMT.0581 and RMT.0582 'Loss of Control Prevention and Recovery Training', were launched on 20 August 2013 with the publication of the associated Terms of Reference. This part of the Safety Recommendation is being considered within the framework of these tasks.

Status: Closed – **Category:** Partial agreement

Safety Recommendation FRAN-2010-005 (BEA):
The BEA recommends that EASA, in cooperation with manufacturers, improves training exercises and techniques relating to approach-to-stall to ensure control of the aeroplane in the pitch axis.

Reply:

Rulemaking tasks RMT.0581 and RMT.0582 'Loss of Control Prevention and Recovery Training', were launched by the Agency on 20 August 2013 with the publication of the associated Terms of Reference. Rules for training exercises and techniques relating to approach-to-stall to ensure control of the aeroplane in the pitch axis are being considered within the framework of these tasks. This work will take into account results of the following international initiatives on upset prevention and recovery training:

- The International Committee for Aviation Training in Extended Envelopes (ICATEE), an international initiative involving manufacturers and authorities, set up to deliver a comprehensive long-term strategy to eliminate or reduce the rate of loss of control.
- The Loss Of Control Avoidance and Recovery Training initiative (LOCART), set up to establish global standards on loss of control avoidance and recovery training.

Amendments to ICAO Doc 9625 on Simulator Training Requirements are also being taken into consideration.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
CN-RMX	BOEING 737	Aerodrome Metz Nancy Lorraine (57), France	22/05/2006	Serious incident

Synopsis of the event: A 11 h 51, le vol BMM 2091 décolle en piste 22 de l'aérodrome de Metz Nancy Lorraine à destination de Marrakech. Des travaux en cours sur l'aérodrome, commencés la veille, limitent les distances utilisables au décollage. L'équipage ne connait pas ces restrictions et a prévu son décollage avec la longueur de piste habituelle. Lors du décollage, l'avion souffle des feux provisoires non fixés positionnés au seuil temporaire 04 et survole à faible hauteur la clôture frangible du chantier trois cents mètres plus loin. Le vol est poursuivi vers Marrakech. L'équipage est averti, au cours de la descente, de l'arrachage de balises provisoires au cours de son décollage de Metz ; il effectue un atterrissage de précaution.

Safety Recommendation FRAN-2010-008 (BEA):
Le BEA recommande que l'OACI et l'EASA définissent des normes de balisage et de panneautage et des consignes d'utilisation qui permettent une identification sans ambiguïté des travaux et des restrictions associées.

Reply:

On the 05 February 2013, the Agency published its Opinion for a Commission Regulation on Authority, Organisation and Operations Requirements for Aerodromes. The Agency will publish the relevant Acceptable Means of Compliance (AMC) and Guidance Material (GM), following the adoption of the relevant Regulation by the Commission.

The proposed requirements included in ADR.OPS.B.070 (Aerodrome works safety), as well as the related AMC1-ADR.OPS.B.070, AMC3-ADR.OPS.B.070 and GM1 up to GM5-ADR.OPS.B.070, address the issue of aerodrome safety during works in progress. Moreover paragraph (f) of requirement ADR.OR.B.040 (Changes) foresees the coordinated assessment of proposed changes at an aerodrome, as part of the aerodrome operator's management system, which is required by requirement ADR.OR.D.005 (Management).

Status: Closed – **Category:** Agreement

Safety Recommendation FRAN-2010-009 (BEA):
Le BEA recommande que l'OACI, l'EASA et la DGAC établissent un guide permettant aux exploitants aéroportuaires de programmer et coordonner l'ensemble des actions liées aux travaux afin que le niveau de sécurité ne soit pas compromis à cette occasion.

Reply:

On the 05 February 2013, the Agency published its Opinion for a Commission Regulation on Authority, Organisation and Operations Requirements for Aerodromes. The Agency will publish the relevant Acceptable Means of Compliance (AMC) and Guidance Material (GM), following the adoption of the relevant Regulation by the Commission.

The proposed requirements included in ADR.OPS.B.070 (Aerodrome works safety), as well as the related AMC1-ADR.OPS.B.070, AMC3-ADR.OPS.B.070 and GM1 up to GM5-ADR.OPS.B.070, address the issue of aerodrome safety during works in progress. Moreover paragraph (f) of requirement ADR.OR.B.040 (Changes) foresees the coordinated assessment of proposed changes at an aerodrome, as part of the aerodrome operator's management system, which is required by requirement ADR.OR.D.005 (Management).

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
RA-3332K	YAKOVLEV YAK54	Longchamps (27), France	04/05/2008	Accident

Synopsis of the event: Le pilote décolle de l'aérodrome de Beauvais à 15 h 15 pour un vol local. Des habitants du lieu-dit « Entre-Deux-Boscs » indiquent que, vers 15 h 30, l'avion effectue une boucle à très basse hauteur. En fin d'évolution, le pilote se trouve face à une ligne électrique basse tension. Il parvient à reprendre un peu de hauteur, survole le toit d'une maison, la ligne électrique et retombe ensuite avec une faible incidence à piquer. L'avion heurte le sol dans un champ situé à l'ouest du lieu-dit et prend feu.

Safety Recommendation FRAN-2010-012 (BEA):
Le BEA recommande que la DGAC et l'EASA, en relation avec les autorités de l'Aviation Civile russe, clarifient la situation de la FLA (Fédération des Aviateurs privés de Russie) et prennent, en conséquence, les dispositions nécessaires.

Reply:

The Agency conducted rulemaking task MDM.047 which included in its scope the objective of proposing an amendment of Regulation (EC) No 2042/2003 in order to implement Article 4(1)(c) of Regulation (EC) No 216/2008 (Basic Regulation). This Article imposes to aircraft registered in a third country used by EU operators the need to comply with the applicable provisions of the Basic Regulation.

This rulemaking task led to the publication of EASA Opinion No 06/2012 of 27 November 2012, which includes a new set of requirements for continuing airworthiness management of aircraft registered in a third country and used by European Union operators (new Annex V (Part-T) to Regulation (EC) No 2042/2003).

The competent authority is also defined in paragraph T.1 of Part-T, as the authority designated by the Member State where the operator has its principle place of business, or where the operator resides or is established. The responsibilities of the competent authority are defined in section B of Part-T.

Therefore, when adopted by the European Commission, the proposed Part-T will clarify the responsibilities in situations like the one presented in this investigation report. Here, DGAC-France would be the competent authority responsible for the investigations and inspections in order to verify that the requirements of Part-T are complied with.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
F-WWKK	AIRBUS A330	the south sector of France, cruising at FL 410	21/11/2007	Incident

Synopsis of the event: Descente d'urgence à la suite d'une panne du contrôleur de pressurisation cabine lors d'un vol de démonstration.

Safety Recommendation FRAN-2010-020 (BEA):
The BEA recommends that EASA modify the regulation relating to in-flight tests in order to limit access to the cockpit of persons on board the airplane in accordance with the safety equipment available.

Reply:

The Agency has published Notice of Proposed Amendment (NPA) 2008-20 relative to Flight testing regulation in 2008. This NPA envisages to modify Part-21 [Regulation (EU) No 748/2012] to introduce a concept of flight test operations manual (FTOM) that shall define the policies and procedures of an organisation conducting flight tests.

Crewing, carriage of persons other than flight crew, risk and safety management policies, as well as procedures to identify instruments and equipment to be carried are to be included in the FTOM.

An Acceptable Means of Compliance (AMC)/Guidance Material (GM) further develops the rule. The Comment Response Document and revised rule and AMC/GM texts published on 13 September 2012 includes the following provision:

"(e) Instruments and Equipment: The FTOM should list, depending on the nature of the flight, the specific safety related instruments and equipment that should be available on the aircraft or carried by people on board. The FTOM should contain provisions to allow flights to take place in case of defective or missing instruments or equipment."

The Agency considers that this action adequately address the intent of this Safety Recommendation.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
EC-ISH	PILATUS PC12	Bordeaux FIR, OLRAK Point, France	02/06/2010	Serious incident

Synopsis of the event: On 2 June 2010 at 14 h 11 min 07, the pilot of the PC 12, registered EC-ISH, en route from Buochs (Switzerland) bound for San Sebastian (Spain) contacted sector T of the en-route southwest ATC Centre at Bordeaux (CRNA/SO), stable at FL 270. He was cleared on a heading for OLRAK. At 14 h 15 min 39, the pilot of the PC 12 informed ATC that one of his altimeters was indicating FL 270 and the other FL 290. He asked the controller if the latter could help clear up this uncertainty by checking his altitude if he put the transponder on stand-by. The controller answered that he could not do that but that he was going to ask for information from the military ATC. At 14 h 16 min 25, the controller contacted the military coordination and control centre (CMCC), call sign Marengo, also based in the CRNA/SO and asked them if there was a way to check the exact altitude of EC-ISH "other than by the use of secondary radar, with a primary radar for example". Marengo answered that they only had a secondary radar image and that they would check it out. At 14 h 17 min 55, the A318 crew contacted sector T of the CRNA/SO, in climb towards FL 230. The ATC answered that they would call back for a higher altitude. At 14 h 18 min 10, Marengo contacted the control and detection centre (CDC) at Lyon Mont Verdun and asked if they could read the altitude of a civil aircraft without an alticoder, in code 2742, east of Clermont (this related to the PC 12). The controller at of Lyon Mont Verdun CDC answered that he "reads FL 270 in mode C for this airplane". At 14 h 19 min 04, the A318 was cleared to climb to FL 290 on OLRAK. It was located behind the PC 12 on the same route. Its speed was about 170 kts more than that of the PC 12. At 14 h 19 min 30, Marengo called back the controller at the CRNA/SO and relayed the information that indicated that the PC 12 was at FL 270. At 14 h 19 min 48, the controller called PC 12 back to tell him that he was at exactly FL270 after a check via the military. A 14 h 30 min 20, the pilot of the PC 12 informed the controller that an Air France airplane had passed very close to him and asked at what altitude this airplane was. The controller answered that this traffic was 2,000 feet above. The pilot answered that the traffic was just below and asked if the military were sure of the altitude that they had supplied. At 14 h 31, the pilot of the A318 stated that he wanted to file an airprox as he had just overtaken an airplane at the same level while making an avoidance manoeuvre to the left. He stated that he

had had no TCAS information. The pilot of the PC 12 asked to descend to a level where he would be separated from all traffic. He stated that he had a problem with his 2 altimeters, which showed a variation of 2,000 feet and that the altitude displayed on the ATC control screens was apparently false. Note: the pilot of the Pilatus used the co-pilot barometric system for the rest of the flight. There was no triggering of the Short Term Conflict Alert (STCA) system at the control position or a TCAS alert on either of the 2 airplanes. The minimum separation between the 2 airplanes could not be measured on the recording, the 2 radar plots being mixed together. The crews estimated that the separation was between 15 and 30 metres horizontally and about 100 feet vertically.

Safety Recommendation FRAN-2011-002 (BEA):
The BEA recommends to EASA that these cases be considered as emergency situations that must be declared without delay by crews to the ATC services.

Reply:

EASA does not share the view of Bureau d'Enquêtes et d'Analyses pour la sécurité de l'aviation civile (BEA) that such situations are automatically considered an emergency which would force the aircraft to land at the next available aerodrome. In accordance with Annex 10 Volume 2 'Communication Procedures including those with PANS status' to the Chicago Convention distress is defined as 'a condition of being threatened by serious and/or imminent danger and of requiring immediate assistance'. It is EASA's view that this was not necessarily the case in this incident. However, the pilot-in-command shall inform the responsible Air Traffic Service (ATS) if he/she is unable to determine the vertical position of the aircraft based on barometric references so that ATS can take appropriate action in accordance with their procedures and shall request adequate services. To emphasise this EASA foresees transposition of the following ICAO PANS-ATM (Doc. 4444) provision into the Standardised European Rules of the Air (SERA):

"5.2.2 Degraded aircraft performance

Whenever, as a result of failure or degradation of navigation, communications, altimetry, flight control or other systems, aircraft performance is degraded below the level required for the airspace in which it is operating, the flight crew shall advise the ATC unit concerned without delay. Where the failure or degradation affects the separation minimum currently being employed, the controller shall take action to establish another appropriate type of separation or separation minimum."

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
F-GRRA	MUDRY CAP10	Saint Rambert d'Albon (26), France	04/06/2010	Accident

Synopsis of the event: Le vendredi 4 juin 2010, les 2 pilotes décollent à bord du CAP10 C immatriculé F-GRRA pour réaliser un vol de réentraînement à la voltige. L'instructeur est en place gauche. Ils montent à une hauteur de 5 000 ft à la verticale de l'aérodrome de Saint Rambert d'Albon (26) pour débuter les exercices qui ont été préparés lors d'un briefing avant le décollage. Après avoir exécuté une vrille « dos », ils remontent à la même altitude pour débuter une vrille « plate ». La mise en vrille plate à droite est réalisée selon la procédure décrite au briefing par l'instructeur. Après plusieurs tours de vrille, le pilote en place droite puis l'instructeur tentent sans succès d'arrêter la rotation de l'avion. L'instructeur décide de l'évacuation et largue la verrière. Le pilote en place droite s'extrait de l'avion et actionne la commande d'ouverture du parachute qui s'ouvre normalement. L'instructeur n'a pas le temps d'évacuer avant que l'avion entre en collision avec le sol.

Safety Recommendation FRAN-2011-005 (BEA):
The BEA recommends that EASA study the need to cover procedures for pulling out of a spin in an exhaustive manner in the CAP10 Flight Manual.

Reply:

The Type Certificate Holder has revised the Aircraft Flight Manual (AFM) to better describe procedures for pulling out of a spin. The procedure to recovery from all unintentional spin is changed to require immediate engine reduction to idle. It includes modification of the placard on the cockpit and section 3 of the AFM. Concerning the flat spin, paragraphs 4.4 and 4.4.1 have been modified to clarify the aileron control FULL in the direction of the spin to speed up flat spin recovery. The modification is mandated by Airworthiness Directive (AD) 2012-0253.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
SU-BPZ	BOEING 737	Paris Charles de Gaulle Airport, France	16/08/2008	Serious incident

Synopsis of the event: At night in VMC conditions, the crew of flight AMV6104 to Luxor lined up from intersection Y11 on runway 27L at Paris Charles de Gaulle Airport. The runway distance available for take-off was temporarily reduced because of construction work. During the takeoff run, the airplane struck some provisional lights at the end of the runway then, during the rotation, destroyed some markers on the safety-barrier positioned in front of the construction zone. It took off before a provisional blast fence and continued its flight to its destination.

Safety Recommendation FRAN-2011-019 (BEA):
The BEA recommends that EASA conduct a study on the standards that should be taken into account during certification of on-board performance calculation systems, in order to ensure that their ergonomics and procedures for use are compatible with the requirements of safety.

Reply:

A call for tender has been launched, EASA.2013.OP.14 entitled Electronic Flight Bag (EFB) – Aircraft performance calculations and mass & balance – Best practices for evaluation and use of EFB.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
F-ORGB	ROBINSON R22	the Col des Boeufs, Saint Benoit Commune (974), France	31/05/2010	Accident

Synopsis of the event: Le pilote du Robinson R22 décolle de la commune de La Nouvelle dans le cirque de Mafate à destination du « Col des Boeufs » situé à 1 940 mètres d'altitude pour récupérer des colis. Trois personnes d'une société d'électricité sont présentes sur le col et doivent se rendre dans une maison forestière pour réaliser des travaux. Le pilote qu'ils ont eu au téléphone leur a proposé de les amener avec le R22 sur le site de la maison forestière depuis le « Col des Boeufs » à l'issue de la première rotation qu'il devait effectuer. Le pilote se pose sur l'hélisurface du « Col des Boeufs » et procède, moteur tournant, à l'embarquement du premier passager. Le pilote décolle en stationnaire d'environ un mètre, puis recule avant de virer à droite dans la pente. Au cours de cette manoeuvre, la queue touche le relief dans la pente puis le patin droit se bloque sous un rocher. L'hélicoptère s'écrase et s'immobilise en contrebas.

Safety Recommendation FRAN-2011-021 (BEA):
The BEA recommends that EASA and the FAA make mandatory the installation of a fuel cock with a selector as modified since July 2007 on R22 type helicopters in order to avoid any accidental manoeuvres.

Reply:

Federal Aviation Administration (FAA) has issued a notice of proposed rulemaking (NPRM) with a proposed Airworthiness Directive (AD) on 18 April 2013. The commenting period is until 24 June 2013. Upon completion of the FAA NPRM process and issuance of the FAA AD, EASA intends to adopt the FAA AD.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
F-GIXD	BOEING 737	Aérodrome de Montpellier Méditerranée (34)	10/01/2010	Incident

Synopsis of the event: On 10 January 2011, the crew took off from runway 31 right at Montpellier Méditerranée for a ferry flight bound for Toulouse Blagnac. At the time of the rotation, the leading edge slats extended from the intermediate position to the fully extended position. The left stick shaker activated immediately. The Captain noticed an erroneous indication on his PFD speed strip. He didn't note any anomalies on the co-pilot's PFD, on the backup display or on the engine displays. The slats returned to their initial position. Twelve seconds after activation, the stick shaker stopped. After analyzing the systems' behaviour, the crew decided to continue the flight to the destination. No other events were noted during the flight. Readout of the QAR data showed that at the time of rotation, the angle measured by the left angle of attack sensor was not representative of the real angle of attack. As the airplane lease was coming to an end, the airplane was ferried to Montpellier, to the workshops of Latécoère Aeroservices, a part 145 approved organization contracted by Europe Airpost to be repainted in white for restitution to its owner. During the painting operations, the lease was finally extended at the request of the operator. Latécoère Aeroservices could not quickly provide a new slot to repaint the airplane in the colors of Europe Airpost. The operator then decided to ferry the airplane to another paint shop, STTS, located at Toulouse Blagnac. The second painting operations began after the ferry flight. During these operations, the left AOA sensor was identified as the cause of the stick shaker activation. It was removed on January 19, 2011.

Safety Recommendation FRAN-2012-003 (BEA):
The BEA recommends that EASA ensures that manufacturers develop in their approved documentation specific procedures of protection and verification of the external sensors during painting operations.

Reply:

Maintenance instructions for precautions to be taken with regard to external probes or sensors in the frame of painting activities is considered as part of Instruction for Continued Airworthiness required under CS 25.1529 and the related Appendix H to CS-25. These are typically available in the Aircraft Maintenance Manual (AMM).

In addition, the AMM also provides a description of the external sensors or probes which further helps understanding their eventual susceptibilities.

Concerning the method for sensors or probes masking, special protective tools are not always available, nevertheless state-of-the-art procedures are usually convenient when they are followed. In the present case, the company in charge of the painting should have worked the vicinity of the moving part of the probe by hand so that the old paint residues would have been removed and also so that new paint is not applied between the probe moving part and the mounting base.

EASA is monitoring, in coordination with FAA, the AMM revision of all Boeing models to ensure the AMM procedures cover the protection of all external probes/sensors during painting.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
F-CHRK	SCHLEICHER ASK13	Saint Rémy de Provence (13) aerodrome, France	24/02/2012	Serious incident

Synopsis of the event: During a takeoff using a winch, the student pilot was unable to pitch up the glider sufficiently. The instructor took over the controls. Noticing an anomaly in the glider's behaviour, he released the winch cable at a height of about 150 metres. The glider pitched nose-down. The instructor managed to land in a field by manoeuvring the glider around the pitch axis using the speed brakes. On the ground, an examination of the glider showed that the elevator was disconnected. This elevator is automatically connected and the elevator's integral bearing, which fits into one of the rods that make up the elevator control channel (see photo), had come out of its housing. Preliminary examinations showed that the axle of this bearing, when the elevator control was in place, was in a higher position than on other gliders of the same type. Moderate effort on the elevator was enough to push it out of its housing. The reason for this anomaly has not been determined at present and is linked to the non-adjustable position of the bearing axle.

Safety Recommendation FRAN-2012-011 (BEA):
The BEA recommends that EASA proceed with an inspection of Schleicher ASK13 gliders in order to check that the aforementioned anomaly is not present on other gliders of the same type.

Reply:

A technical note has been produced by the Type Certificate Holder. It requests a one-time inspection and the replacement of parts in case non-conformities or failures are detected on the type ASK 13 and other types from Schleicher which have a similar coupling. EASA has issued AD 2013-0091 to mandate the action.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
F-GMPO	BEECH 200	Montpellier Aerodrome (34), France	07/01/2011	Accident

Synopsis of the event: The crew took off from Runway 13 left for an IFR flight bound for Albert Bray (80) with two passengers. During initial climb, the co-pilot, PF, found that the left horizon was unusable. The Captain, in the right seat, took over the controls and used the information from the right horizon to continue the flight. The co-pilot noticed that the amber generator lights were on. He tried unsuccessfully to stop and start them. The Captain decided to abort the flight. He asked the co-pilot to extend the landing gear. During the extension sequence, the aircraft suffered a total electrical failure. The lighting conditions in the cockpit were then very dark and the crew had difficulty in reading the instrument displays. The Captain shouted to the co-pilot to shine a flashlight on the instruments. He briefly saw the threshold of runway 31 right. The co-pilot suggested that he go around as he was unsure that the gear was locked down. During the aerodrome circuit at low height the co-pilot continued extending the landing gear manually. The emergency landing being imminent, the co-pilot stopped doing this, even though he was unsure that the gear was locked down because he didn't feel the "hard point". Given the weather and the difficulty of reading the instruments, the Captain decided to land. During the landing roll the main landing gear collapsed slowly, the fuselage came into contact with the ground and the aircraft stopped on the runway.

Safety Recommendation FRAN-2012-012 (BEA):

The BEA recommends that EASA and the FAA ask the manufacturer to modify the ergonomics of the ENG AUTO IGNITION and IGNITION AND ENGINE START switches on Beech 200 aeroplanes in order to avoid any confusion in their use by flight crew.

Reply:

The design and the ergonomics of the switch board has been reviewed and it has been concluded that it meets the requirements. Appropriate warning and instructions are in place for a proper use of the switches. This EASA position agrees with that of FAA.

Status: Closed – **Category:** Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
F-GJGQ	SCHWEIZER 269C	Saint-Aignan (45), France	25/07/2010	Accident

Synopsis of the event: The pilot, accompanied by a female passenger, took off to ferry the helicopter from the Saint-Aignan (45) helipad to that at Breuil (03) in order to undertake initiation flights in the context of an air show. After about 10 minutes flight, in meteorological conditions favourable for visual flight, the helicopter struck the tops of some trees in a wood and crashed underneath.

Safety Recommendation FRAN-2012-013 (BEA):
The BEA recommends that EASA modify, for companies without an AOC in the context of their specific commercial activities, the approval procedure for re-entry into service of an aircraft. This procedure must ensure that the approval be performed by a different person from the one that performed the work or by organisation independent of the operator.

Reply:

Annex I of Commission Regulation (EC) No 2042/2003, Part M, contains the maintenance standards to be considered when performing maintenance on an European aircraft. These standards are applicable regardless of the type of operation of the aircraft.

Paragraph (a) of M.A.402 of Part M, already requires that, after the performance of flight safety sensitive maintenance tasks, an independent inspection is performed before releasing the aircraft back to service, as per M.A.801 "Aircraft certificate of release to service" or 145.A.50 "Certification of maintenance".

The related Acceptable Means of Compliance (AMC) to M.A.402 (a) contains instructions on how to perform this independent inspection (performed by a person different to that one that performed the maintenance work) and a definition of what should be considered as a flight safety sensitive maintenance task. This definition embraces the maintenance task subject of discussion.

Status: Closed – **Category:** Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
F-GJFJ	AEROSPATIALE AS350	Terre Adélie	28/10/2010	Accident

Synopsis of the event: Le 28 octobre 2010, les pilotes des deux hélicoptères exploités par SAF HELICOPTERES effectuent un vol de transport de passagers et de matériels depuis le navire l'Astrolabe vers la base de Dumont d'Urville en Terre Adélie. Ces vols sont entrepris pour faire suite à l'avarie d'hélice du navire contraint d'interrompre sa progression vers Dumont d'Urville. Au moment de décider d'entreprendre les vols, les conditions météorologiques sur le navire et sur la base distante de 207 NM sont bonnes. L'autonomie et les performances des hélicoptères permettent de réaliser les vols. Les pilotes des deux hélicoptères décollent à environ quinze minutes d'intervalle. Le pilote du premier hélicoptère rencontre en croisière des conditions météorologiques le conduisant à décider de poursuivre le vol à une hauteur faible, parfois inférieure à 200 ft pour rester sous la couche nuageuse. Le pilote du second hélicoptère, immatriculé F-GJFJ, choisit dans un premier temps de survoler cette couche nuageuse puis décide de faire demi-tour pour passer également sous la couche nuageuse. Le pilote réalise deux virages de 360 ° à faible vitesse et faible hauteur après être passé sous

la couche nuageuse. L'hélicoptère entre en collision avec la surface de la banquise. Les derniers points de trajectoire enregistrés indiquent une hauteur d'environ 30 ft.

Safety Recommendation FRAN-2012-014 (BEA):
BEA recommends that DGAC and EASA define explicitly, in the regulations relating to the operation of helicopters for the transportation of passengers, the concept of a "base of operations" and the procedures for notifying the authority of the creation of a new base of operations."

Reply:

The creation of a new main operating base is addressed in Annex III 'Organisation Requirements for Air Operations' of Commission Regulation (EU) No 965/2012. It is regarded as a change affecting the scope (area, operational environment, type of helicopter etc.) of the air operator certificate, and according to ORO.GEN.130, the operator shall apply for and obtain an approval issued by the competent authority. The application shall be submitted before any such change takes place.

The opening of another (secondary) operating base is addressed in Annex II 'Authority Requirements for Air Operations' and Annex III 'Organisation Requirements for Air Operations' of Commission Regulation (EU) No 965/2012. It is regarded as a change which does not require prior approval by the competent authority. However, according to ORO.GEN.130(c), the operator shall manage and notify the competent authority as defined in a procedure approved by the competent authority in accordance with ARO.GEN.310(c).

The decision to treat the change as one which requires prior approval or as one which requires notification to the authority will depend on the extent of the change and exact local circumstances, e.g. whether it is a major relocation of the main operating base or the opening of another (secondary) operating base; the robustness of the operator's management system; the oversight findings of the authority etc.

In conclusion, the Agency considers that the intent of the Safety Recommendation is addressed in the above-mentioned provisions.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
F-GLZU	AIRBUS A340	FL350, over the North Atlantic Ocean	22/07/2011	Serious incident

Synopsis of the event: This serious incident was due to inadequate monitoring of the flight parameters, which led to the failure to notice AP disengagement and the level bust, following a reflex action on the controls. The following factors contributed to the serious incident: the AP disengagement aural warning was not broadcast, because of simultaneity with the "OVERSPEED" warning with higher priority; the turbulence encountered at the start of climb made parameter reading difficult; checking AP engagement, as required in the operator's "Severe Turbulence" procedure, was not carried out; inappropriate use of the weather radar meant it was not possible to avoid entering a zone of turbulence.

Safety Recommendation FRAN-2012-021 (BEA):
The BEA recommends that EASA introduce the surprise effect in training scenarios in order to train pilots to react to these phenomena and work under stress.

Reply:

The Crew Resource Management (CRM) elements of this Safety Recommendation are being taken into consideration within the framework of rulemaking task RMT.0411 'Crew resource management', which was launched by the Agency on 15 November 2012 with the publication of the associated Terms of Reference.

Rulemaking tasks RMT.0581 and RMT.0582 'Loss of Control Prevention and Recovery Training' were launched by the Agency on 20 August 2013 with the publication of the associated Terms of Reference. This includes a review of how far training scenarios including the effects of surprise should be included in initial, type and recurrent training.

Status: Closed – **Category:** Partial agreement

Safety Recommendation FRAN-2012-022 (BEA):
The BEA recommends that EASA evaluate the possibility of requiring that the autopilot disengagement aural warning for all aeroplanes of a maximum mass on take-off of more than 5.7 t be triggered in compliance with paragraphs AMC 25.1322 and AMC 25.1329(j) of the CS-25. [Recommendation FRAN- 2012-022]

Reply:

Recently certified large aeroplanes comply with this recommendation, and CS-25 already provides for corresponding specifications through CS 25.1329(j) and the corresponding guidance of AMC N°1 to CS 25.1329 (§8.1.2.1)(CS-25 amendment 4 dated 27 Dec 2007), and CS/AMC 25.1322 (CS-25 amendment 11 dated 04 July 2011).

With regard to previously certified aircraft, the Agency's evaluation does not show sufficient evidence to justify mandating a retroactive change. An unsafe condition has not been determined thus the Agency will not issue an Airworthiness Directive

Status: Closed – **Category:** Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
EI-RJW	BAE BAE146	Basel-Mulhouse-Freiburg Airport (68)	17/06/2010	Incident

Synopsis of the event: The crew was performing a flight from Paris Charles de Gaulle to Zürich.

On arrival at Zürich at about 16 h 50, the crew made a go-around during final approach because of bad meteorological conditions. Given the immediate forecast and the absence of an estimated time for a new approach, the crew decided to divert to the diversion aerodrome, Basel-Mulhouse-Freiburg, without holding at Zürich. The remaining fuel quantity was about 2,170 kg, which corresponded to about 75 minutes of flight at cruising speed.

The Zürich controller informed the controller in charge of coordination at Basel-Mulhouse-Freiburg of the diversion of the BAe 146 due to meteorological conditions.

At 17 h 11, during the first contact with the Basel-Mulhouse-Freiburg approach controller, the crew declared that they had diverted. The controller informed them that they would be radar-vectored for runway 33.

About 8 minutes later, during radar vectoring, the crew asked for a shortened flight path, without giving any reason.

At 17 h 20, the approach controller cleared the crew to intercept the ILS and to perform the approach then asked them to change frequency. The crew then contacted the tower controller and said they were 14 NM from runway 33.

At 17 h 24 min 29, the tower controller asked, in French, the crew of an A319, situated at the holding point, if they were “ready for a departure within a minute”. The latter answered immediately: “ah within a minute yes in thirty seconds”. The controller then cleared them to line up on the runway and to take off.

On final approach, the crew of the BAe 146 noticed the A319 on the runway. When the airplane was about 4.7 NM from the runway threshold, they contacted the tower controller to ask him to confirm that they were in fact cleared to land. The controller answered: “negative, continue approach runway three three, an Airbus three one nine at departure“.

At 17 h 26 min 16, while the BAe146 was 1.8 NM from the runway threshold, the crew of the A319 not having taken off, the tower controller told them : “stop immediately, hold position, repeat, stop immediately, a BAe 46 on go-around“. Then he asked the crew of the BAe to make a go-around. The latter refused because they did not have enough fuel and requested that the A319 vacate the runway.

Note: At this time and according to the airline’s analysis, the quantity of fuel remaining was estimated at 1,400 kg. The final reserve is defined as 850 kg.

At 17 h 26 min 36, the controller ordered a go-around, which the crew performed.

At 17 h 26 min 58, the crew stated: “we are declaring a fuel emergency now we request priority vectors for landing“.

The tower controller contacted the approach controller by telephone. They decided to have the airplane climb to 6,000 ft on the extended runway centreline and to “make it as short as possible “. The tower controller asked the crew to climb to 6,000 ft and to change frequency.

At 17 h 28 min 23, the crew of the BAe 146 contacted approach control: “Mayday Mayday Mayday, City 108X, declaring fuel emergency, request priority landing“.

After ensuring that they had the runway in sight, the approach controller offered the crew of the BAe 146 a visual approach, which was accepted.

At 17 h 34, the crew landed.

On the ground, the quantity of fuel remaining was 1,220 kg.

Safety Recommendation FRAN-2012-026 (BEA):
The BEA recommends that the DGAC and EASA implement the “minimum fuel” message already defined by ICAO, with the associated procedures.

Reply:

The Agency had originally intended to consider this SR within the framework of rulemaking tasks RMT.0573 and RMT.0574 'Fuel planning and management' which are on the Agency's Rulemaking Programme 2014-2017. However, a more expeditious action has been taken by the Agency in the meantime in the form of Safety Information Bulletin (SIB) 2013-12, which was published on 23 July 2013. With this action, holders of an Air Operator Certificate have been advised to take account of the new standards for in-flight fuel management and new fuel-related phraseology in amendment 36 of the International Civil Aviation Organization (ICAO) Annex 6 Part I. This includes the following fuel related messages to be applied by the pilot-in-command:

- To request delay information from Air Traffic Control (ATC);
- To advise ATC of a minimum fuel state by declaring 'MINIMUM FUEL';
- To declare a situation of fuel emergency by broadcasting 'MAYDAY MAYDAY MAYDAY FUEL'.

Through this SIB, the Member State operators have been advised to amend their procedures for in-flight fuel management and the fuel related phraseology in accordance with the new ICAO standards and to document those changes in their Operations Manuals accordingly.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
F-OIEL	AEROSPATIALE AS350	1 NM au Sud Est de la Croisée d'Apatou	04/08/2010	Accident

Synopsis of the event: Le pilote de l'hélicoptère transporte sous élingue un conteneur souple rempli de carburant au-dessus de la forêt guyanaise. La charge avait été préparée par un assistant au sol. Le conteneur souple est placé dans un filet de forme carrée, dont les quatre angles sont équipés de boucles en corde. Ces quatre boucles sont elles-mêmes regroupées dans le crochet de l'élingue, rattachée à un crochet délesteur situé sous l'hélicoptère. Une minute après le décollage, deux des quatre boucles du filet se détachent du crochet, ce qui entraîne la chute du conteneur souple. La perte de la charge provoque un effet de surprise qui contraint le pilote à larguer le filet alors que l'hélicoptère évolue à une vitesse trop élevée pour accomplir cette manoeuvre. Le filet qui soutient la charge entre alors en contact avec le RAC provoquant au final la perte de contrôle en vol.

L'enquête a montré que la conception et la maintenance de l'élingue n'étaient pas conformes à la Directive Européenne « Machines », rendant l'accrochage de la charge à l'accessoire de levage inadapté. L'état de l'élingue montre qu'aucune opération de maintenance n'avait été accomplie sur l'élingue et que l'usure de ses composants n'a donc pas été détectée. L'enquête a aussi montré que la formation de l'assistant sol ne lui permettait pas d'avoir une connaissance des spécificités du transport d'une charge externe inerte transportée par un hélicoptère. Il n'a donc vraisemblablement pas détecté le mauvais arrimage de la charge.

Safety Recommendation FRAN-2012-028 (BEA):
Le BEA recommande que l'AESA et la DGAC s'assurent que le matériel d'élingage pour le transport de charge externe inerte soit conçu et utilisé selon les normes de sécurité définies par la Directive Européenne «Machines» (ou sa transposition en droit français dans le Code du travail). [Recommandation FRAN-2012-028]

Reply:

EASA is producing a certification memorandum for certification of PCDS (Personnel Carrying Device System), which is encompassing also the ropes used to attach it under the helicopter cargo hook. The Agency is proposing to adopt the European Machinery Directive (or equivalent standards) as an alternative means of compliance to TSO C-167, which is the one indicated in the published FAA AC27.29.865 for PCDS and safety harnesses.

This means that this equipment may in the future be certified according to the above mentioned standard. For operations transporting cargo or non-human beings, it is considered that individual airworthiness certification of slinging equipment would be too restrictive. The reference to material properly certified under the Machinery Directive, or equivalent standards, will instead be made in subpart E, Section 1 of Annex VIII, Part-SPO (specialised operations) as indicated in Opinion No 02/2012 of the European Aviation Safety Agency of 16 April 2012. This section will address the design and use of Helicopter External Sling Load Operations (HESLO).

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
F-GABB	AVIONS ROBIN DR400	AD Le Touquet Paris-Plage (62), France	04/04/2011	Accident

Synopsis of the event: The student was undertaking a dual-control instruction flight between Dunkirk (59) and Le Touquet aerodromes. On arrival, he flew the downwind leg for a landing on runway 32. The flare and main landing gear touchdown occurred without any problems. When the nose gear touched down, the aeroplane was subject to strong vibrations. The instructor pushed the control column forwards and braked. The nose gear collapsed and the aeroplane came to a stop on the runway.

Safety Recommendation FRAN-2012-031 (BEA):

Le BEA recommande que l'AESA mette en place, en collaboration avec la DGAC, une solution technique afin de prévenir l'apparition de nouvelles ruptures de ce type, et de modifier la consigne de navigabilité EU-2010-0231 en conséquence.

Reply:

EASA is investigating the issue and the suitability of the actions mandated by the Airworthiness Directive. Given the severity and the low number of occurrences, no urgent action is deemed necessary.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
F-HAIR	DASSAULT FALCON50	Aerodrome of Paris Le Bourget (93), France	13/08/2010	Accident

Synopsis of the event: De jour, l'équipage en provenance de Lyon Bron, effectue un vol sous le contrôle d'un pilote inspecteur de l'OCV. Ce vol est nécessaire à la délivrance par la DGAC d'un CTA au nouvel exploitant. Le copilote est PF. Lors de l'approche pour une finale en piste 27 de l'aérodrome de Paris Le Bourget, à la suite de l'essai qui indique une panne potentielle de l'anti-patinage, l'équipage positionne le sélecteur du système de freinage sur secours comme le demande la procédure. Lors du roulement à l'atterrissage, l'avion se déporte vers la droite. Le copilote corrige au palonnier. La trajectoire de l'avion s'infléchit vers la gauche. Le commandant de bord observe cette déviation et annonce au copilote qu'il prend les freins. Il agit sur le palonnier jusqu'à la butée. L'avion sort latéralement de piste à une vitesse d'environ 60 kt et roule environ 80 mètres sur l'herbe avant de retourner sur la piste et de s'immobiliser.

Safety Recommendation FRAN-2012-072 (BEA):

The BEA recommends that EASA ensure that operators undertake, during taxiing for check flights, a test to ensure correct lateral braking in both normal and emergency modes.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation FRAN-2012-073 (BEA):

The BEA recommends that EASA make it mandatory that the tasks required before and after the performance of an unprogrammed maintenance operation should be described in the aircraft manufacturer's maintenance documentation.

Reply:

EASA Certification Specifications (CS) already require "Information describing the order and method of removing and replacing products and parts with any necessary precautions to be taken." [see for instance CS-25, Appendix H, H25.3 (b)(3)].

In the event resulting the Safety Recommendation, the Aircraft Maintenance Manual (AMM) task 32-580 provided a crucial means which permitted to identify the involved maintenance error (inversion of the braking blocks), although, as noted in the report, the investigation did not find why this did not happen.

Status: Closed – **Category:** Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
F-GLZU	AIRBUS A340 (300)	Paris Charles de Gaulle	13/03/2012	Serious incident

Synopsis of the event: L'équipage décolle de l'aérodrome de Bamako (Mali) le 12 mars 2012 à 23 h 59 à destination de l'aérodrome de Paris Charles de Gaulle (CDG). A leur arrivée, l'ATIS indique que la procédure de faible visibilité (LVP) est en vigueur. L'équipage se prépare à une approche de précision CAT III. L'avion est stable au FL90 à environ 30 NM du seuil de piste 08R. Le pilote automatique (AP) 1 est engagé en mode HDG et ALT. L'ATHR est engagée en mode SPEED. La vitesse est stable à 250 kt conformément à la demande du contrôleur. L'équipage est en contact avec l'approche de CDG. Il est autorisé à intercepter le localizer 08R. A 4 h 40 min 20, le contrôleur autorise l'équipage à descendre au FL80 et cinq secondes plus tard l'avion, stable au FL90, passe au-dessus du plan de descente de 3°. L'équipage est ensuite autorisé à descendre au FL60. Il sélectionne une altitude de 6 000 ft au FCU et l'AP passe en mode OP DES. L'AP capture le signal localizer 08R (LOC*) puis le mode LOC s'engage. Lorsque l'avion passe 7 220 ft, et qu'il est à 17,5 NM du seuil, soit environ 1 275 ft au-dessus du plan, le contrôleur demande le maintien d'une vitesse supérieure à 200 kt. La vitesse de l'avion est d'environ 250 kt. L'équipage collationne et demande s'il peut poursuivre la descente. Le contrôleur s'excuse de son oubli puis autorise l'équipage à descendre vers 3 000 ft pour intercepter l'ILS 08R. L'équipage sélectionne 220 kt et 3 000 ft. Le mode OP DES reste actif. La vitesse et le taux de descente de l'avion diminuent ce qui a pour conséquence d'augmenter l'écart par rapport au plan de descente. L'équipage sort les aérofreins. Lorsque la vitesse de l'avion atteint la vitesse cible de 220 kt, le taux de descente augmente à nouveau jusqu'à une valeur de - 1 840 ft/min. En mode OP DES, la diminution de la vitesse est prioritaire sur l'acquisition de l'altitude. A cet instant, il y a un vent de face de 10 kt. Le taux de descente pour un plan de descente de 3° à la vitesse de l'avion est d'environ 1 100 ft/min. A 10 NM du seuil de piste et à une altitude de 5 500 ft, le contrôleur d'approche demande à l'équipage de maintenir une vitesse supérieure à 160 kt et de contacter la tour. Il n'informe pas le contrôleur de la tour que l'avion est au-dessus du plan. L'équipage sélectionne une vitesse de 210 kt puis 183 kt et la configuration becs/volets 1. Une nouvelle fois, le taux de descente diminue et l'avion s'écarte du plan de descente à 3°. L'équipage contacte la tour et indique qu'il est à 9 NM. L'avion est à une altitude de 4 950 ft (soit 1 750 ft au-dessus du plan). Le contrôleur autorise initialement l'équipage à poursuivre l'approche. Ce dernier collationne « Autorisé atterrissage 08 droite… ». Le contrôleur indique qu'il vérifie alors que les servitudes CAT III sont dégagées puis confirme l'autorisation d'atterrir. L'équipage sélectionne la configuration becs/volets 2 et rentre les aérofreins. Environ une minute plus tard, il sort à nouveau les aérofreins, arme le mode G/S par appui sur le bouton APPR et engage l'AP 2. La déviation du glide affichée sur le PFD indique à l'équipage qu'il se rapproche d'un plan de descente par le dessus. L'avion est à 4 NM du seuil de piste, à environ 3 700 ft (soit 2 100 ft au-dessus du plan de descente à 3°) et se situe dans un lobe secondaire du signal ILS. Environ 30 secondes plus tard, l'équipage sort le train d'atterrissage. Le mode de capture du plan de descente (G/S*) s'active lorsque l'avion est à 2 NM du seuil de piste et à 2 850 ft (soit environ 1 600 ft au-dessus du plan de descente à 3°). L'ATHR passe en mode SPEED. L'assiette augmente de 1° à 26° en 12 secondes. Le PNF indique qu'il a annoncé l'écart d'assiette à l'apparition des chevrons. Lors de la prise d'assiette, la vitesse passe de 163 kt à 130 kt, la vitesse verticale passe de - 1 600 ft/min à + 3 300 ft/min. Lorsque l'assiette atteint 26°, l'équipage déconnecte les deux AP et le PF applique une action à piquer proche de la butée mécanique. L'assiette et la vitesse verticale diminuent. L'équipage rentre les aérofreins. Les manettes de poussée sont positionnées sur le cran IDLE. La vitesse est de 143 kt et l'ATHR se désengage. Environ 30 secondes plus tard, l'AP 1 est engagé, les manettes sont repositionnées sur le cran CL et l'ATHR est activée. Le PF explique qu'il engage l'AP 1 pour effectuer une remise des gaz en automatique. Les modes LOC et G/S sont actifs et l'ATHR est en mode SPEED. La vitesse est de 147 kt. L'avion est à la verticale du seuil de piste à une altitude d'environ 2 700 ft. L'assiette diminue alors de 2° à - 5° et l'avion descend. Le PF précise qu'il se rend compte que les modes affichés au FMA ne sont pas adaptés. Il désengage alors l'AP 8 secondes après l'avoir activé puis affiche une assiette d'environ 6° et positionne les manettes de poussée dans le cran TOGA à une altitude d'environ 2 000 ft.

Safety Recommendation FRAN-2013-005 (BEA):
La procédure d'Air France relative au rattrapage du plan de descente par le dessus ne définit pas de limites opérationnelles pour sa réalisation (écart toléré par rapport à la trajectoire, conditions météorologiques et position dans la procédure d'approche). Cette absence ne permet pas à l'équipage de disposer de critères suffisants pour décider de la poursuite de l'approche.

En conséquence, le BEA recommande que l'AESA veille à ce que les autorités nationales s'assurent que leurs exploitants définissent dans leur documentation des limites opérationnelles explicites fournissant aux pilotes une aide à la décision avant d'effectuer un rattrapage du plan de descente par le haut.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-008 (BEA):
L'enquête a montré qu'il était possible d'intercepter un plan de descente ILS d'un lobe secondaire sous pilote automatique sans alerter l'équipage. De plus, dans ces conditions, le pilote automatique a conduit l'avion dans une position inusuelle (assiette de 26°) lors d'une phase critique du vol. Cette problématique est susceptible de concerner d'autres aéronefs en transport public.

En conséquence le BEA recommande que l'AESA s'assure que les modes ILS des aéronefs ne s'engagent pas sur un signal ILS autre que celui correspondant au plan de descente publié ; qu'à défaut un système permettant d'alerter l'équipage soit mis en place.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-009 (BEA):
L'enquête a montré qu'il était possible d'intercepter un plan de descente ILS d'un lobe secondaire sous pilote automatique sans alerter l'équipage. De plus, dans ces conditions, le pilote automatique a conduit l'avion dans une position inusuelle (assiette de 26°) lors d'une phase critique du vol. Cette problématique est susceptible de concerner d'autres aéronefs en transport public.

En conséquence le BEA recommande que l'AESA s'assure que l'activation des modes ILS sous pilote automatique des aéronefs n'entraîne pas des attitudes inadaptées lors d'une approche.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
F-OIXZ	CESSNA 208	Anse-Bertrand (971)	05/09/2010	Accident

Synopsis of the event: Flight FWI 706, departing from Pointe-à-Pitre aerodrome (971) and bound for Saint-Barthélemy aerodrome (971) was undertaken in the framework of a public transport passenger flight. Eleven minutes after takeoff, the pilot stated that the aeroplane was climbing towards 7,000 ft, about 13 NM from the coast when the engine shut down. He broadcast a mayday message and turned back. Near the coast, the pilot noticed that he would not be able to reach the aerodrome and made a forced landing in a field. The aeroplane struck the ground and slid about 35 m before coming to a stop. The pilot and three passengers were slightly injured. The aeroplane was badly damaged. The accident was caused by the non-detection, during engine maintenance operations, of damage resulting from creep on the compressor turbine blades. This damage led to the failure of one or more of these blades then an in-flight engine shutdown.

Safety Recommendation FRAN-2013-010 (BEA):

The BEA recommends that EASA and Transport Canada make mandatory the installation of new monocrystalline blades on PT6A-114/114A engines.

Reply:

Transport Canada Civil Aviation (TCCA) has issued the Airworthiness Directive CF-2013-21 that mandates the installation of new monochrystalline blades on PT6A-114/114A engines. This Airworthiness Directive was adopted by EASA on 06 August 2013.

Status: Closed – **Category:** Agreement

Safety Recommendation FRAN-2013-011 (BEA):

The BEA recommends that EASA and Transport Canada ensure that the inspection programme for previous generation blades on PT6A-114/114A engines be improved while awaiting their replacement.

Reply:

Pratt & Whitney Canada has improved the inspection program for previous generation blades on PT6A-114/114A engines by requiring a borescope inspection as well as a metallurgical evaluation of a sample of blades at Hot Section Inspection. The improved inspection program is mandated by the Transport Canada Airworthiness Directive CF-2013-21. This Airworthiness Directive was adopted by EASA on 06 August 2013.

Status: Closed – **Category:** Agreement

Safety Recommendation FRAN-2013-012 (BEA):

The BEA recommends that EASA extend the obligation to carry at least one flight recorder on board any aircraft operated for public transport.

Reply:

Rulemaking tasks RMT.0271 and RMT.0272 'Recorders for small aircraft' are on the Agency's Rulemaking Programme and this Safety Recommendation will be considered within the framework of these tasks, which are planned to be launched in 2013.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
F-GLPO	CESSNA F152	Moisselles	08/01/2012	Accident

Synopsis of the event: Le pilote, accompagné d'une passagère, décolle à 17 h 04 pour un vol local d'une dizaine de minutes de la piste 25 non revêtue de l'aérodrome de Moisselles. Les données radar montrent qu'il suit le cheminement obligatoire de sortie jusqu'en limite de la CTR (voir figure 1), puis fait demi-tour et revient par le même cheminement. Le pilote évolue à environ 1 400 ft d'altitude. Il débute ensuite son intégration pour la branche vent arrière main droite de la piste 25. La dernière position enregistrée à 17 h 13 est en vent traversier à une hauteur d'environ 700 ft. L'épave est retrouvée à proximité de cette dernière position dans un champ dégagé d'obstacle à environ 1 NM à l'ouest de l'aérodrome.

Plusieurs témoins situés à des endroits différents expliquent qu'ils ont vu l'avion en ligne droite, les ailes à plat, piquer soudainement. Ils précisent que la descente de l'avion a été rapide.

Safety Recommendation FRAN-2013-016 (BEA):

Le BEA recommande que l'Agence Européenne de Sécurité Aérienne informe les autorités nationales de l'aviation civile des risques potentiels sur Cessna et Reims Aviation 150/152 pour un passager de provoquer une action à piquer de l'avion, en agissant involontairement sur le renvoi de commande de profondeur situé à proximité des palonniers. [Recommandation FRAN.2013.016]

Reply:

EASA is reviewing the case and is evaluating the appropriate action regarding the subject issue of the safety recommendation. Since the same safety recommendation has also been addressed to the Federal Aviation Administration which is the primary certification authority for the aircraft, the EASA Project Certification Manager has contacted them for coordination.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
ASAGA STUDY			#Missing#	

Synopsis of the event: The BEA is responsible for investigating all public transport accidents that occur in France. It also participates in investigations conducted into accidents outside France involving aircraft of French design and manufacture, notably Airbus aircraft, as State of Design and Manufacture.

In 2009 and 2010, the BEA thus participated in investigations into the following events:

- the fatal accident to an Airbus A310 on 29 June 2009 at Moroni (Comoros);
- the fatal accident to an Airbus A300 B4 on 13 April 2010 at Monterrey (Mexico);
- the fatal accident to an Airbus A330-200 on 12 May 2010 at Tripoli (Libya).

The first accident occurred during final approach in full thrust configuration and with a high nose-up attitude. The two other accidents occurred during go-around.

Prompted by these three accidents, the BEA decided to launch an overall study into aeroplane state awareness during go around (ASAGA).

The purpose of the study was to:

- determine if the ASAGA issue was uniquely associated with Airbus aircraft;
- list and study the ASAGA-type events that have occurred in public transport over the last 25 years;
- determine and analyse the common factors in these events;
- suggest strategies to prevent their recurrence.

Initially, the BEA searched for ASAGA-type events in the database maintained by the International Civil Aviation Organisation (ICAO), and then in its own internal database. It then broadened its search to include data from American agencies.

Safety Recommendation FRAN-2013-017 (BEA):
The BEA recommends that EASA in coordination with manufacturers, operators and major non-European aviation authorities ensure that go-around training integrates instruction explaining the methodology for monitoring primary flight parameters, in particular pitch, thrust then speed.

Reply:

Initial training provisions are laid down in Annex I Part-FCL (Flight Crew Licensing) of Commission Regulation (EU) No 1178/2011 (Regulation Aircrew), as amended by Commission Regulation (EU) No 290/2012 which contains rules for Approved Training Organisations (ATOs) in Annex VII Part-ORA (Organisation Requirements Aircrew). The associated acceptable means of compliance (AMC) and guidance material (GM) is published in Executive Director (ED) Decision 2011/016/R and ED Decision 2012/007/R on the Agency's official publication site on the worldwide web.

Go-arounds and missed approaches are covered in the appendices and the AMC for LAPL (Light Aircraft Pilot Licence), PPL (Private Pilot Licence), CPL (Commercial Pilot Licence), MPL (Multi-Crew Pilot Licence), ATPL (Airline Transport Pilot Licence), MCC (Multi-Crew Cooperation), IR (Instrument Rating) and type/class rating initial training in Part-FCL.

However, instruction on the methodology for monitoring primary flight parameters during go-around, in particular pitch, thrust then speed, is not explicitly mentioned in these provisions. Therefore, this is being considered by the rulemaking group which is currently reviewing the FCL rules under rulemaking tasks RMT.0188 and RMT.0189 which were launched on 20 July 2011.

With regard to the recurrent training, Commission Regulation (EU) No 965/2012 on Air Operations includes the provisions for operator flight crew training [organisation requirements for air operations (ORO)]. EASA foresees to review the pilot monitoring provisions within the framework of rulemaking tasks RMT.0599/0600 'Review of ORO.FC'. The Safety Recommendation will be considered during these RMTs. Cooperation with manufacturers, operators and non-European aviation authorities will be ensured through the Agency's rulemaking procedure.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-018 (BEA):

The BEA recommends that EASA, in cooperation with the national civil aviation authorities and major non-European aviation authorities, ensure that during recurrent and periodic training, training organizations and operators give greater importance to the assessment and maintenance of the monitoring capabilities of public transport pilots.

Reply:

EASA foresees to review with rulemaking tasks RMT.0599/0600 'Review of ORO.FC' the operator flight crew training requirements [in the organisation requirements for air operations (ORO)]. This will include a review of the pilot monitoring provisions. The Safety Recommendation related to recurrent training will be considered during these RMTs. Cooperation with aviation authorities will be ensured through the Agency's rulemaking procedure.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-019 (BEA):

The BEA recommends that EASA study the additional technical and regulatory means required to mitigate the shortcomings of CRM in high workload and/or unusual conditions.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-022 (BEA):
The BEA recommends that EASA review the regulatory requirements for initial and periodic training in order to ensure that go-arounds with all engines operating are performed sufficiently frequently during training.

Reply:

Initial training provisions are laid down in Annex I Part-FCL (Flight Crew Licensing) of Commission Regulation (EU) No 1178/2011 (Regulation Aircrew), as amended by Commission Regulation (EU) No 290/2012 which contains rules for Approved Training Organisations (ATOs) in Annex VII Part-ORA (Organisation Requirements Aircrew). The associated acceptable means of compliance (AMC) and guidance material (GM) is published in Executive Director (ED) Decision 2011/016/R and ED Decision 2012/007/R on the Agency's official publication site on the worldwide web.

Go-arounds and missed approaches are covered in the appendices and the AMC for LAPL (Light Aircraft Pilot Licence), PPL (Private Pilot Licence), CPL (Commercial Pilot Licence), MPL (Multi-Crew Pilot Licence), ATPL (Airline Transport Pilot Licence), MCC (Multi-Crew Cooperation), IR (Instrument Rating) and type/class rating initial training in Part-FCL.

According to AMC2 ORA.ATO.125 in Part-ORA, the type rating courses should, as far as possible, provide for a continual process of ground, flight simulator training device (FSTD) and flight training to enable the student to assimilate the knowledge and skills required to operate a specific aircraft type safely and efficiently.

The required frequency for performing go-arounds is not numerically specified, as it depends on the students ability and progress. The student's ability to do this should be determined by the demonstration of a satisfactory level of theoretical knowledge of the aircraft determined by progressive checking of knowledge and examination, progressive assessment by the ATO during flight training and the successful completion of a practical skill test with an examiner. Therefore, go-arounds with all engines operating should be performed sufficiently frequently by a student to operate the aircraft safely and efficiently. The frequency of go-arounds conducted will therefore vary according to the needs of the student as determined by the instructor and the ATO.

The Agency is of the opinion that the framework explained above will ensure that a sufficient number of go-arounds with all engines operating will be performed during training depending on the assessment made by the instructor and the ATO. No need is seen to update the requirements for the initial training to include a specific number.

Lastly, assuming the periodic training referred to in the Safety Recommendation means recurrent training, this will be considered within the framework of rulemaking tasks RMT.0599/0600 'Review of ORO.FC' [in the organisation requirements for air operations (ORO)], as the frequency of go-arounds with all engines operating is not numerically specified in Commission Regulation 965/2012 (Regulations Air Operations).

Status: Open – **Category:**

Safety Recommendation FRAN-2013-023 (BEA):
The BEA recommends that EASA review the regulatory requirements for the first CS-25 type rating in order to make mandatory the performance of a go-around with all engines operating.

Reply:

Commission Regulation (EU) No 1178/2011 (Regulation Aircrew) and the associated acceptable means of compliance (AMC) and guidance material (GM) in Executive Director Decision 2011/016/R contain provisions for the performance of go-arounds with all engines operating. According to B.6. (multi-pilot aeroplanes) section 4 of appendix 9 of Regulation Aircrew, go-arounds shall be performed in a full flight simulator (FFS) or an aeroplane. The Agency therefore considers that no further regulatory action is required.

Status: Closed – **Category:** Partial agreement

Safety Recommendation FRAN-2013-025 (BEA):
The BEA recommends that EASA, in coordination with major non-European aviation authorities, amend the CS-25 provisions so that aircraft manufacturers add devices to limit thrust during a go-around and to adapt it to the flight conditions.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-026 (BEA):
The BEA recommends that EASA examine, according to type certificate, the possibility of retroactively extending this measure in the context of PART 26 / CS-26, to the most high-performance aircraft that have already been certified.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-031 (BEA):
The BEA recommends that EASA, in cooperation with the international certification authorities, introduce certification criteria to make mandatory the study of pilots' visual scan in developing procedures defined by manufacturers.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-032 (BEA):
The BEA recommends that EASA and manufacturers study the implementation of means to allow flight crew to have access to a virtual representation of the outside environment in IMC conditions.

Reply:

The Agency, through Rulemaking Tasks RMT.0379 and RMT.0380 included in the rulemaking program, will review the airworthiness and Air Operations rules to enable the use of advanced vision systems (HUD, EVS, SVS, CVS) for the benefit of increased situational awareness and operational credits. These tasks will take into account the established standards in the field of advanced vision systems the usage of which would improve the perception of the outside environment under poor visibility conditions.

The Agency is also aware of further study activities as regards the development of technology and the related standards in this area and will closely monitor these activities also at the level of ICAO and FAA and, hence, will plan subsequent rulemaking actions as applicable.

Already today, Commission Regulation (EU) No 965/2012 (Regulation Air Operations) does not limit the access to advanced vision systems for the purpose of enhancing the situational awareness.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-033 (BEA):
The BEA recommends that EASA, in cooperation with the national civil aviation authorities and major non-European aviation authorities, ensure that the risks associated with dispersion and/or channelized attention during the go-around, to the detriment of the primary flight parameters, be taught to crews.

Reply:

Initial training provisions are laid down in Annex I Part-FCL (Flight Crew Licensing) of Commission Regulation (EU) No 1178/2011 (Regulation Aircrew), as amended by Commission Regulation (EU) No 290/2012 which contains rules for Approved Training Organisations (ATOs) in Annex VII Part-ORA (Organisation Requirements Aircrew). The associated acceptable means of compliance (AMC) and guidance material (GM) is published in Executive Director (ED) Decision 2011/016/R and ED Decision 2012/007/R on the Agency's official publication site on the worldwide web.

Go-arounds and missed approaches are covered in the appendices and the AMC for LAPL (Light Aircraft Pilot Licence), PPL (Private Pilot Licence), CPL (Commercial Pilot Licence), MPL (Multi—Crew Pilot Licence), ATPL (Airline Transport Pilot Licence), MCC (Multi-crew Cooperation), IR (Instrument Rating) and type/class rating initial training in Part-FCL.

However, instruction on the risks associated with dispersion and/or channelized attention during the go-around, is not explicitly mentioned in these provisions. Therefore, this is under consideration by the rulemaking group which is currently reviewing the FCL rules under rulemaking tasks RMT.0188 and RMT.0189 which were launched on 20 July 2011.

Recurrent flight crew training on the risks associated with dispersion and/or channelized attention during the go-around should be achieved through implementation of the Crew Resource Management (CRM) training provisions in Commission Regulation (EU) No 965/2012 on Air Operations and the associated AMC and GM in ED Decision 2012/017/R on Organisation Requirements, which includes case studies as indicated in Table 1 of AMC1 ORO.FC.115&215. One case study could include risks associated with dispersion and/or channelized attention during the go-around to the detriment of the primary flight parameters, which the operators' Safety Management System (SMS) should identify as being required.

However, the need to explicitly include training on the risks associated with dispersion and/or channelized attention during the go-around in the rules will be considered during the Agency's rulemaking tasks RMT.0599/0600 'Review of ORO.FC' which are on the Agency's rulemaking programme. Cooperation with aviation authorities will be ensured through the Agency's rulemaking procedure.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-035 (BEA):

The BEA recommends that EASA, in coordination with manufacturers, operators and major non-European aviation authorities, study whether to extend these measures to other procedures requiring a high workload in a short time frame.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-036 (BEA):
The BEA recommends that EASA ensure that national civil aviation authorities check, during inflight and simulator checks, that monitoring of the engagement modes of automated systems by pilots is correctly executed.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-037 (BEA):
The BEA recommends that EASA, in coordination with the major non-European certification authorities, ensure that aircraft manufacturers modify ergonomics so as to simplify the interpretation of FMA modes, and facilitate detection of any changes to them.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-038 (BEA):
The BEA recommends that EASA, in coordination with the major non-European certification authorities, ensure that go-around procedures designed by manufacturers and taken up by operators are evaluated in a realistic operational environment.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-039 (BEA):
The BEA recommends that EASA in coordination with national civil aviation authorities ensure that airlines under its oversight once again insist during training on the best practices for manipulating the FCU/MCP.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-040 (BEA):
The BEA recommends that EASA ensure that aircraft manufacturers improve for new aircraft, the design of the FCU/MCP and decrease the time required for its use during a go-around, while evaluating the impact of the time it is used during other phases of flight with high workloads.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-041 (BEA):
The BEA recommends that EASA, in cooperation with the national civil aviation authorities, major non-European certification authorities and manufacturers, ensure pilots have practical knowledge of the conduct required during a go-around at low speed with pitch trim in an unusual nose-up position, and that they make a competence assessment.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Closed – **Category:** Partial agreement

Safety Recommendation FRAN-2013-042 (BEA):
The BEA recommends that EASA, in cooperation with the major non-European certification authorities, make mandatory the implementation of means to make crews aware of a low speed value and, where necessary, prevent an unusual nose-up trim position from occurring or being maintained.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-045 (BEA):
The BEA recommends that EASA, without waiting, in coordination with Eurocontrol and national civil aviation authorities, implement regulatory measures limiting modifications to published missed-approach procedures.

Reply:

Without waiting and in coordination with others the Agency will study the ICAO provision on missed-approach procedures when undertaking the Rulemaking Programme 2014-2017. More specifically when undertaking tasks RMT 0464 and 0468, that will be initiated during 4th quarter of 2013, the modifications of published missed-approach procedures will be considered.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-047 (BEA):
The BEA recommends that EASA, in coordination with Eurocontrol and national civil aviation authorities, ensure that the risks associated with the transmission of messages and modifications in the flight path during go-arounds are taken into account by ATM training organizations or air navigation service providers during initial and recurrent training of air traffic controllers.

Reply:

The training of air traffic controllers is currently regulated by the Commission Regulation (EU) No 805/2011.

As regards the content of Air Traffic Controllers (ATCO) initial training, the aforementioned Regulation makes reference to the EUROCONTROL Specification for ATCO Common Core Content (CCC) Initial Training edition 1.0 of 21 October 2008. This document includes a specific training objective addressing the integration of missed approach into the aerodrome traffic, according to existing ICAO provisions.

As regards the content of unit training, the aforementioned Regulation prescribes that it shall be defined via a unit training plan and that it shall allow the application of the unit procedures to the local area under the supervision of an on-the-job training instructor. There is no further detail of operational traffic situations that should be subject to specific training, in this case to missed approach.

The same is applicable to ATCO continuation training as defined by the same Regulation (EU) No 805/2011, which consists of training to maintain the skills of air traffic controllers, refresher courses, emergency training and, where appropriate, linguistic training.

In order to implement the provisions and the related Essential Requirements of the EASA Basic Regulation in force, the Agency is conducting a rulemaking activity (RMT 0153 and 0154) concerning the licensing of Air traffic Controllers, which also includes provisions related to their training. After the publication of the Notification for Proposed Amendment (NPA) for public consultation, the Agency is now in the process of developing the related Opinion which should be delivered to the Commission by the end of the year 2013.

As regards initial training, the content of the EUROCONTROL Specification for ATCO CCC Initial Training has been proposed for transposition into the EU legislation, after a substantial review of the training objectives therein performed with the contribution of qualified training experts from stakeholders. Moreover, in order to respond to the related safety issue raised by the BEA ASAGA Study, the training objectives related to ICAO provisions addressing missed approach were slightly modified.

The proposed provisions related to unit training are not substantially changed if compared to those in Commission Regulation (EU) No 805/2011 as regards the level of details. During these types of training, it is proposed that ATCOs shall be trained on task specific aspects, operational procedures and abnormal and emergency situations. This scope includes, but does not specifically mention, the missed approach.

Refresher training as defined in the proposed measures is purposed to review, reinforce or enhance the existing knowledge and skills of air traffic controllers to provide a safe, orderly and expeditious flow of air traffic and shall contain at least standard practices and procedures, including effective communication as well as abnormal and emergency situations training, using approved phraseology and effective communication. This scope includes, but does not specifically mention, the missed approach.

Finally, conversion training, which shall be designed to provide knowledge and skills appropriate to a change in the operational environment and shall be provided by training organisations when the safety assessment of the change concludes the need for such training. Therefore training on missed approach is not specifically mentioned, but is required if the relevant change affects the missed approach procedure.

As regards unit, refresher and conversion training the Agency is of the opinion that the measures should not address in detail specific traffic situations for which the actions to be undertaken by air traffic controllers are already defined and regulated by ICAO Annex 11 and Docs 4444, and which will be transposed in due time into EU legislation (with Rulemaking Tasks RMT.046 and RMT 0468 “ATS provision” included in the EASA Rulemaking Programme 2014-2017).

Status: Closed – **Category:** Partial agreement

Safety Recommendation FRAN-2013-050 (BEA):
The BEA recommends that EASA, without waiting, in coordination with Eurocontrol, take the necessary steps to propagate the safety benefits from the above recommendations.

Reply:

The Agency understands that the expression 'above recommendations' refers to the following safety recommendations included in the final report:

a) The BEA recommends that EASA, without waiting, in coordination with Eurocontrol and national civil aviation authorities, implement regulatory measures limiting modifications to published missed-approach procedures and

b) The BEA recommends that EASA, in coordination with Eurocontrol and national civil aviation authorities, ensure that the risks associated with the transmission of messages and modifications in the flight path during go-arounds are taken into account by ATM training organizations or air navigation service providers during initial and recurrent training of air traffic controllers.

On this basis, a Safety Information Bulletin (SIB) will be issued recalling the safety benefit of the compliance with the existing ICAO provisions related to the management and the instructions by the Air Traffic Control (ATC) on missed approaches.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
F-GXES	PIPER PA42	3NM from Saint Martin Grand Case aerodrome	05/05/2012	Accident

Synopsis of the event: The pilot took off at 2 h 39 from runway 12 at Saint Martin Grand Case aerodrome bound for Fort de France. A few minutes later, about 3 NM out, the aeroplane collided with the surface of the sea slightly to the right of the extended runway centre line. The pilot signalled no difficulties and transmitted no emergency message.

Examination of the wreckage did not reveal any technical failure liable to have significantly affected the performance of the aeroplane. The lack of flight recorders made it impossible to clarify the circumstances of the accident.

The causes of the accident could not be determined with certainty. However, the state of almost permanent standby for flight crews and single-pilot operations may have contributed to the accident.

The BEA sent EASA four safety recommendations relating to:

- the mandatory requirement to install flight recorders on all aircraft operated for commercial air transport,
- the mandatory presence of a crew with two pilots for medical evacuation flights,
- oversight action from national authorities so that they ensure that the operational capacity of an operator corresponds to its ability to undertake this activity,
- defining the means of compliance that would make it possible for national civil aviation authorities to regulate standby periods other than those at an airport.

Safety Recommendation FRAN-2013-051 (BEA):
Le BEA recommande que L'AESA impose l'emport d'enregistreurs de vol pour les avions exploités en transport aérien commercial, quelle que soit la date de délivrance du certificat de navigabilité individuel.

Reply:

This Safety Recommendation will be considered during rulemaking tasks RMT.0271 and RMT.0272 'Recorders for small aircraft', which are scheduled to be launched in the fourth quarter of 2013.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-052 (BEA):
Le BEA recommande que L'AESA prévoie la mise en place en priorité de la réglementation imposant la présence d'un équipage à deux pilotes en vol d'évacuation sanitaire.

Reply:

Rulemaking tasks RMT.0599 and RMT.0600 'Review of ORO.FC' are on the Agency's Rulemaking Programme and this Safety Recommendation will be considered within the framework of these tasks.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-053 (BEA):
Le BEA recommande que L'AESA s'assure que la future réglementation relative à la sécurité en matière de limitations de temps de vol applicables aux vols d'évacuation sanitaire prenne en compte les réserves autres qu'à l'aéroport.

Reply:

The issue of standby duty other than at the airport is currently being considered within the framework of rulemaking tasks RMT.0492 (Opinion) and RMT.0346 (Decision) on 'FTL (Flight Time Limitations) requirements for Commercial Air Transport (CAT) operations of emergency medical services (EMS) by aeroplanes and helicopters' which were launched in April 2012 for a publication of the related notice of proposed amendment (NPA) planned for the fourth quarter of 2013.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
F-GZCG	AIRBUS A330	Cruising at FL360 over Tanzania	27/02/2012	Serious incident

Synopsis of the event: The crew took off from Antananarivo airport (Madagascar) at 22 h 45 bound for Paris Charles de Gaulle. At 23 h 10, they received an ACARS message describing the 22 h 30 satellite images. They concluded from this message that they would encounter highly convective zones up to parallel 12°30'S, and that these zones would be more isolated up to the DV point and, after this point, that they would not encounter any turbulence until parallel 2°30'S. Several avoidance manoeuvres were performed when crossing highly convective zones.

Ten minutes after passing parallel 12°30 'S, the PF changed the range of his ND from 40 NM to 160 NM: the ranges of the 2 NDs were then set to 160 NM. The crew indicated that the sky was clear with stars visible. They stated that they selected a -1.5° tilt on the weather radar and regularly changed this setting as well as the gain 2 setting in order to monitor the cells. While the aeroplane was cruising at FL360, the Dar es Salaam controller asked the crew twice to climb to FL380. The crew refused in order to maintain a sufficient margin in relation to the recommended maximum flight level (REC MAX). Autopilot and autothrust were connected. The flight directors were displayed. ALT and NAV modes were active and autothrust was in SPEED mode. Approximately 6 minutes after the DV point, the Mach was 0.81 and began to increase. The PF changed the range of the ND from 160 NM to 80 NM and said he selected a -1.5° tilt. He saw a flash and then a cloud on the right side of the aeroplane. He did not see any return on the weather radar screen.

The Mach reached 0.83. The crew selected Mach 0.8 and then 0.78 and extended the speedbrakes for about 15 seconds. The Mach went down 0.79 and then went back up to about 0.82. After that the crew saw a flash ahead and then encountered severe turbulence. The PNF indicated he was turning the seat-belt signs on requiring the passengers to fasten their seatbelts. In the turbulence, the angle of attack increased until it led to autopilot disconnection. The PF called out "AP OFF" and took over the controls. While passing through the convective zone, the aircraft climbed despite the PF's mainly nose-down inputs. The autopilot was re-engaged but disconnected automatically. The autothrust disconnected automatically. The PNF, seeing that the PF was very busy maintaining the flight path, decided to disconnect autothrust and selected an N1value of 90%. He was not aware that the autothrust was already disconnected.

The crew managed to stabilize the aeroplane at FL380, the maximum level reached during the turbulence and began to descend 10 s later. The PF re-engaged the autopilot and the rest of the flight was uneventful. During the severe turbulence, which lasted about 40 seconds:

- The pitch attitude varied between -6° and +11°,
- the Mach varied between 0.77 and 0.83,
- the angle of attack was between -0.7 ° and +10.2 °,
- the roll angle was between -16° and +31°,
- the vertical speed reached a maximum value of about +8,500 ft/min,
- the vertical load factor was between +0.02 g and +2.28 g,
- the lateral load factor was between -0.16 g and +0.17 g,

- the flight director cross bars disappeared and reappeared several times,
- The PF mainly applied nose-down inputs (especially for 10 consecutive seconds after the autopilot disconnection).

The manufacturer reports that the aeroplane remained within its flight envelope for the duration of the entire event.

Safety Recommendation FRAN-2013-055 (BEA):
This incident showed that the installation of a technologically more advanced type of radar would probably have helped the crew detect the convective cell, without exempting them of a continuous monitoring of the weather situation.

Consequently, the BEA recommends that EASA, in association with national authorities, conducts studies prior to the potential deployment of latest generation equipment for detection of convective cells to the entire operators' fleets.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation FRAN-2013-056 (BEA):
This incident showed that the installation of a technologically more advanced type of radar would probably have helped the crew detect the convective cell, without exempting them of a continuous monitoring of the weather situation.

Consequently, the BEA recommends that EASA and FAA ensure that aircraft manufacturers continue their efforts to develop more effective means of detecting convective cells.

Reply:

EASA monitors technological innovations, research and developments. It will continue to be open to manufactures who present advanced weather radar systems for approval. However, it is not the primary role of the Agency to lead development or propose designs.

Status: Closed – **Category:** Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
HB-JZQ F-GRHA	AIRBUS A319	Near Bâle-Mulhouse airport	29/06/2010	Serious incident

Synopsis of the event: The crew of the AF7343 flight takes off from Runway 15 of Basel-Mulhouse airport to Paris Orly. Soon after, they are is cleared to climb to FL110 by the approach ATC controller. About a minute later, the controller clears flight DS1058 approach to runway 15 from Palma, to descend to the same level. A traffic advisory is triggered onboard both aeroplanes followed by a succession of resolution advisories (TCAS RA) including reversal orders. During these maneuvers, the vertical load factor recorded on the flight DS1058 varies between - 0.19 g and 2.04 g. A member of the cabin crew is slightly injured. This loss of separation was a serious incident. The survey showed it resulted from a slip of a controller trainee who assigned the same flight level to two aeroplanes, one climbing and descending, without the Instructor controller detecting the error.

Safety Recommendation FRAN-2013-061 (BEA):

The BEA recommends that EASA study setting a standard for aeroplanes' smooth vertical flight paths when approaching a level selected by the crew.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Unless the Agency has substantial progress to report from the follow-up activities related to this specific Safety Recommendation within the 90 day period, this reply shall serve to fulfil compliance with Article 18 of Regulation (EU) No 996/2010 (ICAO Annex 13, paragraph 6.10).

Status: Open – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
CDG STUDY		Paris Charles de Gaulle Airport	#Missing#	

Synopsis of the event: Due to the frequency of reporting of losses of separation, sometimes serious, observed in the approach areas of Paris Charles de Gaulle and Paris Le Bourget airports, the BEA conducted a preliminary study on the issue. It showed that the most common incidents occurred during approaches facing West between the south parallel runways of Paris Charles de Gaulle and the active runway at Paris Le Bourget, and between the two sets of parallel runways at Paris Charles de Gaulle. For this reason, the BEA decided to conduct a study on the risk of collision during triple approaches (facing west). This study was conducted in cooperation with the DSNA and was limited to the above-mentioned incidents; it focused on losses of separation, considered among the most significant, that occurred between 1 July 2010 and 15 July 2011. Twelve of these occurrences have been used to identify contributing factors in this type of event. This report presents the results and analyses from this study.

Safety Recommendation FRAN-2013-066 (BEA):

The BEA recommends that EASA, in coordination with national authorities, undertake studies on the implementation of a systematic analysis of radar data for ANSP's.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Unless the Agency has substantial progress to report from the follow-up activities related to this specific Safety Recommendation within the 90 day period, this reply shall serve to fulfil compliance with Article 18 of Regulation (EU) No 996/2010 (ICAO Annex 13, paragraph 6.10).

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
F-GRZE	BOMBARDIER CL600 2C10	Lorient Lann Bihoue	16/10/2012	Accident

Synopsis of the event: The crew was cleared for an ILS RWY 25 approach. During the descent, the controller informed them of a wind from 160° at 17 kt with gusts up to 26 kt and a lasting, severe squall. Visibility was reduced to between 2,000 and 3,000 meters and the runway was wet with water puddles. The controller said that the previous aircraft had encountered difficulties during landing due to “aquaplaning”.

The crew made the approach in the flaps 30° configuration due to suspected wind shear. The ILS 25 approach was stable at 1,000 ft. The autopilot was disengaged at around 500 feet.

The aeroplane’s main landing gear touched the runway about 1,100 m from its end.

The aeroplane overran the runway, its left wing striking the localizer antennae, before coming to rest in a grass field about 200 m from the threshold of runway 07.

The emergency evacuation order was given. The 53 passengers evacuated through the left front door and the over-wing exits.

The investigation showed that the accident was due to the crew’s decision to continue the landing when they did not know about the runway contamination and were unaware of the remaining length of runway available.

Safety Recommendation FRAN-2013-070 (BEA):
Le BEA recommande que l’AESA étudie, pour les aérodromes à l’usage de l’aviation commerciale civile, la mise en place obligatoire d’installations au sol complémentaires pour améliorer l’aide au pilotage de nuit sur les pistes homologuées pour des approches de précision de catégorie 1.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Unless the Agency has substantial progress to report from the follow-up activities related to this specific Safety Recommendation within the 90 day period, this reply shall serve to fulfil compliance with Article 18 of Regulation (EU) No 996/2010 (ICAO Annex 13, paragraph 6.10).

Status: Open – **Category:**

Safety Recommendation FRAN-2013-073 (BEA):

Le BEA recommande que l'AESA intègre le TEM dans les ECP (entraînements et contrôles périodiques) et les procédures d'exploitation des détenteurs d'un CTA. [Recommandation FRAN-2013-073]

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Unless the Agency has substantial progress to report from the follow-up activities related to this specific Safety Recommendation within the 90 day period, this reply shall serve to fulfil compliance with Article 18 of Regulation (EU) No 996/2010 (ICAO Annex 13, paragraph 6.10).

Status: Open – **Category:**

Germany

Registration	Aircraft Type	Location	Date of event	Event Type
	ATR ATR72	Dusseldorf airport, Germany	18/03/2006	Serious incident

Synopsis of the event: On 18 March 2006 at about 08:50 hrs local time during flight preparations for the flight from Duesseldorf to Dresden, the ATR 72 crew noticed a difference of about 1,800 kg fuel between the remaining fuel quantity after the last flight and the currently indicated one. Because there was no explanation and no fuelling order the crew objected the flight and insisted that the matter was looked into.

Safety Recommendation GERF-2006-014 (BFU):

EASA should arrange that the construction of one of the Fuel Quantity Indicators (FQI) of the ATR 72 or ATR 42 be changed to such an extent that they cannot be interchanged any more.

Reply:

The development and the certification of the proposed fool-proof device (ATR Change 6062) will consist in installing a specific electrical connector on ATR 72 Fuel Quantity Indicators (FQI) and the companion connector on the aircraft harness side, avoiding the physical connection of any other non-modified FQI.

The proposed FQI modification will be implemented on the ATR 72 aircraft fleet, except those aircraft fitted with the ATR modification 5948 (architecture where the FQIs have been replaced by new display units).

As this modification will address several continued airworthiness issues, including an accident, EASA has mandated through the Airworthiness Directive EASA 2013-0047 the retrofit of the ATR fleet with this electrical connector.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
	BINDER ETA	Flugplatz Büching by Ostheim	30/09/2003	Accident

Synopsis of the event: A number of sailplane spinning flights were conducted as part of the test-flying programme prior to application for the Type Approval Certificate. These took place without incident. The next lest flight was a further spinning trial, this time with asymmetric distribution of fuel for the auxiliary motor.

Safety Recommendation GERF-2009-032 (BFU):

The European Aviation Safety Agency (EASA) should incorporate “maximum possible aerodynamic loads resulting from a combination of rudder deflection and yawing condition” into the certification specifications for designs of vertical fins of sailplanes and powered sailplanes.

Reply:

The Agency has considered this safety recommendation in cooperation with experts from the Sailplane Development Panel (SDP) of the Organisation Scientifique et Technique du Vol à Voile (OSTIV). The members of the SDP are representing a global community of sailplane manufacturers, glider pilots/instructors, research institutes and universities and are tasked within OSTIV with the drafting of OSTIVAS (OSTIV Airworthiness Standards), which are used as a basis for the development of CS-22. After discussion with the OSTIV SDP no conclusive evidence was found to justify an amendment of CS-22 to introduce new load requirements for Utility category sailplanes or powered sailplanes.

It is however underlined that for sailplanes or powered sailplanes designed for aerobatic use, the permitted limits of aerobatic manoeuvres must be established during the type certification under CS 22.3(b). These limits are sailplane type specific and therefore must be established on a case by case basis.

Status: Closed – **Category:** Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
	AIRBUS A320	Hamburg, Germany	01/03/2008	Serious incident

Synopsis of the event: Because of the weather associated with hurricane Emma, on 1 March 2008 the Airbus A320 left Munich Airport on a scheduled flight to Hamburg at 1231hrs about two hours behind schedule, with a crew of five and 132 passengers. Given the ATIS weather report including wind of 280°/23 kt with gusts of up to 37 kt, during the cruise phase of the flight the crew decided on an approach to Runway 23, the runway then also in use by other traffic. During the approach to land, the aerodrome controller gave several updates on the wind. Immediately prior to touchdown, the wind was reported as 300°/33 kt, gusting up to 47 kt. The initial descent was flown by autopilot and the co-pilot assumed manual control from 940 ft above ground. After the aircraft left main landing gear had touched down, the aircraft lifted off again and immediately adopted a left wing down attitude, whereupon the left wingtip touched the ground. The crew initiated a go-around procedure. The aircraft continued to climb under radar guidance to the downwind leg of runway 33, where it landed at 1352 hrs. No aircraft occupants were injured. The aircraft left wingtip suffered damage from contact with the runway.

Safety Recommendation GERF-2010-004 (BFU):

EASA should revise the Flight Test Guide Material requirements contained in the Certification Specifications CS 25.233 (Directional stability and control) and CS 25.237 (Wind velocities) to define and elucidate the term maximum crosswind demonstrated for landing. The definition adopted should make clear that this value has the character of 'Information', and that the same uniform terminology is adopted throughout all instruction documentation relating to flight operations. (R-PS)

Air operators should be advised to set operational crosswind limits for their own specific operations. (R-FS)

The value should be described either as a dual value (average wind speed and gust) or as a single value (average wind speed including gusts). (E-R)

Reply:

CS-25 already provides guidance in its AMC 25.1581 "Aeroplane Flight Manual" which meets the intent of this recommendation related to the character of "information" associated with defining the maximum demonstrated crosswind value.

Specifically, paragraph 6.b.(3)(i)(G) of this AMC provides the following text which distinguishes between limiting and non limiting maximum demonstrated crosswind:

"(1) If the maximum demonstrated crosswind is considered to be limiting for either take-off or landing, the crosswind limitation must be stated in the Limitations Section. If the crosswind value is considered to be limiting for one type of operation (e.g. autoland) but not for another, the crosswind limitation may also state the specific operations to which it applies.

(2) If the maximum crosswind value demonstrated under CS 25.237 is considered to be not limiting for both take-off and landing operations, the demonstrated crosswind value may be presented in a section other than the Limitations Section."

With regards to the second aspect of the recommendation, the Agency considers that the most appropriate mechanism for advising operators to set operational crosswind limits, should be through the relevant documentation provided by manufacturers (i.e. flight crew operating manuals, aircraft flight manual, flight crew training manuals etc.).

The regulation for Air operations (965/2012) already contains provisions (ORO.MLR.100 (j)) covering these aspects and requiring operators to ensure that information taken from approved documents, and any amendment thereof, is correctly reflected in their Operations Manual (OM). This does not prevent the operator from publishing more conservative data and procedures in the OM. Therefore, an amendment to the Air Operations Regulation is not considered necessary.

Lastly, regarding the description of crosswind values a research project titled, "Near-Ground Wind Gust Detection" has been completed and the report has been made publicly available on the EASA website (Project EASA.2011/08).

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
	MCDONNELL DOUGLAS MD11	Dakar	19/02/2006	Accident

Synopsis of the event: On the cargo flight Dakar – Frankfurt, both pilots and a passenger experienced intense pain in their ears during climb out of Dakar at 1558 hrs in Flight Level (FL) 250 which was accompanied by a loud noise. The Alert Display (AD) of the Engine and Alert Displays (EAD) showed message Cabin Rate. The crew noticed an almost fully open outflow valve being indicated on the Cabin Pressure Control Panel. A cabin rate of more than 2,000 ft/min had been indicated. The crew reported the incident via Aircraft Communications Addressing and Reporting System (ARCAS) to the maintenance organisation in Frankfurt and decided to continue their flight to Frankfurt at a reduced cruising altitude. There were no further problems with the pressurised cabin on the flight to Frankfurt. After the landing, the occupants of the aircraft sought medical help because of the pain in their ears. Minor injuries were diagnosed for the co-pilot and the passenger. The PIC suffered an injury of his right inner ear with permanent hearing loss. This diagnosis resulted in a permanent loss of his medical certificate.

Safety Recommendation GERF-2012-010 (BFU):
EASA should amend the aeronautical regulations for commercial air transport regarding continuous airworthiness. The aviation regulation should ensure that aircraft operators recognise error messages and malfunctions which recur in spite of routine maintenance procedures and their risk potential. If applicable, actions to recognize failures and remedy them should be initiated which go beyond the manufacturer instructions, the standard trouble shooting routine and the so-called Return to Service Test.

Reply:

Annex I (Part M) to regulation (EC) No 2042/2003, paragraph M.A.403(b) requires that certifying staff uses M.A.401 maintenance data before deciding which rectification action shall be taken before flight and which rectification action can be deferred. Furthermore, Acceptable Means of Compliance (AMC) M.A.403(b) establishes that in order to do so, an assessment of both the cause and any potential hazardous effect of any defect or combination of defects that could affect flight safety should be made in order to initiate any necessary further investigation and analysis necessary to identify the root cause of the defect.

The fact that they have to use M.A.401 maintenance data does not mean that they can only use routine maintenance procedures, standard troubleshooting and the Return to Service Test, as seems to be implied in the Safety Recommendation.

As a matter of fact, if the investigation and analysis reveals that the standard manufacturer instructions are not enough in order to solve the defect, additional instructions have to be obtained either from the manufacturer, the competent authority or the Agency, at which point those instructions become M.A.401 maintenance data.

As a consequence, the Agency is of the opinion that there is no need to amend the current regulation.

Status: Closed – **Category:** Disagreement

Hungary

Registration	Aircraft Type	Location	Date of event	Event Type
YR-ATG	ATR ATR42	Budapest Airport (LHBP), Hungary	17/06/2011	Serious incident

Synopsis of the event: After take-off from runway 31L, at around 1200 ft AGL, the crew noticed what sounded like engine stall of engine ?2. They set the affected engine to Flight Idle. Shortly thereafter the Engine Low Oil Pressure Warning came in, followed by Engine Fire Warning. The crew performed – from memory – the required emergency checklist actions (in-flight engine fire or severe mechanical damage). The propeller of the malfunctioned engine was set to feather. The crew declared an emergency by reporting MAYDAY and requested an immediate landing. The Tower secured runway 13L for the emergency landing. The captain took the aircraft into a tight right turn while the first officer initiated the fire extinguishing system by discharging first the agent No 1 then No 2. The fire inside the engine nacelle was successfully put out. The passengers saw the flames and the smoke coming out of the engine nacelle. Some smoke was visible inside the main cabin which caused panic among the passengers. A single engine landing was performed on runway 13L. Once the aircraft stopped on a taxiway, the passengers were evacuated on the captain's command. The aerodrome emergency services were waiting for the aircraft but there was no need for intervention because the fire had already been stopped. Based on the information received from the operator, the crew used a QRH issued by the manufacturer in December 2009.

Safety Recommendation HUNG-2012-001 (TSB):

EASA to review the emergency procedures on ATR aircraft in order to ensure efficient removal of persisting smoke and appropriate cockpit/passenger cabin ventilation.

Reply:

EASA has reviewed the latest approved standardised wording of the relevant procedures, published through mainly Avions de Transport Régional (ATR) Aircraft Flight Manual (AFM) and Flight Crew Operational Manual (FCOM).

ATR Emergency procedures are considered to be adequate as:

- They ensure the continued safe flight and landing,
- They direct the crew to isolate and eliminate the origin of the smoke.

In addition to these actions, ATR states that by design, cabin differential pressure ensures sufficient removal of the smoke.

EASA has requested ATR to make a comprehensive check of all reported case of smoke in cabin or cockpit, in order to evaluate the number of occurrences, if any, of persisting smoke following the proper application of these procedures. This action is on-going, EASA will monitor its completion and, based on the result, should a problem of smoke removal efficiency be evidenced, will take appropriate action.

Status: Closed – **Category:** Partial agreement

Iceland

Registration	Aircraft Type	Location	Date of event	Event Type
TF-FIJ	BOEING 757	SSE London Gatwick Airport	04/06/2009	Serious incident

Synopsis of the event: Icelandair B757-200, TF-FIJ, departed Paris Charles de Gaulle airport (LFPG) France at 11:39 UTC (13:39 local time) on June 4th 2009 for its flight to Keflavik airport (BIKF) Iceland.

Seventeen minutes into the flight the flight crew noticed white smoke entering the flight deck. The smoke intensified rapidly to such an extent that the flight crew could barely see their instruments. Shortly after, smoke also entered the whole cabin section and intensified rapidly. The commander noticed engine #1 surging and shut it down. Shortly thereafter the smoke started to decrease. The airplane diverted and made an emergency landing at London Gatwick airport (EGKK) United Kingdom.

The investigation revealed that the low pressure fuel pump installed on engine #1 had failed due to extensive internal wear damages. This allowed fuel to leak into the engine's oil system. Fuel/oil mixture entered the engine's main bearing chambers, where the seals could not contain it. The fuel/oil mixture then leaked into the compressor section of the engine. Inside the compressor the fuel/oil mixture generated smoke. The smoke propagated to the engine's HP2 port and from there entered the engine's bleed air system. Once in the bleed air system the smoke entered the left air conditioning pack and from there was distributed to the flight deck and the cabin.

The investigation revealed that the low pressure fuel pump had never undergone inspection, repair or overhaul.

The manufacturer of the low pressure fuel pump, as well as the manufacturer of the engine, had issued maintenance requirements for the low pressure fuel pump. The investigation revealed that the operator of the airplane had not implemented into its maintenance program tasks that would individually monitor the low pressure fuel pump utilizations and ensure its required maintenance was being performed.

Safety Recommendation ICLD-2013-001 (AIB):

EASA and ICAO: Set guiding rule for airframe and engine manufacturers such that Maintenance Planning Document (MPD) and Engine Maintenance Manual (EMM) clearly include recommended maintenance information from subcomponent Component Maintenance Manuals (CMM).

Reply:

This safety recommendation will be submitted to the working group of EASA rulemaking task MDM.056 (RMT.0252) "Instructions for continued airworthiness".

This reply will be amended once the outcome of the working group discussion is available.

Status: Open – **Category:**

Ireland

Registration	Aircraft Type	Location	Date of event	Event Type
N208EC	CESSNA 208	Connemara Airport (EICA), Ireland	05/07/2007	Accident

Synopsis of the event: The aircraft was returning on a short flight from Inis Meáin (EIMN), one of the Aran Islands in Galway Bay, to Connemara Airport (EICA), in marginal weather conditions when the accident occurred. There had been a significant wind shift, since the time the aircraft had departed earlier from EICA that morning, of which the Pilot appeared to be unaware. As a result a landing was attempted downwind. At a late stage, a go-around was initiated, at a very low speed and high power setting. The aircraft turned to the left, did not gain altitude and maintained a horizontal trajectory. It hit a mound, left wing first and cartwheeled. The Pilot and one of the passengers were fatally injured. The remaining seven passengers were seriously injured. The aircraft was destroyed.

Safety Recommendation IRLD-2009-002 (AAIU):

It is recommended that the FAA and EASA should require that Flight Manuals, or STC supplements to Flight Manuals, should contain information on the location and de-activation of ELTs fitted to an aircraft.

Reply:

This recommendation will be taken into account in the frame of Rulemaking Task RMT.0274 which has been included in the Rulemaking Program 2014-2017.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
EI-ENB	BOEING 737	Kerry Airport (EIKY), Co. Kerry, Ireland	21/12/2010	Incident

Synopsis of the event: Shortly after landing, smoke was observed in both the cockpit and cabin. The aircraft was stopped, the engines were shut down and an evacuation was carried out. No technical defect was found during the subsequent examination. It is probable that the smoke was caused by the engines ingesting granular urea, which had been used to de-ice the runway during a very cold weather period.

Safety Recommendation IRLD-2012-003 (AAIU):

European Aviation Safety Agency (EASA) should introduce a requirement that the CVR should continue to record in the event of power failure.

Reply:

This Safety Recommendation will be considered within the framework of the following rulemaking tasks: RMT.0308 and RMT.0309 (review of CVR and FDR provisions in the air operations requirements), RMT.0249 (review of CVR and FDR provisions in the airworthiness requirements), which are featured in the Agency's Rulemaking Programme.

Status: Open – **Category:**

Italy

Registration	Aircraft Type	Location	Date of event	Event Type
TS-LBB	ATR ATR72	Palermo (Sicily), Italy	06/08/2005	Accident

Synopsis of the event: The accident occurred on August 6th, 2005, at 13.39 UTC (15.39 local time) and involved an ATR 72-202 aircraft, registration marks TS-LBB, operating the flight TUI 1153 from Bari to Djerba (Tunisia). The aircraft had ditched into the sea off the coast of Capo Gallo (Palermo) following the failure of both engines. The aircraft had taken off from Bari at 12.32 UTC with 39 people on board (4 crew members and 35 passengers, among which 1 airline engineer). While cruising, approximately 50 minutes after takeoff, at flight level 230 (FL 230, 23.000 feet), the right engine shut down (no. 2) and after approximately 100 seconds also the left engine shut down (no. 1). The flight crew decided to divert to the airport at Palermo, Punta Raisi, to make a precautionary landing. The crew referred to hav ing tried to restart both engines, but without success. After gliding for approximately 16 minutes, the aircraft ditched approximately 23 nautical miles northeast from Palermo's airport, Punta Raisi, within Italian territorial waters. On impact with the surface of the sea, the aircraft broke into three pieces; 14 passengers, the airline engineer and a member of the crew (senior flight attendant) reported fatal injuries. The other occupants suffered serious to minor injuries.

Safety Recommendation ITAL-2005-007 (ANSV):

Based on the above considerations ANSV, still deeply investigating the occurrence, for the time being recommends that EASA should consider the possibility to mandate a modification of the Fuel Quantity Indicator installation in order to prevent any incorrect fitting.

Reply:

The development and the certification of the proposed fool-proof device (ATR Change 6062) will consist in installing a specific electrical connector on ATR 72 Fuel Quantity Indicators (FQI) and the companion connector on the aircraft harness side, avoiding the physical connection of any other non-modified FQI.

The proposed FQI modification will be implemented on the ATR 72 aircraft fleet, except those aircraft fitted with the ATR modification 5948 (architecture where the FQIs have been replaced by new display units).

As this modification will address several continued airworthiness issues, including an accident, EASA has mandated through the Airworthiness Directive EASA 2013-0047 the retrofit of the ATR fleet with this electrical connector.

Status: Closed – **Category:** Agreement

Safety Recommendation ITAL-2005-016 (ANSV):

EASA in expectation of the eventual installation modification of the FQI, consider the possibility of:

a) requiring to operators whose fleet includes ATR 42 and ATR 72 aircraft to implement ad hoc maintenance procedures in order to avoid the installation of ATR 42 type FQIs on ATR 72 aircraft and viceversa;

b) requiring the creation of labels to be applied on the FQIs in order to show which aircraft type they must be installed on, ATR 42 or ATR 72.

Reply:

For EASA, the ATR Technical Documentation (Illustrated Parts Catalogue -IPC-, Aircraft Maintenance Manual -AMM-, ...) should remain the only reference and only the Fuel Quantity Indicator (FQI) Part Number (P/N) referenced through that ATR documentation should be considered to avoid any mismatched configuration / installation.

Furthermore, because a given aircraft model, such as ATR42-500 for instance, could have up to 4 different FQI P/Ns fitted, labels will not prevent any wrong installation.

However, EASA has certified fool-proof device (ATR Change 6062) which consist in installing a specific electrical connector on ATR 72 Fuel Quantity Indicators and the companion connector on the aircraft harness side, avoiding the physical connection of any other non-modified FQI.

This FQI modification will be implemented on the ATR 72 aircraft fleet, except those aircraft fitted with the ATR modification 5948 (architecture where the FQIs have been replaced by new display units).

Based upon the above information, we plan no further action to address this Safety Recommendation.

Status: Closed – **Category:** No longer applicable

Registration	Aircraft Type	Location	Date of event	Event Type
EI-EDM	AIRBUS A319	Palermo airport, Italy	24/09/2010	Accident

Synopsis of the event: At 18.08 UTC, during final approach for runway 07 with adverse meteorological conditions on Palermo airport, aircraft collided with terrain immediately before the beginning of the runway, hit the opposite RWY localiser antenna, slid on the wet runway with main gear collapsed for about 900 meters before stopping out of the left side of the runway. Passengers evacuation was performed. Aircraft was severely damaged, very minor injuries to persons onboard.

Safety Recommendation ITAL-2011-018 (ANSV):

ANSV recommends EASA and FAA that the aim of such modification is to avoid to establish unsafe condition for passengers and for this reason the modification must be proposed as "mandatory" on all A320-family fleet now in operation (as prescribed by Part 21A.3B – «a document issued or adopted by EASA which mandates actions to be performed on an aircraft to restore an acceptable level of safety, when evidence shows that the safety level of this aircraft may be otherwise compromised»). (ANSV-18/1836-10/1/A/11)

Reply:

The EASA, as the primary certification authority, agrees to the SR and intends to mandate the related mod (MOD 153724) when available.

The modification approval is expected beginning of 2013.

The Service Bulletin for retrofit will be developed by the Design Organisation and the EASA Airworthiness Directive will follow.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
I-ADCC	ATR ATR72	Firenze Airport-Peretola (LIRQ), Italy	03/10/2011	Serious incident

Synopsis of the event: After a bleed-off aircraft configuration take-off from runway 23, at around 400 ft AGL, the cockpit Master Warning was triggered referring to Engine 1 low oil pressure, but shortly after any malfunction indication disappeared. Climb continued till acceleration altitude with one more short Engl oil LP indication. At 1570 ft, when climb sequence was completed and bleed valves switched on, oil LP indication popped up again while ITT value dropped to zero. In absence of additional abnormal parameters, the crew believed in a faulty indication, but soon visual and aural warnings notified an Engine 1 fire condition, together with smoke in the cabin. So, an in-flight engine fire emergency procedure was applied by shutting down the engine and attempting to discharge the extinguisher agent. An emergency call was made to Firenze APP and the crew stated his intention to come back to the airport to land on runway 05. Approach and landing took place uneventfully and the precautionary fire brigade assistance was provided when aircraft stopped on Taxiway P. Precautionary evacuation was carried out at that stage due to "HT brake warning light on". The investigation highlighted that the "fire or severe mechanical damage" emergency procedures were revised by ATR at least three times in fourteen months (only the month is edited on the revised pages) and introduced with a consistent delay in the AFM owned by the operator, therefore being effective for the crew.

Common Findings

During the joint meeting held at ANSV premises in Rome on 7-9 February 2012, the safety investigation authorities in charge of the three events verified the following main commonalities:

- All events occurred at initial climb;
- The events were all due to the initial distress of a Power Turbine 1st stage blade causing subsequent damages and heavy unbalance of the whole PT assembly, further unbalance of the LP rotor through No. 6 & 7 bearing housing, and final oil leakage due to breaking of No. 6 & 7 bearing compartment retaining bolts and distress of the radial transfer tubes. Fire was then originated by such a leakage in presence of hot parts;
- In all these serious incidents distress of the PT1 rotor blade was due to a crack propagated from an internal casting defect (shrinkage porosity) in the vicinity of the blade core pocket. Propagation is in accordance with a Low Cycle Fatigue mechanism.

Safety Recommendation ITAL-2012-006 (ANSV):
EASA to review the emergency procedures on ATR aircraft in order to ensure efficient removal of persisting smoke and appropriate cockpit/passenger cabin ventilation. (ANSV-6/1826-11/1/I/12)

Reply:

EASA has reviewed the latest approved standardised wording of the relevant procedures, published through mainly Avions de Transport Régional (ATR) Aircraft Flight Manual (AFM) and Flight Crew Operational Manual (FCOM).

ATR Emergency procedures are considered to be adequate as:

- They ensure the continued safe flight and landing,
- They direct the crew to isolate and eliminate the origin of the smoke.

In addition to these actions, ATR states that by design, cabin differential pressure ensures sufficient removal of the smoke.

EASA has requested ATR to make a comprehensive check of all reported case of smoke in cabin or cockpit, in order to evaluate the number of occurrences, if any, of persisting smoke following the proper application of these procedures. This action is on-going, EASA will monitor its completion and, based on the result, should a problem of smoke removal efficiency be evidenced, will take appropriate action.

Status: Closed – **Category:** Partial agreement

Safety Recommendation ITAL-2012-009 (ANSV):
EASA to consider the need to harmonize the procedures, or to review the existing documentation as necessary, in order to establish in all cases a time limit within which to make effective in the AFM owned by operators the amendments approved by EASA. (ANSV-9/1826-11/4/I/12)

Reply:

The Agency understands that the intention of the Safety Recommendation is to establish a time limit for operators to apply changes in the aircraft flight manual (AFM) as provided to them by the manufacturers.

This Safety Recommendation is being considered within the framework of rulemaking tasks RMT.0516 and RMT.0517 'Updating Authority Requirements (Part-ARO) and Organisation Requirements (Part-ORO)', which were launched on 16 September 2013 with the publication of the associated Terms of Reference.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
HA-LWM	AIRBUS A320	Rome Fiumicino airport	08/06/2013	Accident

Synopsis of the event: On June 8th 2013, at 05.19 UTC, the aircraft A320-200, registration marks HA-LWM, flight WZZ7EK, while approaching the final destination of Ciampino airport at the end of an uneventful flight departed from Budapest airport with 165 pax and 6 crew on board, experienced a technical problem in getting the under-carriage downlocked. This circumstance was notified to the crew by the Master Warning and the triggering of the ECAM message "L/G GEAR NOT DOWNLOCKED".

During missed approach a standard procedure and following holding in Campagnano, the crew carried out a recycle and later on performed LG gravity extension as well as some g-force manoeuvres, but all measures were unsuccessful.

Consequentially, the crew requested to divert to Fiumicino airport (LIRF) declaring an emergency landing. Approaching Fiumicino airport RWY 34R the aircraft was instructed by TWR to go-around due to some incoherency in the information provided to the crew about the current position of the landing gear. A new approach to the RWY 34R was performed and the aircraft touched down on the runway at 06.09 UTC with the left LG only partially extracted. At landing, the mass of aircraft was estimated about 56500 kg. The fligthcrew shutoff the left engine just before touchdown and the right one few seconds later. The aircraft came to rest after scraping the left engine on the runway for about 1200 m; the subsequent evacuation was uneventful and no injuries were suffered. While on site, the investigators noticed the left door actuator only partially extended and the left LG not in the uplocked position, but stuck on the door also when the aircraft was lifted by airbags. At removal of the jammed actuator, the door fully opened and the gear correctly extended and locked. X-Ray carried out few days later the accident on the failed actuator P/N 114122012, S/N CH112258 revealed the presence of heavy debris in the damping housing when compared to a new one; this finding was accompanied by the absence of some internal parts in the same area, presumably retaining ring and spiralox.

Safety Recommendation ITAL-2013-006 (ANSV):
EASA introduce a modification to the existing AOT A320-32A1390 and the related point of AD 2011-0069R1, requiring in addition to the threshold check of 30 seconds taken for the door to open to the point of actuator vertical, the actual measurement of the time taken to get the vertical position and add the task of reporting the trend. The part should then be removed for further investigation when a delay exceeding a specified time (to be established by the manufacturer; e.g.: 3 seconds) is observed with respect to the baseline of the curve. This kind of action would provide an absolute evaluation of the intrinsic performance of each single actuator and it is then expected to be much more effective than the current analysis of CFDS that only provides relative measurements.

Reply:

EASA issued the Airworthiness Directive (AD) 2011-0069R1 to require an amendment of the applicable Airplane Flight Manual (AFM), repetitive checks of specific Centralized Fault Display System (CFDS) messages, and repetitive inspections of the opening sequence of the Main Landing Gear (MLG) door actuator and, depending on findings, corrective action.

The EASA Emergency Airworthiness Directive (AD) was issued on 25 June 2013 regarding the MLG door actuator to require identification of the affected aeroplanes to establish the configuration and, for those aeroplanes, repetitive inspections of the opening sequence of the MLG door actuator and, depending on findings, replacement of the MLG door actuator. The AD also provides optional terminating action by disconnection of the interlink for certain Landing Gear Control Interface Units (LGCIUs), or in-service modification of the aeroplane by installation of MLG actuator Part Number (P/N) 114122014 through Airbus Service Bulletin (SB) A320-32-1407 (Airbus production mod. 153655).

After that, the new proposal for the additional limit of 3 seconds was reviewed and considered not practical. Instead, the mandatory repeat inspection interval will be reduced with the next issue of AD 2012-0069.

On 25 September 2013, following analyses performed by the Type Certificate Holder (TCH), EASA issued the Proposed Airworthiness Directive (PAD) No. 13-125R1 to reduce the MLG door opening sequence inspection interval, and the threshold for the MLG door actuator modification or replacement.

After the consultation period, prompted by additional information received from the TCH, the PAD has been amended to reduce the compliance time for the modification or replacement of the MLG door actuator. The PAD 13-125R2 was published on 13 November 2013. The final AD will follow.

The actions address the concern of the Safety Recommendation that a deteriorated actuator can be identified by inspection.

Status: Open – **Category:**

Safety Recommendation ITAL-2013-007 (ANSV):

In order to have a better and clear traceability of the maintenance performed on the single aircraft part, it would be desirable to require a worksheet for each single S/N and not generically referred to the MLG door actuator. EASA is therefore recommended to review the maintenance practices/requirements regarding the above mentioned matter.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation ITAL-2013-008 (ANSV):
In order to avoid excessive workload in stressful condition like an emergency landing due to L/G not locked, it would be advisable to require that the content of the OEB 209/1 (and its following modifications) and associated point in EASA AD 2011-0069R1 to be included in the related abnormal and emergency checklists.

Reply:

The applicable procedure referred into the Operational Engineering Bulletin (OEB) 209/1 and the associated point in the EASA Airworthiness Directive (AD) 2011-0069R1 were introduced in the global AFM revision approved by EASA on 04 April 2011.

With the actual version of the Flight Warning Computer (FWC) H2F7, the OEB 209/1 content was introduced on Electronic Centralised Aircraft Monitor (ECAM). The FWC standard F7 will be introduced as the minimum fleetwise standard in future.

Nevertheless, the approval of the related abnormal and emergency checklist, namely Quick Reference Handbook (QRH), is not under EASA remit. Therefore we would recommend the SR to be addressed to the responsible entity.

Status: Closed – **Category:** Partial agreement

Safety Recommendation ITAL-2013-009 (ANSV):
In order to avoid any possible flightcrew misinterpretation about the effective meaning of the 2 minutes waiting time after recycling required to activate the L/G gravity extension, it would be advisable to review the activation procedure; in particular it is recommended to specify that the freefall mechanism must be activated after a minimum time of 2 minutes with the lever kept in the lower position, and no other shorter intermediate recycles are allowed.

Reply:

The operational procedure for the gravity extension has been reviewed and considered sufficiently explicit for the period of at least two minutes, which need not to be precisely timed.

The two minutes wait period is deemed correct for a freefall extension, e.g. for hydraulic failure.

Status: Closed – **Category:** Partial agreement

Safety Recommendation ITAL-2013-010 (ANSV):
In a case of jammed door, when the gravity extension is activated, there is no chance for the crew to restore a clean configuration of the aircraft. This, under specific circumstances, may become critical by leading to excessive fuel consumption. EASA is therefore recommended to consider the possibility to review the logic of the system in order to remove this potential scenario.

Reply:

The fuel available at the destination must be checked by the flight crew and the decision how to proceed depends upon the available fuel, as per regulation EU 965/2012 paragraph CAT.OP.MPA.280 "In-flight fuel management".

The fuel flow with the gear down and doors open is higher than with the doors closed but not excessive.

The actual system closing of the door requires hydraulic pressure which is not available when the gravity extension is exercised.

EASA has considered the potential scenario and reviewed the logic of the system without finding a possible improvement. Therefore, no further actions are envisaged.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
I-ITAV	AVIONS ROBIN DR400	Aeroporto di Guidonia (RM)	11/01/2011	Accident

Synopsis of the event: L´incidente é occorso l'11 gennaio 2011, alle ore 15.28 UTC (16.28 locali), sull' aeroporto militare di Guidonia (Roma), ed ha interessato il velivolo modello Robin DR 400/180R marche di identificazione I-ITAV, che stava trainando l'aliante modello ASK 21 marche di identificazione I-IVWJ, a bordo del quale erano presenti un istruttore di volo e un allievo.

Il velivolo marche I-ITAV, che si trovava nella fase iniziale del traino dell'aliante, veniva visto da testimoni cambiare improvvisamente assetto di volo e dopo pochi istanti impattare la pista da cui era appena decollato. Nel violento urto contro il suolo e nel susseguente incendio l'aeromobile andava distrutto. La squadra di soccorso dell'Aeronautica militare, intervenuta in tempi rapidissimi, riusciva a spegnere l'incendio in atto e ad estrarre dal relitto il pilota, che peró decedeva poco dopo. L'aliante rientrava sull'aeroporto; incolumi le due persone a bordo.

Safety Recommendation ITAL-2013-011 (ANSV):
L´ANSV alla luce di quanto previsto dalla EASA CS-22 (Certification Specifications for Sailplanes and Powered Sailplanes) relativamente alle funi da utilizzare per il traino degli alianti ed alle "weak link" – raccomanda di fornire agli operatori del settore (in primis alle organizzazioni preposte all'addestramento al volo) specifici chiarimenti in materia di funi da utilizzare per il traino degli alianti e di relativi sistemi di sicurezza associati al fine di eliminare i dubbi attualmente esistenti e di prevenire valutazioni soggettive inadeguate da parte degli stessi operatori.

Reply:

EASA is evaluating the appropriateness of the requirements in place in CS 22 considering also the training that is expected for this type of operations, with the aim to assess whether the requested action or other type of actions are needed for the issue in subject.

Status: Open – **Category:** Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
I-AIRY	AEROSPATIALE AS350	Lasa, Bolzano airfield	16/05/2011	Incident

Synopsis of the event: On May 16th 2011, the Eurocopter AS350 B2 registration marks I-AIRY was flying from Merano (BZ, Italy) to Curon Venosta (BZ, Italy). During flight at an altitude of about 4.300 ft, the pilot noticed that the "low oil pressure" light came on, accompanied by a yaw jerk to the right, a loud noise and a NR drop with its audio warning. The pilot immediately lowered the collective pitch and landed the aircraft in autorotation on Lasa airfield that was directly in front of him. An observer on the ground reported the presence of white smoke from the exhaust pipe. On the ground, the preliminary inspection did not reveal any finding likely to explain the event. Minor damages to the helicopter due to the hit of one of the main rotor blades agamst the tail boom happened during touch-down. No injuries were reported by the three persons onboard (pilot included).

Safety Recommendation ITAL-2013-012 (ANSV):

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Unless the Agency has substantial progress to report from the follow-up activities related to this specific Safety Recommendation within the 90 day period, this reply shall serve to fulfil compliance with Article 18 of Regulation (EU) No 996/2010 (ICAO Annex 13, paragraph 6.10).

Status: Open – **Category:**

Japan

Registration	Aircraft Type	Location	Date of event	Event Type
JA6522	AEROSPATIALE AS350	Kagawa Prefecture	22/09/2011	Accident

Synopsis of the event: Forced landing due to fire in the rear hold.

Safety Recommendation JAPN-2013-001 (ARAIC):

The EASA should make it mandatory to modify the rear hold of the Eurocopter AS350 series so that electrical equipment and its wiring are fully protected.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation JAPN-2013-002 (ARAIC):

In the Flight Manual of the Eurocopter AS350 Series, the EASA should urge the designer and manufacturer of the helicopter to specify the memory items among emergency procedures so that they can be performed immediately.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
JA135E	EUROCOPTER EC135	Kerama Islands, Okinawa	28/03/2009	Serious incident

Synopsis of the event: A Eurocopter EC135T2, registration JA135E, operated by academic corporate body HIRATAGAKUEN, took off from Kumejima Helipad at 10:07 local time*1 on March 28, 2009 for emergency patient transportation. When the helicopter was flying over the sea en route to Shuri Helipad on the main island of Okinawa, its left engine stopped around 10:20 at about 800 ft (about 240 m) about 6 nm (about 11 km) northwest of the Kerama Islands. It changed the destination to Naha Airport and landed there at 10:46.

There were six persons on board, consisting of the pilot in command (PIC) and a mechanic, a doctor and a nurse as medical personnel, and an emergency patient and an attendant, but no one was injured.

The inside of the left engine of the helicopter was destroyed, but there was no outbreak of fire.

Safety Recommendation JAPN-2013-003 (ARAIC):

It is recommended that the European Safety Agency directs Eurocopter and Turbomeca to cooperatively study the helicopter operational environment and the effects of fungicide to inform helicopter customers of the proper dosing instructions and precautions.

Reply:

EASA is working with Eurocopter and Turbomeca to determine the best course of action.

An update will be provided as soon as there is any significant progress.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Myanmar

Registration	Aircraft Type	Location	Date of event	Event Type
F-HJCS	SIKORSKY S76	Yetagun in the Andaman Sea, Myanmar	11/07/2011	Accident

Synopsis of the event: On 11 July 2011 the helicopter Sikorsky S76 C++ registered F-HJCS operated by Heli-Union took-off from Kanbauk Airfield with 7 passengers and 2 flight crews bound for the Yetagun Floating Storage Off-loading (FSO). After landing on the FSO, one passenger disembarked and three passengers boarded. During this phase, the rotor was still turning. Then the crew intended to take-off to Yetagun platform. The captain (pilot flying) climbed vertically. At 25 feet above the platform, the pilot initiated a cyclic input, then the aural warning sounded and ENGINE OUT warning light illuminated on the instrument panel. The captain noticed, the left engine T5 temperature increasing to the red zone (up to 9830C) and heard a clanking noise. He decided to ditch the helicopter. He initiated the floating devices deployment. The contact with the sea surface was rather hard and the helicopter then capsized onto its left side. Flight crew and passengers managed to get out of the helicopter. All the crew and passengers were rescued after approximately one hour. Three occupants (including co-pilot) drowned to death and two other passengers suffered serious injuries. There were no signals detected from either the emergency locator transmitter or the personal locator beacons worn by the occupants of the helicopter.

Safety Recommendation MYAN-2012-002 (AIB):

MAIB and BEA recommend that EASA modify paragraph 1 ACJ-1 appendix 1 JAR-OPS3 3.517 (a) so that, prior to granting an approval, the operators provide validated power plant reliability statistics for the previous 5 year moving window.

Reply:

JAR-OPS 3 was under the responsibility of the Joint Aviation Authorities (JAA) that ceased its activities in 2009.

Commission Regulation (EU) No 965/2012 establishes common rules for commercial air transport, including provisions for helicopters, which are based on JAR-OPS 3. ACJ-1 to Appendix 1 to JAR-OPS 3.517(a) was transposed into corresponding AMC1 CAT.POL.H.305(b) without changes. This AMC (Acceptable Means of Compliance) is contained in ED Decision 2012/018/R.

EASA considers the requested modification to paragraph 1 to ACJ-1 is already imbedded in paragraphs (a) and (b) of AMC1 CAT.POL.H.305(b). Paragraph (b) states: “Except in the case of new engines, such data should show sudden power loss from the set of in-flight shutdown (IFSD) events not exceeding 1 per 100 000 engine hours in a 5 year moving window. However, a rate in excess of this value, but not exceeding 3 per 100 000 engine hours, may be accepted by the competent authority after an assessment showing an improving trend.”

It is the operators responsibility to ensure the quality and correctness of the data. The AMC describes the procedures to be followed and the actions to be taken by the operator in this process.

Status: Closed – **Category:** Partial agreement

Netherlands

Registration	Aircraft Type	Location	Date of event	Event Type
TC-ONP	MCDONNELL DOUGLAS MD88	Groningen Airport Eelde, Netherlands	17/06/2003	Accident

Synopsis of the event: During take-off at a speed of approximately 130 knots the captain, who was pilot flying, rejected the take-off above the decision speed because he experienced a heavy elevator control force at rotation. The stabilizer warning sounded during the entire take-off roll. The aircraft overran the runway end and came to a stop in the soft soil. During subsequent evacuation one cabin crew member and a few passengers sustained minor injuries. The aircraft sustained substantial damage. There was no fire.

Safety Recommendation NETH-2007-004 (DSB):
It is recommended to the Civil Aviation Authority, the Netherlands (IVW) to develop certification requirements for aircraft from the civil aviation category, to provide weight and centre of gravity measurements to the crew of new aircraft and to investigate the possibility to provide these data with existing aircraft.

Reply:

The European Organization for Civil Aviation Equipment (EUROCAE) working group (WG-88) conducted a feasibility study and delivered their report in April 2013.

WG-88 concluded that standardization of On-Board Weight and Balance Systems (OBWBS) specification is feasible and recommended. Nevertheless, the report also mentions that some operators of such systems reported concerns in the past. The greatest concern was the accuracy of the systems resulting in differences between on board measured results and crew primary weight & balance computations that finally led some operators to deactivate the system.

At the same time, it is recognized that OBWBS technologies have evolved and some are promising in term of accuracy and reliability, although their maturity levels are still quite low.

WG-88 deems feasible to develop a Minimum Operational and Performance Specification (MOPS) for OBWBS as far as it may be developed without being driven by technology.

Therefore a second phase should start for WG-88 to work on the drafting of a MOPS. The Agency will consider rulemaking options to be proposed once a standard is available.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
TC-JGE	BOEING 737	a field 1,5 km away of the runway threshold of Amsterdam Schiphol Airport	25/02/2009	Accident

Synopsis of the event: A Boeing 737-800 (flight TK1951) operated by Turkish Airlines was flying from Istanbul Atatürk Airport in Turkey to Amsterdam Schiphol Airport, on 25 February 2009. As this was a 'Line Flight Under Supervision', there were three crew members in the cockpit, namely the captain, who was also acting as instructor, the first officer who had to gain experience on the route of the flight and who was accordingly flying under supervision, and a safety pilot who was observing the flight. There were also four cabin crew members and 128

passengers on board. During the approach to runway 18 Right (18R) at Schiphol airport, the aircraft crashed into a field at a distance of about 1.5 kilometres from the threshold of the runway. This accident cost the lives of four crew members, including the three pilots, and five passengers, with a further three crew members and 117 passengers sustaining injuries. Shortly after the accident, the initial investigation results indicated that the left radio altimeter system had passed on an erroneous altitude reading of -8 feet to the automatic throttle control system (the autothrottle). In response to this, the Board had a warning sent to Boeing on 4 March 2009. This asked for extra attention to be paid to the 'Dispatch Deviation Guide' for the Boeing 737- 800, which is a manual of additional procedures and warnings for maintenance crews and pilots to consult before the aircraft is flown. This warning, which was added in 2004, states that with radio altimeter(s) inoperative, the associated autopilot or autothrottle must not be used for the approach and landing. The Board asked Boeing to investigate whether this procedure should also apply during the flight itself. With regard to the content of the Dispatch Deviation Guide, Boeing has answered that a provision such as this did not lend itself for inclusion in a defects checklist in the Quick Reference Handbook – the handbook containing the checklists for normal and abnormal procedures during the flight. On the one hand because a non-normal checklist must be based on a readily identifiable failure that is identified by an alert or a fault-warning, which was not the case with this radio altimeter failure. On the other hand because of the complexity of the fault, it is not practical to develop a non-normal checklist that would address all possible situations. Furthermore incorporating the procedure in the Quick Reference Handbook would unnecessarily remove airplane system functionality. This means that as an aircraft has two identical systems, one system is also a back-up for the other system. When one of these systems does not work prior to dispatch no back-up system is available and the flight should not be dispatched or the systems should not be used. If however during the flight one of the systems should fail the other system, the back-up, will take over and that is what it is meant for. Not using a system anymore at that moment should be too big a restriction for the operations. On the same date, 4 March 2009, following consultation with the Dutch Safety Board, Boeing did sent a notice to all companies flying with the Boeing 737 regarding the facts of the accident flight, as they were known at that point. The Quick Reference Handbook may not be the correct medium for the inclusion of such a procedure. The Board still considers that relevant information ought to have been communicated in 2004 when the warning was added to the Dispatch Deviation Guide, to the operators and especially to the pilots. A response from Boeing might, for instance, have been by means of an 'Operations Manual Bulletin'. This is normal in cases where aircraft systems operate in some way contrary to what might be anticipated. This information could subsequently have been included in the Flight Crew Operation Manual. During the investigation, Boeing was not able to clarify why they did not proceed with issuing such a warning in 2004.

Safety Recommendation NETH-2010-007 (DSB):
DGCA, ICAO, FAA and EASA should change their regulations in such a way that airlines and flying training organisations see to it that their recurrent training programmes include practicing recovery from stall situations on approach.

Reply:

Rulemaking tasks RMT.0581 and RMT.0582 'Loss of Control Prevention and Recovery Training' were launched by the Agency on 20 August 2013 with the publication of the associated Terms of Reference. This Safety Recommendation is being considered within the framework of these tasks.

Account will be taken of lessons learned from other relevant work impacting ICAO, FAA and EASA conducted by the Loss of Control Avoidance and Recovery Training (LOCART) Working Group and the International Committee for Aviation Training in Extended Envelopes (ICATEE).

Status: Closed – **Category:** Partial agreement

Norway

Registration	Aircraft Type	Location	Date of event	Event Type
G-CRPH	AIRBUS A320	Harstad/Narvik airport Evenes, Norway	25/11/2004	Serious incident

Synopsis of the event: MYT6289, an Airbus A320 with registration G-CRPH, was aligned up for take off on runway 35 at ENEV. During the application of take off power, there was an asymmetric build up of engine thrust causing the left engine to lag the right engine. This caused a yawing moment that resulted in a loss of directional control. The aircraft yawed approximately 40° and departed the partially snow covered runway in spite of the crew selecting engine idle, applying nose wheel steering and braking. The aircraft continued to move forward at a slow speed off the paved area and onto an area of snow-covered soft ground. The nose wheel created a large furrow as the aircraft came to a stop in snow and soil at an angle of approximately 40° to the runway centre line. The tail and the nose of the aircraft were 12 m and 35 m from the runway edge respectively. The distance from the runway centre line to the edge was 22.5 m. Damage to the aircraft was limited to a punctured left nose wheel tyre, a separated and deformed left nose wheel hubcap and a broken nose leg taxi light.

The last reported friction numbers for runway 17 were 30-32-32 measured with Skiddometer with high pressure tire (BV-11/SKH). The runway was covered with up to 8 mm of loose dry snow upon sanded ice. The lagging engine rpm of the left engine was probably caused by icing on the fan blades during the taxiing and holding before take off.

Safety Recommendation NORW-2007-028 (AAIB):

AIBN recommends that Airbus Industrie review their concept of "Fluid contamination being Equivalent to Wet Runway" for landing on contaminated runways.

Reply:

EASA issued the regulatory requirements on contaminated runways in Certification Specification 25 Amendment 2 Acceptable Means of Compliance 25.1591.

The Agency has ensured that AIRBUS has addressed the safety recommendation. After reviewing Airbus position, EASA finds that the following Airbus' answer addresses the intent of this SR.

"Accident/Incident: MYT MSN424 RUNWAY EXCURSION -Airbus Answer to Safety Recommendation Ref: 2007/28T

This procedure is based on reported runway condition (type and depth of contaminant), in accordance with EASA regulations (JAR 25.1591). In addition, it proposes equivalences between different types of contaminants. The equivalence is based on considerations on fluid specific gravity. For instance, 15mm of dry snow (at 0.2kg/l) is considered equivalent to 3mm of water (1kg/l). It must be pointed out that all performance data published by Airbus for contaminated runways are approved by Airworthiness Authorities.

Moreover, the principle of equivalence is being reviewed in the frame of the proposed evolution of EASA regulatory requirements on contaminated runways described in Certification Specification 25 Amendment 2 Acceptable Means of Compliance 25.1591."

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
LN-WIE	DE HAVILLAND DHC8	Sorkjosen airport, Norway	21/02/2006	Serious incident

Synopsis of the event: Widerøe's flight WIF922 from Tromsø to Sørkjosen airport encountered heavy turbulence during the descent. Toradjust the aircraft's speed to the turbulent air, the Commander reduced engine power by pulling both Power Levers back to the lowest possible power setting when the aircraft is airborne (Flight Idle). Unintentionally, both Power Levers ended up lower than the flight idle setting, and this was not prevented by the built-in safety stop. The result was both propellers reaching uncontrollably high rotation speeds. The right engine was severely damaged and the control of the aircraft was partly lost. After the aircraft had lost 760 feet of altitude and changed course, the crew gradually managed to achieve control over the right propeller and shut down the engine. The crew decided to return to Tromsø and landed there with only one operating engine without additional problems.

Safety Recommendation NORW-2012-004 (AAIB):

This serious aircraft incident has shown that on the aircraft type DHC-8 it is possible to inadvertently pull the Power Levers back past Flight Idle while airborne. The consequences of this may include propeller overspeed, possible engine failure and loss of aircraft control. The Accident Investigation Board Norway recommends that Transport Canada and EASA require the type certificate holder (Bombardier) to introduce measures to prevent propeller overspeed during unintended management of Power Levers. (No. 2012/04T)

Reply:

All Operator Message (AOM) N°1009, dated 23 October 2012 gave an update for Beta Lockout and Beta Warning Horn Bracket Modifications. In order to expedite availability of the beta lockout system, it has been decided to utilize the system architecture of the current Federal Aviation Administration (FAA) approved installation.

A Service Bulletin SB 8-76-35 (modsum 8Q101956) was issued on 15 May 2013 to install the beta lockout system on all aircraft not already equipped.

After that, Transport Canada Civil Aviation (TCCA) issued the Airworthiness Directive (AD) CF-2013-15 dated 05 June 2013 to mandate the installation. This AD was endorsed by EASA on 19 June 2013.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
LN-OXC	AEROSPATIALE AS350	Dalamot in Ullensvang Municipality, Hordaland county	04/07/2011	Accident

Synopsis of the event: The helicopter was used to transport people to a cabin site in the mountains. The weather was good with fine flying conditions. The first flight with five passengers had been completed. There were four passengers on board during the second flight. As the helicopter started the descent towards the cabin site, the passengers of the first flight witnessed the helicopter initiating an abrupt, descending turn to the right. The witnesses have explained that during the turn, control of the helicopter appeared to be lost. At the end, it seemed as if a recovery was close, but the helicopter hit the ground hard about 500 metres from the planned landing site and caught fire immediately. All five persons on board were killed. The helicopter was a total loss.

Safety Recommendation NORW-2012-009 (AAIB):

The AIBN recommends that EASA requires the type certificate holder Eurocopter to issue a warning of this particular hazard, preferably as a permanent note in the Flight Manual of the helicopter models in question.

Reply:

Servo transparency phenomenon is addressed in Rotorcraft Flight Manual (RFM) Normal Procedures. RFM highlights the related essential information which cover prevention of servo transparency by avoiding defined combinations of flight parameters and manoeuvers. In RFM servo transparency is considered a condition of increased hazard in general, without further categorization of hazard associated with particular flight conditions. Information related to the servo transparency phenomenon under all flight conditions currently provided in the RFM have been found appropriate.

Status: Closed – **Category:** Disagreement

Portugal

Registration	Aircraft Type	Location	Date of event	Event Type
C-GITS	AIRBUS A330	Lajes Airport, Azores, Portugal	24/08/2001	Accident

Synopsis of the event: Air Transat Flight TS236, was en route at FL390 when at 05:36 UTC, the crew became aware of a fuel imbalance between the left and right-wing main fuel tanks. Five minutes later the crew concerned about the lower-that-expected fuel quantity indication, decided to divert to Lajes Airport in the Azores. At 05:48 UTC, when the crew ascertained that a fuel leak could be the reason for the possible fuel loss, an emergency was declared to Santa Maria Oceanic Control. At 06:13, at a calculated distance of 135 miles from Lajes, the right engine (Rolls-Royce Trent 772B) flamed out. At 06:26, when the aircraft was about 85 nm from Lajes and at an altitude of about FL345, the left engine flamed out. At 06:39 the aircraft was at 13,000 feet and 8 miles from the threshold of runway 33. An engines-out visual approach was carried out and the aircraft landed on runway 33. Eight of the plane's ten tyres burst during the landing.

Investigation has determined that a low-pressure fuel line on the right engine, had failed probably as the result of its coming into contact with an adjacent hydraulic line

Safety Recommendation PORT-2004-001 (GPIAA):

It is recommended that DGAC-France, Transport Canada, CAA UK, the JAA, EASA, and the CAAs of other states review flight crew operating manuals and checklist procedures to ensure that they contain adequate information related to fuel leak situations.

Reply:

An airworthiness review of low fuel awareness indications and crew procedures of the in-service fleet was made through the EASA Continued Airworthiness Review Item (CARI) 25-01 "Design Review of Fuel System in relation to Fuel Low Level Awareness".

Furthermore, new requirements were introduced in Certification Specifications (CS) 25 Amendment 12, updating CS 25.1305 and Acceptable Means of Compliance (AMC) 25.1305 for fuel indication system(s) standards.

Status: Closed – **Category:** Agreement

Safety Recommendation PORT-2004-002 (GPIAA):

It is recommended that DGAC-France, Transport Canada, CAA UK, the JAA, EASA, and the CAAs of other states: Review flight crew training programs to ensure that they adequately prepare crews to diagnose and take appropriate actions to mitigate the consequences of fuel leak events.

Reply:

Annex 1 (Part-FCL) of Commission Regulation (EU) No 1178/2011 of November 2011, includes requirements for flight crew training for all licences on the subjects of fuel management, fuel systems, fuel consumption, monitoring and control of fuel status, re-check of fuel status and fuel systems malfunctions during all phases of flight.

Additionally, all fuel-related subjects have to be trained and checked during class and type-rating training, skill tests and proficiency checks under "Flight Manoeuvres and Procedures" [Appendix 9 to Part-FCL, 3.A.5 for SP (single-pilot) non-complex aeroplanes and 3.4.3 for MP (multi-pilot) and SP complex HP (high-performance) aeroplanes].

The theoretical knowledge syllabi for the Airline Transport Pilot Licence (ATPL), Commercial Pilot Licence (CPL) and Instrument Rating (IR), are contained in the associated EASA ED Decision 2011/016/R, which was published in December 2011. This decision includes Learning Objective 033 06 00 00 'Flight monitoring and in-flight re-planning'. Specific Learning Objectives 033 06 01 'Flight Monitoring' and 033 06 02 'In-flight re-planning in case of deviation from planned data', address the issue in more detail. Lastly, paragraph CAT.OP.MPA.280 of Commission Regulation (EU) No 965/2012 of 5 October 2012 related to air operations, provides for the operator to establish appropriate procedures on in-flight fuel management and specifies the conditions and required flight crew actions to be considered.

Moreover, AMC-20-06 of EASA Executive Director (ED) Decision No 2010/012/R, addressing Extended Range Operations with Two-Engine Aeroplanes (ETOPS) flights, contains relevant syllabi for flight crew training.

EASA considers that the current legislation already requires the training providers to include, in their flight crew training programs, training to ensure that crews are adequately prepared to diagnose and take appropriate actions to mitigate the consequences of fuel leak events.

Status: Closed – **Category:** Partial agreement

Safety Recommendation PORT-2004-005 (GPIAA):

It is recommended that Transport Canada, DGAC-France, CAA-UK, as well as the EASA and CAAs of other states responsible for the manufacture of aircraft and major-components:

- Review applicable airworthiness regulations and standards, as well as aircraft, engines and component maintenance manuals, to ensure that adequate defences exist in the preinstallation, maintenance planning process to detect major configuration differences and to establish the required support resources for technicians responsible for the work. (2004-AK)

- Review the adequacy of the current standards for identifying the configuration and modification status of major components to ensure that differences between major components of similar part numbers can be easily identified (2004-AL)

Reply:

This safety recommendation is being considered in the scope of EASA rulemaking task RMT.0243(MDM.042) "The identification of existing defences in maintenance processes to detect major configuration differences". The Terms of Reference of RMT.0243 date 09 July 2013 are published on the EASA Website.

The specific objectives are:

- ensure proper identification of the configuration, including the modification status of aircraft/engine/propeller, by introducing changes to Commission Regulation (EC) No 2042/2003 (in particular Part-M and Part-145) and the related AMC/GM;
- introduce the concept of continuous control of aircraft configuration;
- propose clear provisions for the control of the configuration of the aircraft when maintenance is being performed;
- clarify the responsibilities related to the identification and control of aircraft configuration (continuing airworthiness management vs maintenance); and
- provide some guidance for methods of identification and control of the aircraft configuration.

Status: Closed – **Category:** Agreement

Russian Federation

Registration	Aircraft Type	Location	Date of event	Event Type
F-OGYP	AIRBUS A310	Irkutsk, Russian Federation	08/07/2006	Accident

Synopsis of the event: On July 8, 2006 at 22:44 UTC1 (7:44 local time on July 9, 2006), as it was landing at Irkutsk airport, an A-310 airplane, registration F-OGYP, ran down the runway, overran the runway threshold and, at a distance of 2140 m and on a magnetic azimuth of 296° from the aerodrome reference point, collided with barriers, broke apart and burst into flames. As a result of the accident 125 individuals died, including both pilots and 3 of the cabin crew; 60 passengers and 3 cabin crew suffered physical injuries of varying degrees of severity.

Safety Recommendation RUSF-2007-001 (AIB):
It is recommended to EASA and other Certifying authorities together with the manufacturers of large transport aircraft: to review the human factors issues associated with the dispatch conditions and the operational procedures in case of one thrust reverser being inoperative, in order to avoid inadvertent forward thrust application.

Reply:

An internal study has been conducted reviewing accidents and serious incidents since 1980, involving throttle mis-management including events in conjunction with aircraft dispatch with one (or more) thrust reverser inoperative. Results of the study showed that most of the events were human factor related to the logic system design, which, in some cases, was not fully and rapidly acknowledged from the flight crew, thus resulting in erroneous actions.

For Airbus type aeroplanes, a new procedure has been implemented on all Fly By Wire (FBW) aircraft when one thrust reverser (T/R) is inoperative at landing. The Flight Crew Operating Manual (FCOM) had been updated in order to remind the system behaviour. With FOT 999.0108/07 (10 October 2007): "Training recommendation on dispatch with One Thrust Reverser Deactivated" Airbus recommended reinforcing flight crew training (initial and recurrent) for situations of dispatch with one thrust reverser deactivated and/or for situations with failure leading to inoperative thrust reverser.

In addition, an enhanced "RETARD" call-out function has been introduced in Single Aisle and Long range aircraft. Main feature of the system logic is that when there is an inappropriate thrust lever position it replaces the current «RETARD» by a more directive synthetic voice and it keeps it until all engine thrust levers are set and kept at the appropriate position, until the end of the rollout.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
RA-1018G	CESSNA 182 Q	11 km to the North-West of Perm airport, Bolshoye Savino, Russian Federation	29/11/2009	Accident

Synopsis of the event: On November 29, 2009 an amateur pilot was conducting en-route flight on an S-182TD RA-1018G aircraft (single aircraft) from Yoshkar-Ola to Omsk-Novokuznetsk. After entering the terminal area of Perm Airport the engine failed. During the emergency landing beyond the airdrome, due to hard landing, the

Aircraft was significantly damaged. There was no fire on board. The pilot and 3 (three) passengers on board have suffered injuries of various severity; 12 days later one passenger died in a hospital. There was no cargo on board.

Safety Recommendation RUSF-2012-001 (AIB):
FAA, EASA: together with the Type Certificates holders (SMA, Cessna) review the evidences that support the published data of the best glide speed and corresponding distance subject to flight altitude. If necessary to make the corresponding changes into the operational documentation.

Reply:
EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
VP-BYZ	ATR ATR72	Roschino (Tyumen) airport	02/04/2012	Accident

Synopsis of the event: On 02.04.2012, at 01:35 UTC1 (07:35 local time), at day time, under VMC after the take-off from the Roschino (Tyumen) airport RWY 21, the ATR72-201 VP-BYZ aircraft, operated by JSC "UTAir Aviation" (further referred to as "UTAir") crashed while performing the scheduled passenger flight UTA120 from Tyumen to Surgut. After the landing gear and the flaps retraction the aircraft started descending with a significant left bank and then collided with terrain. The ground collision first led to the structural damage of left wing followed by the fuel spillage and fire, and further to the complete destruction of aircraft with the right wing, cockpit and rear section with empennage separation. According to the load sheet the A/C TOW and centre of gravity were 18730 kg and 30.72 % MAC correspondingly and that was within the aircraft operation limits. On board there were 4 crew members (PIC, F/O and two flight attendants) and 39 passengers, all RF citizens. Out of the 43 persons on board, 4 crew members and 29 passengers were killed. Others received serious injuries.

Safety Recommendation RUSF-2013-001 (AIB):
IAC recommends the certification authorities of States of Design to review the current procedural approach to checking aircraft surfaces on contaminants accretion before the flight and to monitoring aircraft state after de/anti-icing treatment and to consider the introduction of a requirements to mandatory equip at least those A/C types whose aerodynamic performance is very sensitive to ground icing with an on-board system for automatic detection of ground icing conditions and notifying flight crews.

Reply:
EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Unless the Agency has substantial progress to report from the follow-up activities related to this specific Safety Recommendation within the 90 day period, this reply shall serve to fulfil compliance with Article 18 of Regulation (EU) No 996/2010 (ICAO Annex 13, paragraph 6.10).

Status: Open – **Category:**

Safety Recommendation RUSF-2013-002 (AIB):
IAC recommends EASA and other simulator certification authorities to consider the possibility to add into the simulator data-package the capability to simulate an unexpected or sudden aircraft stall at any stage of flight.

Reply:

EASA is considering this recommendation and determining the feasibility of its implementation.

An update will be provided as soon as there is any significant progress.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
RA-04109	AEROSPATIALE AS355	Gromovo on Lake Sukhodolskoye	20/01/2011	Accident

Synopsis of the event: Loss of control in white-out conditions. Conditions made it impossible to continue the flight in visual flying rules, resulting in an uncontrolled steep descent and the collision of the helicopter with the surface of the lake, which was covered in ice. The helicopter suffered significant damage, one passenger died and the other passengers and crew were injured to varying degrees of severity. There was no fire

Safety Recommendation RUSF-2013-003 (AIB):
EASA shall examine the matter of amending the flight and maintenance manuals for the AS-355N helicopter in relation to the drainage, after the flight, of condensate from the system which feeds the pressure instruments when the helicopter is being operated in conditions of low temperatures and non-hangar storage.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Unless the Agency has substantial progress to report from the follow-up activities related to this specific Safety Recommendation within the 90 day period, this reply shall serve to fulfil compliance with Article 18 of Regulation (EU) No 996/2010 (ICAO Annex 13, paragraph 6.10).

Status: Open – **Category:**

Singapore

Registration	Aircraft Type	Location	Date of event	Event Type
9V-SKD	AIRBUS A380	Singapore Changi Airport, Singapore	31/01/2011	Serious incident

Synopsis of the event: At 10.45 p.m. on 31 January 2011, a cabin crew member on an Airbus A380 flight from Hong Kong to Singapore heard a loud bang when he was in a lavatory. He later noticed an electrical burning smell and smoke. He discharged a fire extinguisher into the area from where the smoke was coming out. The smoke subsequently cleared and the aircraft landed without further incident. No passenger or crew was injured. An inspection after the aircraft had landed in Singapore found signs of burning at the feeder terminal block and feeder cables that were situated below the lavatory, behind the left side wall of the forward cargo compartment. Some feeder cable lugs were found melted and there was soot on the components around the feeder terminal block. Some insulation blankets adjacent to the feeder terminal block were also burnt. A degraded Main Excitation Cable had probably caused an over-voltage across the Lightning Protection Units (LPUs) attached to the feeder terminal block, resulting in a short circuit between the three phase feeder cables and structural grounding. The short circuit caused excessive current to flow through the feeder cables attached to the feeder terminal block. The operation of the Over-Current protection limited the damage due to overheating. The Air Accident Investigation Bureau of Singapore (AAIB) has classified this occurrence as a serious incident.

Safety Recommendation SING-2012-004 (AAIB):

It is recommended that the European Aviation Safety Agency require the aircraft manufacturer, as holder of the type certificate, to review the design of the lightning protection system to prevent short circuiting of the feeder cables when excessive voltage is output by the Variable Frequency Generator. [AAIB Recommendation R-2012-004]

Reply:

EASA together with Airbus has reviewed the design of the A380 and a modification of the Fast Over-Voltage (FOV) is being developed to detect immediately an overvoltage and thus preventing any risk of Lightning Protection Unit (LPU) failure as experienced by the A380 MSN008.

This modification will be implemented in the next standard of the Generator and Ground Power Control Unit (GGPCU) (HW-6 / SW-18) planned to be certified in 2013. The associated Service Bulletin (ref. A380-24-8047) will be available in 2013. The retrofit of GGPCU will be followed through ARS 24.0004 “Variable Frequency Generator (VFG) uncontrolled overvoltage”.

Status: Closed – **Category:** Agreement

Safety Recommendation SING-2012-005 (AAIB):
It is recommended that the European Aviation Safety Agency require the aircraft manufacturer, as holder of the type certificate, to review the need for fire detection and suppression in the vicinity of the feeder terminal block. [AAIB Recommendation R-2012-005]

Reply:

EASA and Airbus have reviewed the need for fire detection and suppression system in the vicinity of the feeder terminal block.

Inspection of the aircraft revealed that the damage was confined to the Lightning Protection Units (LPUs) and their immediate vicinity. No signs of flame propagation were found beyond the immediate area.

This event demonstrated that by adherence to design requirements applicable to not occupied, controlled contents areas, continued safe flight and landing was ensured.

Therefore, following the analysis of the design, the need for fire detection and suppression system in the vicinity of the feeder terminal block was not demonstrated.

Status: Closed – **Category:** Partial agreement

Spain

Registration	Aircraft Type	Location	Date of event	Event Type
EC-HFP	DOUGLAS DC9	Madrid-Barajas Airport, Spain	20/08/2008	Accident

Synopsis of the event: On 20 August 2008, the McDonnell Douglas DC-9-82 (MD-82) aircraft, registration EC-HFP, arrived from Barcelona at Madrid-Barajas Airport at 10:13 to conclude what was the first flight programmed for that day. The aircraft was then scheduled to continue on to Las Palmas with the same crew that had flown the previous leg. The estimated departure time was 13:00. Once the aircraft was on the runway threshold ready for takeoff, the crew noted an abnormally high temperature of the RAT (Ram Air Temperature) probe and returned to the stand to attempt to solve the problem. After maintenance work performed by the airline's own maintenance technicians, it was proposed and accepted that the airplane be dispatched once more. At 14:08, the aircraft was again cleared for engine start-up. At 14:23, with the airplane at the threshold of runway 36L, it was cleared for takeoff once more. The airplane started the takeoff run only to descend and impact the terrain immediately after lifting off the ground. The aircraft was destroyed as a result of the impact with the ground and the subsequent fire. Onboard the airplane were 172 people, of whom a total of 148 passengers and all 6 crew perished. Eighteen passengers, including three minors, were seriously injured. The investigation has so far determined that the takeoff was attempted while in an inappropriate configuration, since neither the flaps nor slats were deployed. The system outfitted on the airplane to warn of an inadequate takeoff configuration (TOWS) also failed to function. The investigation has determined that the accident occurred because: Flight crew lost control over the plane as a consequence of the stall that appeared immediately after the take-off, having not configured the plane correctly, as they had not executed the action of deploying flaps/slats after a chain of mistakes and omissions, and not having any warning about the incorrect take off configuration. Flight crew did not identified the stall cues neither corrected that situation after the take-off – they pulled back, for a moment, the engine power levers, increased the pitch angle and didn´t correct the bank angle – getting the stall flight condition deteriorated. Flight crew did not detect, while performing pre-flight tasks, the erroneous plane configuration, not making a proper use of the checklists where the items for selection and checking of the flaps/slats position are contained, specifically: – They did not perform, while executing the "After Start" checklist, the action consisting of selecting flaps/slats using the corresponding control lever; – They did not cross-check, while executing the "After Start" checklist, the flaps/slats control lever position and the flaps and slats indicator lights status; – They omitted the flaps and slats check requested in point "Take Off Briefing" of the taxi checklist; – While performing the visual check, in execution of the point "Final Items" of the "Take Off Imminent" checklist, no real confirmation of flaps and slats position, as shown by cockpit instruments, was sought. The investigation has determined that the following factors contributed to the accident occurrence: – The absence of warnings on the incorrect take off configuration due to the malfunction of the Take Off Warning System (TOWS) that did not alert the flight crew that the plane configuration was not appropriate for taking off. It has not been possible to determine, irrefutably, what caused the TOWS malfunctioned; – A non-adequate Crew Resources Management (CRM) that did not prevent deviation from procedures following non-programmed interruptions of the pre-flight sequence.

Safety Recommendation SPAN-2009-013 (CIAIAC):
It is recommended that the European Aviation Safety Agency (EASA) compile the results of studies and works done, as well as of any instructions and directives issued by civil aviation authorities to date, concerning the principles and guidelines relative to the:

- design of checklists and
- working methods in the cockpit

so as to allow European operators and manufacturers and national authorities to have clear references on the state of the art in the design and application of checklists.

Reply:

A research study titled "Principles and guidelines relative to the design of checklists and working methods in the cockpit" has been completed and has been published on the EASA website. Reference EASA/2012/1.

Status: Closed – **Category:** Agreement

Safety Recommendation SPAN-2011-018 (CIAIAC):
It is recommended that the United States Federal Aviation Administration (FAA) and European Aviation Safety Agency (EASA) require takeoff stall recovery as part of initial and recurring training programs of airline transport pilots. (REC 18/11)

Reply:

Part-FCL of Commission Regulation (EU) No 1178/2011 (Regulation Aircrew) establishes the requirements for the issue of pilot licences and associated ratings and certificates and the conditions of their validity and use. Approach-to-stall and stall recovery training and checking is covered in these provisions.

Commission Regulation (EU) No 965/2012 (Regulation Air Operations) contains provisions directed to the operator on recurrent training, including proficiency checks on normal, abnormal and emergency procedures. Although manual aircraft handling of approach-to-stall and stall recovery is not explicitly referred to, it is covered under "automation" in the crew resource management training subjects.

Rulemaking tasks RMT.0581 and RMT.0582 'Loss of Control Prevention and Recovery Training', were launched by the Agency on 20 August 2013 with the publication of the associated Terms of Reference. Rules for take-off stall recovery as part of initial and recurrent training programs for airline transport pilots are being considered within the framework of these tasks.

Status: Closed – **Category:** Partial agreement

Safety Recommendation SPAN-2011-019 (CIAIAC):
It is recommended that the United States Federal Aviation Administration (FAA) and European Aviation Safety Agency (EASA) study and assess the stall recovery procedure in the flight manuals of large transport airplanes to include a check of the flap/slat lever and its adjustment, if required. (REC 19/11)

Reply:

Comprehensive studies on Loss of Control (LOC) were performed by both EASA and FAA, including review of recommended practices developed by major aeroplane manufacturers.

EASA issued the Safety Information Bulletin (SIB) 2013-02 "Stall and Stick Pusher Training", based on the FAA Advisory Circular (AC) 120-109 with the same name. It provides, among other topics, recommendations to operators, manufacturers and training organisations for best practices on recovery procedures.

Within this framework, EASA has considered this Safety Recommendation. The SIB includes a stall recovery template, and it states "Specific items, such as configuration changes (i.e., flaps extension), that could be required at a specific point during the recovery procedure are not included in the template, but will be included in a specific procedure for a particular aeroplane. Manufacturers are expected to deviate from this template if the aeroplane operating characteristics require."

Status: Closed – **Category:** Agreement

Safety Recommendation SPAN-2011-030 (CIAIAC):
It is recommended that the European Aviation Safety Agency (EASA) undertake regulatory initiatives intended to require commercial air transport operators to implement a program of line operations safety audits, as part of their accident prevention and flight safety programs. (REC 30/11)

Reply:

Commission Regulation (EU) No 965/2012 on air operations contains appropriate provisions on the Line Operations Safety Audit (LOSA) which shall be conducted by commercial air transport operators. The associated Acceptable Means of Compliance (AMC) and Guidance Material (GM) is contained in EASA ED Decision No 2012/017/R.

GM2 ORO.GEN.200(a)(6) 'Management System' requires the operator to cover actual flight operations during compliance monitoring and inspections.

In addition, ORO.FC.230 'Recurrent Training and checking' and the associated AMC contain appropriate provisions on Crew Resource Management (CRM) recurrent training and assessment of flight crew. This includes the conditions and critical factors to be observed when conducting and assessing the annual line check.

Therefore, the Agency considers that this fulfils the intent of the Safety Recommendation.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
EC-FBI	PZL MIELEC M18	Castellon	07/10/2006	Accident

Synopsis of the event: The aircraft took off from Castellón aerodrome, also known as the Pinar del Grau aerodrome, on a fumigation flight. After a few seconds in the air, it impacted the ground between four single-family dwellings located some 150 meters away from the aerodrome perimeter. The accident occurred after the aircraft took off with the left elevator lock pin installed, which resulted in the elevators being left in the locked position, thus seriously compromising the controllability of the aircraft.

Safety Recommendation SPAN-2009-025 (CIAIAC):
It is recommended that the EASA, as regards aerial work operators involved in single-pilot activities and so as to emphasize the need to be aware of the intrinsic risks resulting from the interruption of pre-flight processes or normal checks, ensure that the operational procedures include those mechanisms intended to guarantee that the processes and checks to be conducted by crews prior to takeoff, and which are suspended at any point, are restarted from a safe point prior to the interruption.

Reply:

Part-ORO (Organisation Requirements for air operations) of Commission Regulation (EU) No 965/2012 contains provisions for checklist systems in paragraph ORO.GEN.110 'Operator responsibilities'.

These provisions will be applicable to commercial aerial work operators as soon as the rules for Part-SPO (specialised operations) are in force (see Agency opinion 02/2012).

The Agency has decided to evaluate the need for additional Acceptable Means of Compliance (AMC) or Guidance Material (GM) to ORO.GEN.110 to ensure that checks conducted by flight crews prior to take-off which are interrupted at any point are restarted from a safe point prior to the interruption.

This evaluation is being conducted within the framework of rulemaking tasks RMT.0516 and RMT.0517 'Updating Authority Requirements (Part-ARO) and Organisation Requirements (Part-ORO)' which were launched on 16 September 2013 with the publication of the associated Terms of Reference.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
OE-KPC	CESSNA TU206	Moncofa (Castellon), Spain	23/04/2009	Accident

Synopsis of the event: On 23 April 2009, a Cessna TU206F aircraft, registration OE-KPC, made a water landing at 11:20 near the beach in the town of Moncofa (Castellon) following an engine failure while flying at 7,000 feet over the coast. Both occupants onboard, the pilot and a passenger, were rescued by eyewitnesses to the event. The aircraft turned over during the maneuver and ended up floating upside down.

Safety Recommendation SPAN-2012-004 (CIAIAC):
It is recommended to the European Aviation Safety Agency (EASA) that the suitability of the design of the electrical system contained in the STC (EASA.A.S.02565) be evaluated in terms of the location, identification and possible replacement of the 150-amp fuse situated next to 'Bat 1'.

Reply:

The EASA has checked together with the Supplemental Type Certificate (STC) holder the design of the STC EASA.A.S.02565.

Concerning the fuse, its position and rating have been found to be compliant to the requirements. For the STC, the battery had to be relocated due to space and Weight & Balance (W&B) reasons. As a consequence, a long wire needed to be routed through the cabin floor from the battery to the engine. In order to protect the wire, a fuse must be located near to the source of energy that means, near to the battery. Changing its position and/or its rating could reduce the level of protection of the system.

The architecture of the electrical system, after the STC, in terms of electrical feeding to the equipment, is the same of the original aircraft (before STC installation). In fact, on the original aircraft (A/C), no essential bus is present and the flap system is fed by the primary/main bus. This principle has been maintained on the A/C modified by the STC. The STC provides for an essential bus and a second battery, but they are aimed to feed the Full Authority Digital Engine Control (FADEC), which is not installed on the original A/C.

The blow of the fuse and consequent failure of the electrical system has been caused by the actuation of the starter in a situation where the engine had stopped due to internal damage. With regard to the possible effects of starting the engine in-flight when it is blocked, a Note is present on page 3-4 of Section 3 in the Flight Manual Supplement to alert the pilot. A warning has been added to the Note in order to raise the awareness of the pilot on the effects of starting the engine when it is blocked.

Status: Closed – **Category:** Disagreement

Safety Recommendation SPAN-2012-005 (CIAIAC):

It is recommended that the European Aviation Safety Agency (EASA) reconsider the approval of the supplement to the Flight Manual of the Cessna TU206F aircraft with a Centurion 4.0 engine installed so that it:

- Properly reflects the information regarding the electrical system.
- Provides the pilot with adequate instructions on what to do (or not do) in the event of an in-flight engine failure.

Reply:

A change to the flight manual (approval n.10043205) has been produced by Thielert to cover the following aspects:

- The electrical system sketch has been corrected to properly reflect the actual Supplemental Type Certificate (STC) design;
- The effects of negative g-flights on the engine lubrication and consequent possible stoppage have been better described
- The emergency procedure to starting the engine in-flight has been changed to better highlight the consequences of using the starter in case of engine blockage.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
EC-IOJ	AEROSPATIALE AS350	Mollet del Vallés (Barcelona), Spain	22/06/2009	Accident

Synopsis of the event: On 22 June 2009, a Eurocopter AS 350 B3 helicopter took off with two persons onboard from the Sabadell (Barcelona) airport at 11:45 en route to the Mollet del Valles area to take part in a firefighting operation. The helicopter, equipped with a belly tank that is attached to a fill pump via a hose, was picking up water from a pond near the site of the fire. It was the third or fourth refilling operation. According to eyewitness accounts, as the helicopter climbed it was dragging a rope attached to the fill pump. After climbing a few meters, the tank emptied its contents and the rope shot upwards, becoming entangled in the main rotor and dragging with it the fill pump, which impacted the main rotor blades. The helicopter immediately started descending in a parabolic trajectory until it impacted the ground. The two occupants onboard the aircraft perished as a result of the impact and the aircraft was destroyed.

Safety Recommendation SPAN-2012-013 (CIAIAC):

It is recommended that the EASA and the FAA establish the mechanisms necessary to ensure that water-dropping system SIMPLEX 310 can be detached from a helicopter in the event that the suction pump or hose on the system is inadvertently ensnared.

Reply:

There are two mechanisms that could be potentially considered for the purpose of enabling detachment of certain elements of the pump-hose suction system from a helicopter in the event those elements are inadvertently ensnared.

One consists in incorporating in the equipment a pilot operated release system and the other is to have a frangible element incorporated in the equipment, designed to fail before the helicopter is endangered. However, the pilot operated release system introduces a new failure mode, i.e. inadvertent release of the hose-pump over populated areas, and thus this system will not overall improve safety. The other mechanism of having a frangible element between the water tank and the hose-pump assembly would only work if the frangible element breaking load is lower than the entangling breaking load. If this condition is not met, the frangible element installation will be ineffective in improving safety.

The existing operational features and procedures already included in the SIMPLEX 310 Rotorcraft Flight Manual Supplement (RFMS) provide the pilot with the means to verify that the hose-pump system is not ensnared, and if it is, to free it by manoeuvring the helicopter.

In conclusion, we do not believe that a system modification or a new design is necessary and we consider this an operational issue. Therefore, EASA plans no further actions on the subject.

Status: Closed – **Category:** Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
EC-CXL	PIPER PA25	Sebastian Almagro airfield in Palma del Rio (Cordoba), Spain	11/04/2003	Accident

Synopsis of the event: El piloto realizaba un vuelo de instrucción para conseguir la habilitación de piloto agro forestal. Sus maniobras de lanzamiento de agua como entrenamiento en lucha contra incendios y de fumigación eran seguidas por una instructora desde tierra. No llevaba casco, sólo auriculares. El piloto había comenzado a las 9:30 h un primer período de entrenamiento de circuitos y descarga de agua ese día. Este período debió durar aproximadamente 1 h y 20 min. Después había descansado mientras otros dos pilotos realizaban otros dos períodos de 1 h de duración cada uno. Tras ello, el piloto comenzó un segundo período de entrenamiento, en el cual efectuó una descarga y una toma y volvió a despegar después de que el avión hubiese sido cargado con una cantidad de agua estimada entre 300 y 400 l. El avión despegó por la pista 25 y cuando se encontraba a unos 100 ft de altura con rumbo de pista, redujo un poco la potencia del motor con la intención de nivelar el avión y después girar hacia la izquierda para colocarse en viento en cola y efectuar allí la descarga, como era habitual durante los entrenamientos. Lo normal era reducir el régimen de giro del motor de 2.500 rpm a unas 2.400 rpm. En este caso, tras reducir la potencia, el piloto notó al rato que el avión no volaba bien, y el motor tenía un comportamiento anormal, por lo que metió de nuevo gases a tope. Sin embargo, la situación del vuelo no mejoró, por lo que optó por descargar el agua mientras todavía mantenía el rumbo de pista. En el instante de descargar el agua, el avión sufrió una desestabilización y alcanzó un ángulo de encabritado muy alto que no pudo ser controlado hasta que el avión entró en pérdida y cayó del ala izquierda. En esos momentos, el piloto recordaba haber visto la luz de entrada en pérdida. Después el avión se desplomó e impactó con varios olivos y con el suelo en una posición de morro bajo y alabeo a la izquierda, hasta quedar detenida sin haber recorrido prácticamente nada de terreno arrastrando por el suelo. El rumbo final con el que quedó el fuselaje fue de unos 45°, por lo que había variado su rumbo original de 250° en unos 205° hacia la izquierda. Durante el impacto, el arnés de hombros se soltó de su sujeción superior trasera y el piloto golpeó con su cabeza el cuadro de mandos del avión. Aunque sufrió un fuerte golpe y quedó sangrando, pudo abandonar la aeronave por sus propios medios. Las lesiones se podrían haber minimizado si hubiese llevado casco. Diversos testigos que habían presenciado eí accidente corrieron hacia la aeronave y ayudaron al piloto, que fue trasladado al centro de salud de Palma del Río y posteriormente al Hospital de Córdoba, de donde fue dado de alta horas después. La aeronave sufrió daños de tal magnitud en la hélice, bancada del motor, fuselaje y ala, que se consideró destruida. El depósito de combustible se rompió y se derramó todo el combustible que contenía. No hubo incendio.

Safety Recommendation SPAN-2012-020 (CIAIAC):

It is recommended that EASA and ANAC require operators and/or manufacturer of the Piper PA-25 to introduce instructions in the aircraft's operating documentation regarding the proper operation of the safety belt and harness system such that, before each flight, the straps are adjusted and the harness take-up reel is properly locked, and that its supposed inertial function not be relied upon.

Reply:

The design and the manuals of the aircraft have been reviewed by the Project Certification Manager with input from the Type Certificate holder. It has been verified that the attachment reel of the shoulder harness is designed to work as an inertia reel. The manual locking system is an additional design feature of the shoulder harness reel system to provide torso restraint. In addition, the Owners Handbook of the Aircraft calls for "Fasten seat belt and shoulder harness" as the first step in the "Before Operation" part of the checklist. If followed properly, the available instructions on operation and maintenance of the safety belt and harness system are adequate. EASA's position is that no changes of the instructions in the aircraft's operating documentation are necessary.

Status: Closed – **Category:** Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
EC-KQI	AEROSPATIALE AS350	Ibon de Miralles	11/11/2008	Accident

Synopsis of the event: The flight schedule for the morning of 11 November consisted of transporting three specialists by helicopter to various dams situated on the southwest slope of Monte Possets, at an approximate elevation of 7,500 ft (2,300 m), to measure water levels and the condition of the retaining walls. The helicopter took off with the pilot, a Heliswiss Ibérica technician sitting in the forward LH seat to aid the pilot, and the three specialists who were in the rear seat. The first dam they inspected was the Ibon de Miralles dam, which comprises the lower part of a mountain cirque and whose retention wall faces north. On the day of the event, the sides of the cirque, the retaining wall and the surrounding area were covered by snow and the surface of the water was frozen. The helicopter reached and flew over said dam a few minutes before 10:30. The pilot reconnoitred the area from the air before deciding to land on the wall of the dam. He made the landing approach from the outer to the inner part of the cirque until he was hovering just above the retaining wall. Until then the helicopter's flight had been controlled, according to the pilot's statement. Before landing, the crewmember accompanying the pilot in the LH seat normally opens the door on his side to check the area and inform the pilot of any possible obstacles located beyond the pilot's visual range, as well as to provide him with a precise indication of the height of the skids above the ground. On this occasion the technician was unable to use this method to gauge their altitude accurately when he looked vertically downward.

In these conditions, the helicopter descended from a hovering position and with a left tilt, impacting the ground and subsequently rolling over onto that same side. The main rotor blades struck the snow-covered surface and the helicopter came to rest on its left side.

The pilot stopped the engine, cut the fuel and electrical power and the occupants evacuated the aircraft via the right-side door.

Given the impossibility of making radio or telephone contact with the operator's support personnel or with the radio station at the shelter on Viados Mountain, they started to descend the mountain on foot.

After the event, the ELT emergency beacon activated and sent a message to search and rescue services, though the identifying information corresponded to that of another aircraft that neither Spanish nor French search and rescue services was able to identify.

Safety Recommendation SPAN-2012-066 (CIAIAC):
It is recommended that the European Aviation Safety Agency (EASA), in the requirements for the issue of authorizations to aerial work operators, include specifically crews training on the spatial disorientation phenomenon and, particularly to those operators intending to perform activities in periodically or permanent snowed mountains, training on "whiteout" phenomenon.

Reply:

This safety recommendation was originally addressed to the Spanish National Aviation Safety Agency (AESA) and subsequently was forwarded to EASA.

Requirements addressed to the operator are defined in Annex III (Part-ORO) to Commission Regulation (EU) No 965/2012 on air operations. The relevant provisions are:

ORO.GEN.110 Operator responsibilities.

Paragraph (e);

The operator shall ensure that all personnel assigned to, or directly involved in, ground and flight operations are properly instructed, have demonstrated their abilities in their particular duties and are aware of their responsibilities and the relationship of such duties as a whole.

Paragraph (f);

The operator shall establish procedures and instructions for the safe operation of each aircraft type, containing ground staff and crew member duties and responsibilities for all types of operation on the ground and in flight. These procedures shall not require crew members to perform any activities during critical phases of flight other than those required for the safe operation of the aircraft.

ORO.GEN.200 Management system.

Paragraph (a);

The operator shall establish, implement and maintain an management system that includes:

...

(3) the identification of aviation safety hazards entailed by the activities of the operator, their evaluation and the management of associated risks, including taking actions to mitigate the risk and verify their effectiveness.

(4) maintaining personnel trained and competent to perform their tasks.

...

Paragraph (b);

The management system shall correspond to the size of the operator and the nature and complexity of its activities, taking into account the hazards and associated risks inherent in these activities.

ORO.FC.145 Provisions for training

Paragraph (a) All the training required in this Subpart shall be conducted:

(1) in accordance with the training program and syllabi established by the operator in the operations manual.

According to the above-mentioned provisions, it is the responsibility of the operator to carry out risk assessments for the specific operations to be undertaken (the whiteout phenomenon is one of many hazards which will be identified in this process). If the risk assessment defines training as a mitigating measure, the operator must establish a specific training programme. Likewise, if specific operational procedures are required, they must be established by the operator. Furthermore, the operator must ensure that the required operational standard is reached and maintained by those involved in the operations.

The regulation is currently only applicable to commercial air transport operations. However, through EASA Opinions 01/2012 and 02/2012, the scope will be extended to commercial aerial work operations and non-commercial operations with complex motor-powered aircraft.

The Agency therefore considers that this fulfils the intent of the Safety Recommendation.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
EI-EFX	BOEING 737	Alicante Airport (LEAL)	06/01/2011	Incident

Synopsis of the event: A Ryanair Boeing 737-800, registration EI-EFX and callsign RYR54WP, was flying from East Midlands (EGNX) to Alicante (LEAL) with a total of 174 persons onboard: 166 passengers, 2 flight crew (hereinafter "crew"), 4 flight attendants (FA) and 2 flight crew in transit. Approach control cleared it for the VOR Z approach to runway 28 at the Alicante Airport (LEAL), which the crew executed. Meteorological conditions were CAVOK and the crew was able to see the runway several miles before the landing. At 21:57, the aircraft landed on runway 28 and followed a marshaller to the corresponding parking stand. The controller in the Alicante tower asked the marshaller not to park the aircraft until its crew contacted him. The crew contacted the controller, who informed them that they had landed without clearance, a fact they were unaware of and for which they apologized. The aircraft was undamaged and both the crew and passengers were unhurt.

Safety Recommendation SPAN-2012-070 (CIAIAC):

It is recommended that EASA disseminate among operators and ATS providers under its responsibility the need of using the emergency frequency in the terms it was conceived.

Reply:

ICAO Annex 10 Volume V paragraph 4.1.3.1 'Emergency channel' defines the cases and the purposes where the radio-telephony emergency channel in the VHF band (i.e. 121.5 MHz) shall be used by both an aircraft and a ground station.

The same paragraph specifies the ground stations where an emergency channel shall be available and serviceable, and establishes that the emergency channel shall be continuously guarded and monitored.

The emergency channel (121.5 MHz) shall be made available only with the characteristics as contained in Annex 10, Volume III, Part II, Chapter 2 for analogue air-ground VHF radio-telephony.

ICAO Annex 2 Appendix 2 'Interception of civil aircraft' and Attachment A 'Interception of civil aircraft' specifically establish the use to be made on the emergency channel 121.5MHz during the interception of aircraft.

Annex 2 Attachment B 'Unlawful interference' specifically establishes the use to be made by the pilot of the emergency channel 121.5MHz when an aircraft is subject to unlawful interference.

ICAO Doc. 4444 (PANS-ATM) Chapter 15.5.2 'Interception of civil aircraft' requires that in case of aircraft interception, the responsible ATS unit establishes radio contact with the concerned aircraft, making use of the emergency channel 121.5MHz if necessary. Chapter 15.6.1.2 'Ground radio failure' requires the ATC unit, in case of complete failure of ground radio equipment, to make use of the 121.5MHz (where available) to establish contact with aircraft under its responsibility.

Commission Implementing Regulation (EU) No 923/2012, on the standard European rules of the air (SERA), implements (in its provision designated as SERA.11015 'Interception') the provisions as in ICAO Annex 2 Appendix A Chapter 4. 'Guidance of an intercepted aircraft'. It does not contain any provision regarding the use of the emergency channel in case of unlawful interference as established in ICAO Annex 2 Attachment B. In the future, the Agency may complete the transposition into the EU legislation of the remaining ICAO provisions addressing the use of the emergency channel 121.5MHz.

As evident from the above assessment, there is a comprehensive set of ICAO provisions addressing the use of the emergency channel 121.5MHz by ground and airborne stations; it is to be recalled that ICAO Contracting States are expected to apply the provisions contained in ICAO Annexes or to file a difference and appropriately notify it. Additionally, some of these ICAO provisions have been transposed, and therefore become directly applicable to EU member States, into Commission Implementing Regulation (EU) No 923/2012.

The Agency agrees on the importance of the correct use of the emergency channel as established in ICAO Annex 10 V paragraph 4.1.3.1. However, the Agency does not believe that further action is necessary, because it considers that the appropriate provisions addressing the correct use of the emergency channel 121.5MHz are already in place.

Status: Closed – **Category:** Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
EC-HCT	BELL 206	Mostoles	01/12/2005	Accident

Synopsis of the event: A Bell 206 L4T twin-engine helicopter, registration HC-HCT, operated by Helisureste, was being used in public service operations in a support role assisting municipal police units from different communities, in accordance with a contract agreement signed with the Autonomous Community of Madrid (CAM). On 1 December, 2005 the aircraft took off from the Cuatro Vientos airport at 10:23, en route to Móstoles. On board were the pilot and a police officer from the "Brigadas de Seguridad de la CAM" (Madrid Autonomous Community Security Brigades, BESCAM) who acted as an auxiliary crew member. The pilot had been informed that his activities for that day would consist of transporting public figures. The previous day, following the final flight, the fuel tanks had been fully replenished.

The aircraft headed for the bullring at the destination site, landing inside said facility ten minutes later. Plans called for the passengers to be transported later that morning to be embarked at this site.

Without shutting down the engines, and in order to practice the impending flight which would transport the public figures in question, the helicopter took off once again just minutes later, with a total of 5 persons on board.

The aircraft completed a route over the areas which it was scheduled to subsequently fly over, reaching La Eliana Park, also located within the Móstoles city limits. There the three persons who had previously boarded the aircraft were disembarked. The pilot decided that he had to burn more fuel given the weight conditions that he expected the aircraft to face later, and then completed another flight leg, accompanied by the auxiliary crew member. They returned to Móstoles and landed once again at the bullring, landing, on a westerly heading, at 11:30. The pilot shut down the engines and waited for the arrival of the public figures who were to be transported. From the initial flight at Cuatro Vientos airport until this point the aircraft had completed some 50 minutes of flight time.

At 12:15, with a total of 6 persons on board, 4 passengers plus the pilot and auxiliary crew member, the engines were started, and two and a half minutes later the takeoff was initiated.

From the moment in which the helicopter began to rise, in an essentially vertical manner, it initiated a rightward turn upon its vertical axis, progressively facing north and later Northeast, as it gained altitude. When the

helicopter reached an altitude of 8 m and a heading of 150°, it ceased its ascent and turn, and began moving forward in order to leave the facility by passing over the area located between a light tower and a section of the building that serves as a stage for entertainment functions.

Initially maintaining its flight altitude, when it reached the area over the stands, the helicopter began to turn to the right on its vertical axis, while advancing to exit the ring. The speed at which the aircraft turned to the right began to increase, and once it crossed over the ring's stands, the helicopter began a rapid descent, impacting the exterior wall of the ring, and then the ground.

The aircraft came to rest turned over on the ground near the bullring's outside wall, resting on its left side. The pilot activated the switches in order to cut off fuel and electricity. There was no fire.

All the persons on board the helicopter had secured their safety belts, as had the crew members their safety harnesses. All those aboard remained conscious and, assisted by personnel in the area, individuals that formed part of the retinue which had accompanied the public figures travelling aboard, evacuated the helicopter, which had been destroyed. There were no serious injuries. Two passengers suffered slight injuries from the impact, with some cuts and bruises.

Safety Recommendation SPAN-2012-088 (CIAIAC):
REC 88/12. It is recommended that the European Aviation Safety Agency (EASA) include the concept of loss of tailrotor effectiveness (LTE) in training programs for the obtaining of helicopter pilot licenses through the publication of the syllabi accepted in the framework of JAR-FCL 2.

Reply:

This Safety Recommendation was originally addressed to the Spanish National Aviation Safety Agency (AESA), but was subsequently forwarded to EASA.

The Joint Authority Requirements on Flight Crew Licencing (JAR-FCL) have been replaced by Commission Regulation (EU) No 1178/2011, of 03 November 2011, related to air crew.

The Agency has initiated rulemaking tasks RMT.0188 and RMT.0189 on Part-FCL, to address open issues and necessary changes to Annex 1 (Part-FCL) and the associated Executive Director (ED) decision. The loss of tail rotor effectiveness (LTE) phenomenon in the theoretical knowledge for helicopter pilots was already part of the Joint Aviation Authorities (JAA) Learning Objectives for airline transport pilot licence for helicopters, with instrument rating [ATPL/IR(H)], ATPL (H) and Commercial Pilot Licence [CPL(H)], which will be largely transposed during this task.

The rulemaking group is actively reviewing the theoretical knowledge and initial flight training for helicopter private pilots and light aircraft pilots and is considering including the LTE phenomenon for these categories of licence. The outcome of the group's consideration will be published in the associated Notice of Proposed Amendment (NPA), in accordance with the Agency's Rulemaking Procedure.

In addition, the Agency published a Safety Information Bulletin (SIB No. 2010-12R1, dated 21 October 2010) on LTE, which covers the conditions under which LTE may be encountered, how it can be prevented and recovery techniques to be applied if LTE is encountered.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
EC-ASA	PIPER PA25	San Quirce del Valles	08/09/2001	Accident

Synopsis of the event: On 8 September 2001, a PIPER PA-25-150 aircraft, registration EC-ASA, took off at 11:38 local time from runway 31 at the Sabadell Airport on a banner towing flight.

As it was preparing to pick up the banner, the aircraft flew in too low and off center and picked up two banners, the intended one with a main landing gear wheel and one located on the mast next to it, with a wing.

The pilot completed the circuit in an effort to release the signs, to no avail. He continued on the runway 31 extension without being able to gain altitude and made an emergency landing in a clearing along said extension, some 930 meters from the end of the runway. During the landing, the two main landing gear legs detached and a fire broke out that completely destroyed the aircraft and seriously burned the pilot, who died from his injuries eleven days later.

The investigation determined that the primary cause of the accident was making the approach to the signs at an improper altitude and heading, resulting not only in the intended banner being fouled in the airplane's landing gear but in the airplane unintentionally capturing an additional banner alongside the first one.

The proximity between the two banners that the aircraft ended up towing reduced the safety margin of the hooking operation. The investigation revealed the absence of regulations involving this type of activity, leading to the issuance of a safety recommendation.

Safety Recommendation SPAN-2013-024 (CIAIAC):
It is recommended that the European Aviation Safety Agency (EASA) write a specific regulation on banner towing operations that establishes uniform criteria for the conduct of said operations, specifically as concerns:

- The operation itself.
- The material to be used on the ground and the technical requirements it must meet.
- The characteristics applicable to the areas where the material is installed in the ground.
- The conditions under which this material is installed in said areas.

Reply:

This recommendation was forwarded to EASA on 01 July 2013. The occurrence took place before the Agency was established and was therefore under the national regulatory framework.

The future EU air operations rules governing aerial advertising flights (Part-SPO for specialised operations and Part-NCO for non-commercial operations with other-than-complex motor powered aircraft) are to be expected to apply in 2014, with Member States having the possibility to postpone the applicability by 3 years.

Those rules contain a requirement to carry out a risk assessment and establish standard operating procedures (SOP) or checklists mitigating the risks related to the particular activity. These SOPs or checklists have to be developed by the operator.

The Agency believes that risks associated with aerial work activities will be mitigated by requiring the operators to establish clear SOPs and checklists. The rather local nature of such operations makes it unlikely that the Agency would develop detailed harmonised requirements for this. However, on-going activities related to the development of the relevant rules include a plan to launch a study to review the numerous aerial work activities in more detail, in order to determine which level of detail is appropriate for harmonised rules.

Status: Closed – **Category:** Partial agreement

Sweden

Registration	Aircraft Type	Location	Date of event	Event Type
SE-RAC	EMBRAER EMB145	Umeå Airport, AC County	19/09/2010	Serious incident

Synopsis of the event: During a regular flight from Gothenburg to Umeå, the co-pilot began to suffer from stomach pains during the flight. The co-pilot's condition worsened during the final approach when the co-pilot vomited and, for a short period of time, lost consciousness. The situation meant that the commander during the final approach and landing had to carry out the co-pilot's work assignments as the co-pilot was incapacitated. After landing, the commander contacted the company's operative management and was advised to discuss the continued flight duty with the co-pilot. They agreed to carry out the return flight to Gothenburg as the co-pilot felt better. During the flight, the co-pilot's stomach pains returned and the co-pilot vomited on two occasions. When the aircraft had landed, the co-pilot went to the hospital. At Sahlgrenska University Hospital, the co-pilot was later diagnosed as having acute appendicitis. According to medical and operative instructions, flight duties should not commence if you are aware of a deteriorating health condition which can affect the exercise of duty. However, there are no instructions or recommendations – either in the company's manuals or in the regulatory framework – with regard to the termination of active flight duty following an incident when a member of the cockpit crew has become incapacitated. The incident that occurred, whereby the co-pilot flew the aircraft as an active pilot after having been incapacitated, was due to the fact that the condition of the pilot's health had been incorrectly evaluated. Contributing factors are shortcomings in the regulatory framework in EU-OPS with regard to continued flight duty following incapacitation.

Safety Recommendation SWED-2011-013 (AIB):

Ascertain that the instructions relating to the incapacitation of the cockpit crew are supplemented with restrictions for continued flight duty following the occurrence of an incident. (RL 2011:11, R1)

Reply:

Commission Regulation (EU) No 965/2012 on air operations and the associated Executive Director Decisions contain provisions for flight crew incapacitation. They require crew members to abstain from performing allocated duties on board when under the influence of psychoactive substances or alcohol or when unfit due to injury, fatigue, medication, sickness or other similar causes. In addition, operators should establish procedures to be followed in the event of incapacitation of crew members in-flight. Examples of the types of incapacitation and the means for recognising them should be included.

Also, according to Commission Regulation (EU) No 1178/2011 (Regulation Aircrew) holders of medical certificates shall not exercise the privileges of their licences, related ratings or authorisations at any time when they are aware of any decrease in their medical fitness which might render them unable to safely exercise those privileges.

Furthermore, the Agency has decided to evaluate the need for adding some guidance material (GM) on restrictions for continued flight duty following in-flight incapacitation of crew members. This evaluation is being conducted within the framework of rulemaking tasks RMT.0516 and RMT.0517 'Updating Authority Requirements (Part-ARO) and Organisation Requirements (Part-ORO)' which were launched on 16 September 2013 with the publication of the associated Terms of Reference.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
SE-JKF	AEROSPATIALE AS350	south-west of Stockholm/ Arlanda airport, Uppsala county, Sweden	09/01/2009	Accident

Synopsis of the event: The pilot intended to the land the helicopter on Stockholm/Arlanda airport in order to pick up passengers for a taxi flight. Shortly after the speed reduction before landing the chip warning system for the helicopter tail rotor gearbox was activated. The pilot noted that the helicopter tended to turn to the left. When the helicopter reached the airport he could not maintain the heading. The helicopter turned left though applying full deflection to the right pedal. By increasing the speed through reducing the altitude and at the same time reducing the engine power the pilot managed to stop the turn but experienced big difficulties to control the helicopter's route. When the helicopter some minute later was located above a small wooded area and the pilot couldn't see a suitable place for an emergency landing he decided to try to land the helicopter on a small glade in the terrain. During this manoeuvre the helicopter entered an uncontrolled yaw. After collision with some small trees the helicopter impacted to the ground hard. On impact the helicopter tuned over. The pilot was able to get out of the helicopter by himself.

Safety Recommendation SWED-2011-014 (AIB):

It is recommended that EASA strives for a review of the emergency checklists for the affected types of helicopter so that landing is recommended as soon as practically possible when the chip warning system for the tail rotor gearbox is activated. (RL 2011:14 R1)

Reply:

Procedures to be followed in case of chip indication activation, for both main and auxiliary gears, are defined based on evaluation of effects of the two phenomena, wear and developing failure in a gearbox, as well as on evaluation of the rate of gearbox degradation under conditions indicated by the warning/ caution. Such procedures usually require reduction of transmitted power/torque and flight duration.

For AS350 models, the procedure for the TGB CHIP caution light on condition states: Avoid prolonged hovering – Continue flight. That procedure was defined assuming that symptoms of wear / impending failure were detected in a gearbox operating normally – i.e. with no actual component failures and with normal lubrication. A total loss of oil has been shown by Eurocopter to be extremely improbable. In Eurocopter analysis a maintenance error resulting in emptying the gearbox following oil change was not considered a damage. However – this has been anyway prevented by defining the relevant maintenance procedure to require two actions:

1) filling the TGB with required oil, and 2) performing a ground run and rechecking the oil level. Oil level check and check for oil leaks from the TGB are to be additionally performed by the pilot during pre-flight external checks.

During the initial certification the Rotorcraft Flight Manual (RFM) procedure to be followed in case of TGB chips detection was approved taking the chip detection system principle of operation and assumptions above mentioned into consideration.

EASA re-reviewed that procedure and, based on the analysis of events prior and during the accident flight, has concluded that there is no substantiation to require its change to unconditionally recommend landing as soon as possible or as soon as practical – following the caution system activation.

In substantiating this conclusion taken into account was also that tail rotor drive failures are addressed in the RFM by separate dedicated emergency procedures.

Status: Closed – **Category:** Partial agreement

Safety Recommendation SWED-2011-015 (AIB):
It is recommended that EASA considers suitable measures to minimise the risk of misinterpretation of the oil level in the tail rotor gearbox on this particular type of helicopter, and on other helicopters with similar visual measuring systems. (RL 2011:14 R2)

Reply:

For AS350B2 – the level of oil in the tail gearbox (TGB) is correct when it is within the two lines marked on the sight glass. Any other indication, whichever the deviation is, shall be considered a negative result of check.

For gearboxes equipped with sight glasses the oil level readout can be affected by a position of helicopter on ground. The sight glass is designed to provide errorless readings when the helicopter is parked on a flat and horizontal surface.

For this reason Eurocopter issued Safety Information Notice (SIN) 2105-S-05 (attached) addressed to the maintenance and flight personnel performing oil level checks on Eurocopter helicopters of all types to remind the basic rules regarding such checks. In particular – the SIN reminds that oil level checks are to made with helicopters parked on sufficiently flat and horizontal surfaces.

To simplify verification of the oil level against the minimum oil level line in the sight glasses of tail gearboxes in AS350 B, B1, B2, B3, BA, BB, D and AS355 E, F, F1, F2, N, NP helicopter models – Eurocopter designed a modification (minor change ref. 07-8552) consisting in painting the whole zone of glass at and below the minimum level line with a red opaque paint. Following this modification – the minimum level line is visible on the glass as the red zone border, in addition to being determined by the sight glass markings. With this modification incorporated – the actual oil level shall be visible above the red zone border in order for the check to be positive.

This modification considered an improvement does not question the feasibility and effectiveness of the oil check method approved initially and thus is only installed on new helicopters.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
EI-DAD	BOEING 737	Skavsta Airport, Södermanland county, Sweden	25/04/2011	Serious incident

Synopsis of the event: On 29 April 2011, shortly after take-off, a Ryanair Boeing 737-800 received an indication that one of the aircraft's two electrical systems had lost electrical power. This had been preceded by one of the two generators that supply electrical power to the aircraft being disconnected, upon which a redistribution took place so that the other generator supplied power to both electrical systems. An electronic monitoring and control unit automatically ensured that this took place. The pilots followed the checklist and attempted to reconnect the generator. They also attempted to connect the generator from the Auxiliary Power Unit (APU). Either during the attempt to reconnect the disconnected generator or the connection of the auxiliary power unit's generator, the connection between the two systems was broken, with the consequence that one of the systems lost electrical power. The pilots made a further attempt to reconnect a power source but were un-successful. The decision was therefore made to return and land at Skavsta Airport. Flying with one of the electrical systems not having power meant losing the display of flight instruments on the affected side. Flap indication and pitot heating were among the systems which stopped working during the incident. The electronic monitoring and control units are intended to ensure that both electrical systems are always supplied with power as long as there is at least one power source available. They are also intended to prevent electrical interconnection of the electrical systems as

these each have their own power source. The control units' commands are based on status signals from relays, among other things. The incident was caused by the system logic for the Generator Control Unit (GCU) and the Bus Power Control Unit (BPCU) enabling erroneous status signals from the contactor (Generator Control Breaker, GCB) to lead to a transfer bus losing power. A contributing factor was that contactors in certain affected units had no inspection interval.

Safety Recommendation SWED-2012-001 (AIB):
The FAA/EASA are recommended to ensure that Boeing introduces measures so that the logic in the electrical system prevents an X-bus from losing power as a result of an erroneous status signal from GCB. (RL 2012:20 R1)

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation SWED-2012-002 (AIB):
The FAA/EASA are recommended to ensure that Boeing investigates whether a revision of the procedure in QRH for reconnecting IDG can rectify erroneous status signals from GCB. (RL 2012:20 R2)

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
EP-IBB	AIRBUS A300	Stockholm/Arlanda Airport	16/01/2010	Incident

Synopsis of the event: Engine flame out during take off roll (possible turbine explosion). Aircraft veered off the runway to the left and stopped in the snow covered grass area. Nosewheel made a deep ditch in the ground. Damages to left engine, nosewheel, left main landing gear, landing lights.

Safety Recommendation SWED-2012-005 (AIB):
EASA is recommended to investigate, in consultation with the FAA, the prerequisites for introducing requirements concerning yaw stability in large aircraft in the event of sudden loss of engine thrust below VMCg under the anticipated operating conditions. (RL 2012: 21 R5)

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation SWED-2012-006 (AIB):
EASA is recommended to ensure that initial and recurrent pilot training includes mandatory rejected takeoff exercises that cover events of a sudden loss of engine thrust below VMCG. (RL 2012: 21 R6).

Reply:

Commission Regulation (EU) No 1178/2011 on civil aviation aircrew, covers initial pilot training in Annex I (Part-FCL), including, in Appendix 9, provisions on rejected take-off at a reasonable speed. Rejected take-off exercises that cover events of a sudden loss of engine thrust below VMCG are not explicitly mentioned. Therefore, this will be considered within the framework of on-going rulemaking tasks RMT.0188 and RMT.0189 on Part-FCL.

EASA Executive Director (ED) Decision 2012/017/R related to Annex III, Part-ORO (Organisation requirements for air operators), contains Acceptable Means of Compliance (AMC) for recurrent pilot training, including operator proficiency checks on take-off with engine failure between V1 and V2. This AMC will be reviewed within the framework of rulemaking tasks RMT.0599 and RMT.0600 on Part-ORO. FC, where consideration will be given to explicitly specify rejected take-off exercises that cover events of a sudden loss of engine thrust below VMCG.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
SE-FMU	CESSNA U206	Kumla, Örebro county, Sweden	28/08/2011	Accident

Synopsis of the event: The purpose of the flight was to drop parachutists from 3000 metres altitude. He had made five flights earlier in the day in which he had dropped parachutists. The flight took off from Örebro airport at 17.55. Six minutes later, during the climb, the pilot heard an explosion, which he described as an impact and then a decompression. Then the cabin filled with smoke, the engine lost thrust and the engine speed changed. The pilot immediately pulled the throttle to the idle position, and told the parachutists to leave the aircraft. The parachutists jumped immediately after the pilot's order. When the aircraft's sliding door was opened the smoke dispersed in the cabin. The aircraft was then at 1000 m altitude and began to fall. During this time the pilot declared an emergency via the radio to air traffic control at Örebro airport. Shortly before the incident he had

read the instruments, which all indicated normal values. After the last parachutist had jumped the pilot started to search for a suitable landing site. The pilot told air traffic control that he planned to turn southwards against the wind and then land on a suitable field. The engine was running at idle speed until shortly before ground contact and therefore provided no thrust. The pilot turned 180° to land south against the wind, chose a field and held course towards this all the way down. The landing took place in a ploughed field. After rolling for 30 metres, the aircraft turned over. The pilot, who suffered minor injuries, was able to leave the aircraft himself.

Safety Recommendation SWED-2012-007 (AIB):
EASA is recommended to act to change the maintenance programme for the engine type in question and other engines with similar fuel injection systems, such as Continental IO-520, so that an internal inspection of the oil pan is conducted in connection with oil changes, with the purpose of checking for the accumulation of waste products. (RL 2012:14 R2)

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation SWED-2012-008 (AIB):
EASA is also recommended to issue an Airworthiness Directive to this effect, pending a change in the maintenance programme. (RL 2012:14 R3)

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
SE-JNE	OTHER (Guimbal Cabri G2)	Gällstad, Västra Götaland county, Sweden	06/02/2012	Incident

Synopsis of the event: The accident was caused by the deep groove ball bearing in the engine pulley failed. The underlying cause was that it is not possible to inspect with certainty whether grease has penetrated into the bearing when applying lubrication.

Safety Recommendation SWED-2013-001 (AIB):
EASA is recommended to ensure that Hélicoptères Guimbal amends the procedure for the lubrication of bearings with part number HG61-0790 so that at inspections it is possible with certainty to determine that a sufficient quantity of grease has been injected into the ball bearing (and at the correct position). (RL 2013: 01 R1)

Reply:

Hélicoptères Guimbal has advised EASA that they intend to perform additional investigations/actions with regards to:

- rewording of the greasing job card in order to set a step by step approach, with adequate caution and warning, giving clear instruction on how to get access to the grease nipple,
- emphasis of the bearing greasing process during mechanical license training through dedicated practical exercise.

EASA has agreed the course of action.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
LN-RPS	BOEING 737	Gävle, Gävleborg county	04/04/2012	Serious incident

Synopsis of the event: The aircraft performed a scheduled flight from Stockholm/Arlanda Airport to Skellefteå. An alternate landing site in the event of weather deterioration was Luleå/Kallax. While climbing through Flight Level 370, corresponding to an altitude of 11,300 m, the left "Bleed Trip Off" warning was activated. This system controls the engine bleed air for pressurisation of the cabin. The pilots took measures in accordance with QRH point 2:6 in the event of "Bleed Trip Off" and continued the flight. About a minute later, the warning returned and the crew did not reset the warning, but shut off the system in accordance with QRH. The aircraft continued to climb to Flight Level 410, during which time the pilots discussed the need to be able to descend quickly in the event that the remaining system also ceased to pressurise the cabin. Soon after the aircraft levelled out at the predetermined altitude, the right-side system activated a "Bleed Trip Off" warning. The crew declared an emergency and were given clearance to descend to Flight Level 100. Oxygen masks were put on in the cockpit and the aircraft reduced its altitude at a rapid rate of descent. The wings' speed brakes were deployed. The commander initiated manual deployment of oxygen masks in the cabin. While the aircraft descended, the cabin altitude decreased and the two met at 14,000 feet. During the rapid descent, the audible warning signal for the cabin altitude sounded, which is triggered when this exceeds 10,000 feet.

The weather en route was good and the crew initially decided based on fuel levels to land at the airport in Sundsvall, but as it was closed they instead chose the nearest open airport, which was Umeå. Following consultation with the cabin crew, who reported that all was well, the commander cancelled the emergency situation. The flight continued to the alternate destination at an altitude of 10,000 feet or 3,050 metres. Approach and landing at Umeå Airport were normal. After landing, the commander and other crew members carried out a debriefing with the passengers in the terminal building.

Safety Recommendation SWED-2013-002 (AIB):
EASA and the FAA are recommended to act to change the Boeing B737 QRH – NNC "Bleed Trip Off" so that a limitation of the flight altitude should be taken into consideration in the event of failure of one pressurisation system during flight in the same way as when this is identified before dispatch (Cf. MMEL point 21-01). [RL 2013:03 R1]

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Switzerland

Registration	Aircraft Type	Location	Date of event	Event Type
HB-IXP	BAE AVRO146RJ	Zurich-Kloten airport	20/07/2011	Serious incident

Synopsis of the event: On 20 July 2011, at 08:53 UTC, the AVRO 146-RJ100 aircraft, registration HB-IXP, took off under flight number LX 5187 and radio call sign "Swiss five one eight seven" on a ferry flight from Nuremberg to Zurich. Shortly after take-off, at a height of approximately 400 ft above the ground, when the aircraft was still under manual control, the autothrottle (AT) and the flight director (FD) failed simultaneously. These could subsequently be regained, together with the autopilot (AP).After an otherwise uneventful flight, the crew assumed that all systems were available without any restrictions. LX 5187 then received clearance for an approach on runway 14. When lined up on the localiser and at an altitude of 4000 ft AMSL, at 09:51:40 UTC the autopilot, the autothrottle and the flight director failed. A few seconds later the acoustic alert "bank angle" for a high bank angle sounded. At 09:52:04 UTC, the red ATT (attitude) and HDG (heading) warnings appeared on the commander's electronic flight instrument system (EFIS) and the navigation data disappeared. On the copilot's EFIS displays the indications remained stable and allowed the aircraft to be controlled manually. The copilot no longer trusted his indications; the commander took over control of the aircraft using standby instruments and also continued to conduct radio communications. Shortly afterwards, he reported to air traffic control that there were navigation problems heading indication was available. During the subsequent flight phase, significant oscillations in attitude occurred and the rate of climb and descent, as well as the aircraft's airspeed, varied considerably. The air traffic control officer (ATCO) guided the aircraft instructions into a position for a repeated approach. In addition, arriving and departing traffic on Zurich Airport was halted in order to provide flight LX 5187 with optimal support. In accordance with the abnormal checklist, the crew switched the EFIS selector to the "BOTH 2" position and at 09:58:52 UTC reported that they would shortly have the indications available again. A little later the ATCO gave clearance for an approach on runway 14 and the crew, who had reengaged the AT and the FD, reported at 10:03:21 UTC that they were "fully established". The approach was carried out manually. The subsequent final approach and landing were uneventful.

Safety Recommendation SWTZ-2012-001 (AAIB):

The European Aviation Safety Agency, together with the operators of aircraft, still equipped with electromechanical standby instruments, should examine whether their design still fulfills the today's requirements with respect to ergonomics. If this is not the case, an update with improved standby instruments should be arranged.

Reply:

The Avro 146-RJ Series of aircraft was certificated in the 1990's to a certification basis applicable at the time and which is recorded in EASA Type Certificate Data Sheet EASA.A.182. The standby instruments fitted to the aircraft are of a standard typically fitted to such aircraft types and their installation complies with the certification requirements of the time. Since the time when the aircraft type was certificated there has not been any evidence to suggest that the installation of the standby instruments does not meet the applicable requirements.

In addition there has been no evidence that flight crew have found excessive difficulty with the use of the standby instruments.

There is no evidence that an unsafe condition exists regarding the installation of the standby instruments to the certification standards of the 1990's. In the absence of an identified unsafe condition there is no reason to re-examine the approved standard of standby instruments. EASA do not therefore need to examine whether the design meets the current requirements as the certification requirements of the time have been shown to be adequate.

Status: Closed – **Category:** Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
9A-CQC	DE HAVILLAND DHC8	Zurich Airport	27/09/2013	Accident

Synopsis of the event: On 27 September 2013 a Bombardier DHC-8-402 aircraft, registered as 9A-CQC, was operating the scheduled flight OU 464 from Zagreb (Croatia) to Zurich (Switzerland). After an uneventful flight the airplane was established on an instrument approach for runway 14. At about six nautical miles from the threshold, the crew selected the landing gear down; the main landing gear extended fully. However the nose landing gear did not extend. The flight crew discontinued the approach and the air traffic control offered them to join a holding pattern for troubleshooting. The extension of the nose landing gear could not be achieved, neither with reference to the non-normal/emergency checklist in the quick reference handbook (QRH) of the airplane nor with a flight operation service letter published by the aircraft manufacturer. The flight crew opted for a landing with main gear extended and nose gear up. After preparing the cabin for a planned emergency landing and informing the air traffic control a second approach was performed. The airplane landed on runway 14 at Zurich airport at 18:18 UTC and came to a complete stop 540 meters after the forward fuselage had come into contact with the runway surface. The airplane's lower forward area of the fuselage was damaged.

Safety Recommendation SWTZ-2013-476 (AAIB):

The Swiss Accident Investigation Board (SAIB) recommends that Transport Canada and the European Aviation Safety Agency, together with the aircraft and the landing gear manufacturers, should take appropriate measures in order to facilitate early detection of damaged weight on wheel cover plates on nose landing gears in levered suspension configuration.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Unless the Agency has substantial progress to report from the follow-up activities related to this specific Safety Recommendation within the 90 day period, this reply shall serve to fulfil compliance with Article 18 of Regulation (EU) No 996/2010 (ICAO Annex 13, paragraph 6.10).

Status: Open – **Category:**

Safety Recommendation SWTZ-2013-477 (AAIB):

The Swiss Accident Investigation Board (SAIB) recommends that Transport Canada and the European Aviation Safety Agency, together with the aircraft and the landing gear manufacturers, should assess the risks involved with the installation of weight on wheel cover plates on nose landing gears in levered suspension configuration and take appropriate preventive measures.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

Unless the Agency has substantial progress to report from the follow-up activities related to this specific Safety Recommendation within the 90 day period, this reply shall serve to fulfil compliance with Article 18 of Regulation (EU) No 996/2010 (ICAO Annex 13, paragraph 6.10).

Status: Open – **Category:**

United Arab Emirates

Registration	Aircraft Type	Location	Date of event	Event Type
N571UP	BOEING 747	Dubai Airport UAE	03/09/2010	Accident

Synopsis of the event: The flight was cargo from Dubai to Cologne. After take off from Dubai at aprox. 32000 ft the crew declared an emergency due to fire detection in the forward main deck. The captain chose to return to Dubai. Less than three minutes after the first warning to the crew, the fire resulted in severe damage to flight control systems and caused the upper deck and cockpit to fill with continuous smoke. The smoke did not abate during the emergency impairing the ability of the crew to safely operate the aircraft for the duration of the flight back to Dubai. The aircraft crashed 9NM Southwest of Dubai International Airport.

Safety Recommendation UNAR-2013-026 (AIB):

The FAA and EASA are requested to provide operators of cargo aircraft of a maximum certificated take-off mass in excess of 45,500 kg with the option to modify existing Class E cargo compartments, through a process of FAA or EASA recommended modifications, to control a class E cargo fire without requiring a crewmember to enter the compartment through the use of an active fire suppression system.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation UNAR-2013-047 (AIB):

FAA and EASA regulatory certification standards to consider the development of a quantitative framework for assessing the degradation of cargo compartment liner polymer matrix or the current industry standard panel material properties and the resulting degradation in the structural integrity of these structures when subjected to extreme heat, vibration and/or thermo-mechanical energy.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

Safety Recommendation UNAR-2013-050 (AIB):
The NTSB, FAA and/or EASA fire test divisions to perform a test on lithium batteries to determine the ignition properties for lithium type batteries when subjected to external sources of mechanical energy, including acoustic energy in flight range modes, acoustic harmonic modes and a separate test to determine the susceptibility of lithium batteries to vibration from a mechanical source. The purpose of this testing is to determine the safe limits for the air carriage of lithium type batteries in dynamic aeroelastic, vibrating structures where the battery electrolyte composed of an organic solvent (and dissolved lithium salt) could become unstable when exposed to these forms of mechanical energy.

Reply:

EASA acknowledges receipt of this Safety Recommendation. Please be advised that it is under consideration and that the outcome will be communicated to you in due course.

This reply gives the status within the 90 days period in compliance with Article 18 of Regulation (EU) No 996/2010.

Status: Open – **Category:**

United Kingdom

Registration	Aircraft Type	Location	Date of event	Event Type
EC-FXI	DOUGLAS DC9	Liverpool Airport, United Kingdom	10/05/2001	Accident

Synopsis of the event: The aircraft carried out an automatic landing at Liverpool at 1232 hrs with the first officer (FO) being the pilot flying. The right main landing gear collapsed on touchdown and the commander took over control shortly afterwards. The aircraft continued travelling along the runway, maintaining approximately the centreline, and came to rest with the right wing in contact with the ground. A successful passenger evacuation was carried out using the forward escape slides and the left overwing emergency exit.

Safety Recommendation UNKG-2003-048 (AAIB):
It is recommended that the CAA, JAA and the FAA should provide guidance as to the recommended best practice for the evacuation of infants and small children down escape slides with minimum delay.

Reply:

The Agency published Safety Information Bulletin SIB 2013-06 'Evacuation of infants' on 17 May 2013. The SIB highlights to crew members, operators and national aviation authorities the recommended methods of evacuation of infants with minimum delay on inflatable slides and through hatch-type over wing exits so that awareness of the travelling public can be raised as well.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-BJVX	SIKORSKY S76	28NM NE of Cromer, United Kingdom	16/07/2002	Accident

Synopsis of the event: The aircraft had been scheduled to complete five multi-sector flights from Norwich on the day of the accident. The first four flights were completed without incident and the aircraft departed Norwich Airport at 1731 hrs for the final scheduled flight, consisting of a series of sectors between installations in the 'Sole Pitt' and 'Leman' gas fields of the southern North Sea. The first four sectors again went without incident and the aircraft departed on its penultimate planned sector between the gas production platform 'Clipper' and the drilling rig 'Global Santa Fe Monarch'. The purpose of this sector was to transfer one passenger between the two installations before returning the remaining eight passengers to Norwich.

The departure from the 'Clipper' was described as normal by the helideck crew and the aircraft climbed to 1,500 feet for the planned ten minute sector to the 'Global Santa Fe Monarch'. During the cruise, the crew spoke to Anglia Radar before establishing radio contact with the Monarch's radio operator. There was some confusion at first as the 'Monarch' had not been expecting any further flights that evening. However, the Monarch's helideck crew was quickly assembled and the aircraft commenced its approach.

With the aircraft at a height of about 320 feet on a south-easterly heading, workers on the drilling rig heard a loud bang. No witnesses were watching the aircraft at the time but some subsequently saw the aircraft dive steeply into the sea. One witness also described seeing the main rotor head with the blades attached falling into the sea after the remainder of the aircraft had impacted the surface.

Safety Recommendation UNKG-2004-040 (AAIB):
It was recommended to the EASA and to the US FAA that their Airworthiness Requirements for helicopters should ensure that any future design of main rotor blade that incorporates a hollow metal spar should be designed from the outset to incorporate an automatic onboard crack detection system covering spar areas which cannot readily be inspected and are not damage tolerant.

Reply:

The Agency is aimed at providing objective safety standards and it would be inappropriate for the Agency to prescribe a specific design solution for a specific component and material type. Industry currently use a variety of fatigue tolerance evaluation methodologies, all of which have some merits and shortfalls, and current rulemaking efforts are targeted at providing greater flexibility in their use and to focus on the end effects (i.e. how inspection intervals, retirement times, or equivalent means are set to avoid catastrophic failure). The safety benefits of on-board crack detection systems are well understood by industry and have been used in the past on production helicopters. They remain an option for future designs.

Status: Closed – **Category:** Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-BXKD	AIRBUS A320	London Gatwick Airport, West Sussex, United Kingdom	15/01/2005	Incident

Synopsis of the event: The left nose wheel detached from the aircraft during the takeoff from London (Gatwick) Airport. Airport staff saw the wheel fall off and the flight crew were notified by Air Traffic Control (ATC). After holding for two hours, to burn off fuel and reduce the landing weight, the aircraft landed safely at Gatwick. The nose wheel detached as the result of the partial seizure of the outer wheel bearing, most probably caused by water contamination of the grease in the bearing. Four safety recommendations have been made.

Safety Recommendation UNKG-2005-074 (AAIB):
For newly manufactured aircraft, the European Aviation Safety Agency should require that no single electrical bus failure terminates the recording on both cockpit voice recorder and flight data recorder.

Reply:

This Safety Recommendation will be considered within the framework of the following rulemaking tasks: RMT.0308 and RMT.0309 (review of CVR and FDR provisions in the air operations requirements), RMT.0249 (review of CVR and FDR provisions in the airworthiness requirements), which are featured in the Agency's Rulemaking Programme.

Status: Open – **Category:**

Safety Recommendation UNKG-2005-075 (AAIB):
For newly manufactured aircraft, the European Aviation Safety Agency should require that the cockpit voice recorder and cockpit area microphone are provided with an independent 10 minute back-up power source, to which the cockpit voice recorder and cockpit area microphone are switched automatically, in the event that normal power is interrupted.

Reply:

This Safety Recommendation will be considered within the framework of the following rulemaking tasks: RMT.0308 and RMT.0309 (review of CVR and FDR provisions in the air operations requirements), RMT.0249 (review of CVR and FDR provisions in the airworthiness requirements), which are featured in the Agency's Rulemaking Programme.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
G-CFAC	BAE AVRO146RJ	various	18/03/2005	Incident

Synopsis of the event: During the winter of 2004/2005, UK-based airline operators experienced numerous incidents of restricted elevator and aileron controls on their Avro 146-RJ100 fleets. One operator also reported occurrences of restricted elevator controls on its Embraer 145 and Bombardier DHC-8 aircraft. These aircraft types are similar in having non-powered flight controls. Other European operators of Avro 146/RJ-series aircraft also reported flight control restriction events during the same period. Many of these events were found to be associated with residues of 'thickened' de-icing fluids, that had accumulated in the aerodynamically 'quiet' areas of the elevator and aileron controls. These residues rehydrate on exposure to precipitation and can freeze at altitude, with the potential for restricting control movement. In most of these incidents, the control forces returned to normal after the aircraft had descended into warmer conditions. Despite recent industry efforts at addressing the problems posed by such residues, an effective solution remains to be found.

Safety Recommendation UNKG-2005-148 (AAIB):
It is recommended that prior to the European Aviation Safety Agency assuming responsibility for operational matters within Europe, they consider the future need for the training and licencing of companies who provide a de/anti-icing service, so that anti-icing fluids are applied in an appropriate manner on all aircraft types, but specifically to ensure that the entry of such fluids into flight control mechanisms and control surfaces is minimised.

Reply:

If de/anti-icing is provided by the operator or its contractor, training and procedural aspects are addressed in CAT.OP.MPA.250 of Commission Regulation (EU) No 965/2012 (Air Operations) and the associated guidance material. This includes references to technical publications and international standards for addressing for example training on de/anti-icing methods and fluids to be used. The operator is therefore responsible for ensuring that de/anti-icing fluids are applied in an appropriate manner and this should include minimising entry of de/anti-icing fluids into flight control mechanisms and control surfaces.

However, EASA is not in a position to regulate (eg. mandate certification) de-icing service providers directly, as ground handling services are outside the scope of Regulation (EC) No 216/2008 (The Basic Regulation).

Nevertheless, to assess the areas where other actions within EASA's legal remit could be taken in order to maximize the safety of operations related to ground de/anti-icing, EASA initiated a research project and the report was published in 2011 (EASA.2009/4 Regulation of ground de-icing and anti-icing services in the EASA Member States). As a follow-up, EASA organised a Ground De-icing Workshop which took place in 2012. In addition, a Safety Conference on de-icing and anti-icing issues (Icing conditions on ground and in flight) took place in Cologne on 15-16 October 2013 to promote awareness on the subject. The documentation related to the above-mentioned study, workshop and conference are published on the EASA website.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-BWDA	ATR ATR72	Guernsey Airport	23/05/2006	Incident

Synopsis of the event: The aircraft bounced on touchdown due to insufficient landing flare being applied. In an attempt to cushion the second touchdown the co-pilot, who was the handling pilot, over pitched the aircraft, resulting in the tail bumper making contact with the runway surface. The co-pilot was relatively inexperienced and could not recall ever having received formal instruction in recovery techniques for bounced landings.

Safety Recommendation UNKG-2006-124 (AAIB):
The UK Civil Aviation Authority should require UK aircraft manufacturers, operators and training providers to issue appropriate guidance to pilots in the techniques for recovering from bounced landings.

Reply:

The Agency acknowledges the importance of providing training and recovery techniques guidance concerning bounced landing.

EASA will issue a Safety Information Bulletin to recommend the issuance of guidelines and the development of training concerning bounce landing recovery techniques.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
G-JECE	DE HAVILLAND DHC8	Leeds, West Yorkshire, United Kingdom	04/08/2005	Incident

Synopsis of the event: Shortly after initiating a descent, an oily smell was noticed on the flight deck, followed by a smoke build-up in the flight deck and cabin. The flight crew carried out the initial part of the smoke checklist procedure, declared an emergency and carried out a diversion. The cabin crew smoke hoods caused appreciable communication difficulties. After landing, an emergency evacuation was carried out, without injury. The smoke was found to be the result of fatigue cracking of a compressor support member of the No 2 engine.

Safety Recommendation UNKG-2007-004 (AAIB):
It is recommended that for all large aeroplanes operating for the purposes of commercial air transport, the UK CAA and the EASA should take such steps, procedural or technical, as are necessary to improve the reliability and availability of communications between flight and cabin crews, including the reliability of communications equipment and associated power supplies in both normal and emergency configurations.

Reply:

It is acknowledged that some events reported some non-availabilities of the power supply to the Public Address (PA) system or interphone system. A study funded by the Agency and dated September 2009 (Project EASA.2008.C18 – Study on CS-25 Cabin Safety Requirements) identified four such events (between 2003 and 2006) which, however, were not linked to subsequent injury.

Nevertheless the Agency agrees that CS-25 could be improved to require power supplies for PA, interphone and evacuation alert systems (required by operational rules or otherwise) to have the capability to maintain the functioning of these systems for sufficient time to allow completion of emergency procedures dependant on crew to crew and crew to passenger communications. This item has been identified for future inclusion in the rulemaking programme but with a low priority.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
JY-JAR	AIRBUS A320	Leeds Bradford Airport, United Kingdom	18/05/2005	Accident

Synopsis of the event: While landing on RWY 14 at Leeds Bradford Airport the aircraft touched down just beyond the end of the marked touchdown zone with autobrake set to low. Manual wheel braking commenced shortly after touchdown but soon afterwards, at a groundspeed of around 70kt, the brakes ceased operating for about 17 seconds. A pronounced dip in the runway surface initially prevented the pilots from seeing the runway end. When it became apparent to the commander that it would not be possible to stop before the end of the runway, he deliberately did not select alternate braking, as this would have caused loss of nosewheel steering, but instead used nosewheel steering to turn the aircraft sharply to the right. The aircraft skidded sideways and came to a halt with its nosewheels off the runway, shortly before the end of the paved surface and the start of a steep down slope.

Safety Recommendation UNKG-2007-018 (AAIB):
The European Aviation Safety Agency should consider requiring, for aircraft in the A320 family and other aircraft with similar combined Brakes and Steering Control systems, changes that allow manual selection of Alternate breaking without consequent loss of nosewheel steering.

Reply:

In the case of the A320 family and other aircraft with similar combined Brakes and Steering Control systems, it is considered after review of the current design that the requested change to allow manual selection of alternate braking without loss of steering is not necessary.

It has been demonstrated that the A320 family, A330 and A340-200/300 aircraft are fully controllable by the use of differential braking during rollout and taxi.

Status: Closed – **Category:** Disagreement

Safety Recommendation UNKG-2007-019 (AAIB):
The European Aviation Safety Agency should require Airbus to take measures aimed at ensuring that anomalies in A318/A319/A320/A321 aircraft breaking systems that may lead to loss of Normal braking are clearly indicated to the flight crew.

Reply:

In the case of the A320 family aircraft braking system, it is pointed out that the involved aircraft was fitted with a Braking and Steering Control Unit (BSCU) standard 9 at the time of the event. In certain conditions the loss of braking function would not be detected due to a too long confirmation time. BSCU standard 9.1 was developed with an adjustment in the loss of braking confirmation time; this modification has since been implemented in BSCU standard 10 and subsequent.

Installation of BSCU standard 10 has been mandated (EASA Airworthiness Directive 2008-0048 issued on 28 February 2008) with a completion date set at the end of September 2009. The fleet retrofit today is completed.

EASA considers that appropriate actions address the intent of the Safety Recommendation.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-JMTT	PIPER PA28R	9 NM south of Oban (North Connel) Airport, Argyll, United Kingdom	09/04/2007	Accident

Synopsis of the event: On April 9, 2007, a Piper PA-28R-201T airplane, registration G-JMTT, impacted a hill top near Oban, Scotland, United Kingdom. The pilot and two passengers sustained fatal injuries. The flight originated from Connel Airfield, Oban, Scotland, United Kingdom.

Safety Recommendation UNKG-2008-004 (AAIB):
The European Aviation Safety Agency (EASA) should mandate compliance with vacuum pump maintenance and replacement requirements, to ensure that aircraft fitted with vacuum-driven Attitude Indicators can be safely operated in Instrument Meteorological Conditions when such aircraft are certified to do so.

Reply:

The Terms of reference for Rulemaking Task RMT.0252 (MDM.056) 'Instructions for Continuing Airworthiness' Issue 4 dated 15/05/2013 has been published on the EASA Website.

Subtask 1 formally identifies the need to consider this safety recommendation and the related investigation report as part of the activity of "Definition and identification of Instructions for Continuing Airworthiness (ICA)".

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-BLUN	AEROSPATIALE SA365	app. 450 m S-SE of the North Morecambe gas platform, Morecambe Bay, Irish Sea, United Kingdom	27/12/2006	Accident

Synopsis of the event: The helicopter departed Blackpool at 1800 hrs on a scheduled flight consisting of eight sectors within the Morecambe Bay gas field. The first two sectors were completed without incident but, when preparing to land on the North Morecambe platform, in the 2 dark, the helicopter flew past the platform and struck the surface of the sea. The fuselage disintegrated on impact and the majority of the structure sank. Two fast response craft from a multipurpose standby vessel, which was on position close to the platform, arrived at the scene of the accident 16 minutes later. There were no survivors amongst the five passengers or two crew.

Safety Recommendation UNKG-2008-033 (AAIB):
It is recommended that the European Aviation Safety Agency ensure that research into instrument landing systems that would assist helicopter crews to monitor their approaches to oil and gas platforms in poor visual flying conditions and at night is completed without delay.

Reply:

EASA is collaborating with the UK Civil Aviation Authority on the "Offshore Approaches" project, which is an add-on to the FP7 research project HEDGE and HEDGE Next (Helicopters Deploy GNSS in Europe). The main tasks of this project are integration of AIS (Automatic Identification System) into the navigation display, and the following additions to the project have been identified addressing the Safety Recommendation:

- demonstration of the integration of SOAP (SBAS Offshore Approach Procedure) with the enhanced helideck lighting,
- safety assessment of the visual segment,
- addition of RNAV (aRea NAVigation) guidance to assist shuttling.

Upon completion the final report will be will be published.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-XLAC	BOEING 737	Runway 27, Bristol International Airport, United Kingdom	29/12/2006	Serious incident

Synopsis of the event: Resurfacing and re-profiling work was taking place on parts of the runway at BIA as part of a major project to resurface the manoeuvring area pavements, and sections of the runway surface were ungrooved 'base course' asphalt. From 14 November 2006, there were reports from flight crew of a variety of problems related to the friction characteristics of the temporary runway surface, though no serious incidents occurred until 29 December 2006. On that day, the flight crew of G-XLAC experienced poor stopping performance during landing. Later that day, the flight crew of G-BWDA experienced stopping and lateral control difficulties during landing, and the aircraft departed the runway surface and came to rest on the grass area at the side of the runway. Later still, the flight crew of G-EMBO experienced lateral control difficulties during landing, and the aircraft partially left and then regained the runway. On 3 January 2007, another flight crew,, also operating G-XLAC, experienced poor stopping performance. The airport was subsequently closed whilst grooves were cut in the base course. After it re-opened there were no further incidents.

Safety Recommendation UNKG-2008-079 (AAIB):

The European Aviation Safety Agency should research the technical and operational feasibility of developing equipment and procedures to measure aircraft braking friction with respect to runway position, using on-board aircraft data from landings. As part of this research the European Aviation Safety Agency should develop appropriate standards of recording and methods for sharing this information, and its tolerances, in a timely manner, with interested parties.

Reply:

Industry has already been evaluating technical solutions showing that a potential exists for utilizing aircraft data collected during previous landings for near real-time determinations of the friction coefficient of a runway. Some field trials have been made confirming this potential. In addition, the Federal Aviation Administration (FAA) has issued a call for research on this technology (FAA Announcement DTFACT-13-R-00009-0001). The Agency is continuing to monitor the development of this emerging technology.

However, this concept in isolation does not work for aerodromes with infrequent landings or for first landing aircraft. That is why the Agency also conducted a study to review technological improvements that are expected from continuous friction measuring equipment (CFME). Reference: EASA.2011.OP.13 "Continuous Friction Measuring Equipment – Use on Contaminated Runways".

The need to develop a standard for recording and sharing runway friction information should be first supported by a global consensus on the most appropriate runway condition reporting systems and a common runway condition reporting format. To this end, the Agency is taking part to ICAO Friction Task Force (FTF), which aims at developing Standards and Recommended Practices on runway friction reporting, as well as guidance. ICAO FTF reports to ICAO Aerodrome Operations and Services working group.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-EZAC	AIRBUS A319	near Nantes, France	15/09/2006	Serious incident

Synopsis of the event: The serious incident occurred to an Airbus A319-111 aircraft operating a scheduled passenger flight between Alicante, Spain and Bristol, UK. The aircraft had experienced a fault affecting the No 1 (left) electrical generator on the previous flight and was dispatched on the incident flight with this generator selected off and the Auxiliary Power Unit generator supplying power to the left electrical network. While in the cruise at Flight Level (FL) 320 in day Visual Meteorological Conditions (VMC), with the autopilot and autothrust systems engaged, a failure of the electrical system occurred which caused numerous aircraft systems to become degraded or inoperative. Some of the more significant effects were that the aircraft could only be flown manually, all the aircraft's radios became inoperative and the Captain's electronic flight instrument displays blanked. Attempts by the flight crew to reconfigure the electrical system proved ineffective and the aircraft systems remained in a significantly degraded condition for the remainder of the flight, making operation of the aircraft considerably more difficult. The flight crew were unable to contact air traffic control for the rest of the flight. The aircraft landed uneventfully at Bristol, with the radios and several other systems still inoperative.

Safety Recommendation UNKG-2008-090 (AAIB):

It is recommended that the EASA require improvements to the fault monitoring logic of the type of Generator Control Unit (GCU) used on A320-series aircraft with the aim of preventing the monitoring system from incorrectly interpreting a fault within the GCU as an external system fault.

Reply:

The specific case of the fault monitoring logic of the Generator control Unit (GCU) used on A320-series aircraft has led to a review with the TC holder.

As a result, a new GCU standard 5.2 (Mod 39670) has been developed and certified on October 13, 2008 to improve the robustness of the differential protection trip related to the "GLC welded" failure mode. This is the standard in production on A320 family and associated SB 24-1124 was issued on December 2, 2008.

It has been determined that there were no reason to mandate this improvement because the impact is Minor (and Major during T/O and Landing).

As a consequence it is deemed that no unsafe condition exists and no further corrective action that those already undertaken by Type Certificate Holder (TCH) are necessary.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-YMMM	BOEING 777	London Heathrow, United Kingdom	17/01/2008	Accident

Synopsis of the event: Whilst on approach to London (Heathrow) from Beijing, China, at 720 feet AGL, the right engine of G-YMMM ceased responding to autothrottle commands for increased power and instead the thrust reduced to 1.03 Engine Pressure Ratio (EPR). Seven seconds later the left engine thrust reduced to 1.02 EPR. This reduction in thrust led to a loss of airspeed and the aircraft touching down some 330 m short of the paved surface of Runway 27L at London Heathrow. The investigation identified that the reduction in thrust was due to restricted fuel flow to both engines.

Safety Recommendation UNKG-2009-030 (AAIB):
It is recommended that the Federal Aviation Administration and the European Aviation Safety Agency conduct a study into the feasibility of expanding the use of anti-ice additives in aviation turbine fuel on civil aircraft.

Reply:
A research project has been launched titled "Survey of fuel-anti-ice additives for civil aviation (FUAD) (Tender Reference EASA.E.2 2001.NP.04), upon completion the final report will be published.

Status: Closed – **Category:** Agreement

Safety Recommendation UNKG-2009-031 (AAIB):
It is recommended that the Federal Aviation Administration and the European Aviation Safety Agency jointly conduct research into ice formation in aviation turbine fuels.

Reply:
A research project titled "Water in Aviation Fuel under Cold Temperature Conditions" WAFCOLT (Tender Ref. EASA2010.OP.07) has been completed, the final report can be found on the EASA website.

Status: Closed – **Category:** Agreement

Safety Recommendation UNKG-2009-032 (AAIB):
It is recommended that the Federal Aviation Administration and the European Aviation Safety Agency jointly conduct research into ice accumulation and subsequent release mechanisms within aircraft and engine fuel systems.

Reply:
A research project has been launched titled "Ice Accretion and Release in fuel Systems" (ICAR), the terms of reference (EASA 2012.OP.14) are on the EASA website and upon completion the final report will be published.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-MEDA	AIRBUS A320	Addis Abeba Airport, Ethiopia	31/03/2003	Serious incident

Synopsis of the event: A British Mediterranean Airbus A-320 aircraft, registration G-MEDA operating as flight number LAJ 6711 on a flight from Alexandria (Bourg-el-Arab), Egypt, to Addis Abeba, Ethiopia, carried out two approaches using the Addis Abeba VHF Omni-Directional Radio Range beacon (ADS VOR) and associated Distance Measuring Equipment (DME). On the second approach the aircraft crossed over a ridge of high ground in

Instrument Meteorological Conditions (IMC) and came within 56 ft of terrain at a location 5 nm to the northeast of the airport. As the aircraft crossed the ridge the crew, alerted a few seconds earlier by a radio altimeter (RA) height callout, carried out a go-around; at the same time the Enhanced Ground Proximity Warning System (EGPWS) generated a 'TOO LOW TERRAIN' aural alert. The investigation determined that the antenna of the ADS VOR had suffered water ingress and was not functioning correctly. The correct maintenance procedures for the ADS VOR/DME and its associated monitoring equipment were not followed. The aircraft received erroneous information from the ADS VOR which was fed to the flight deck VOR display, the Flight Management System (FMS), the navigation displays and the EGPWS computer with its associated Terrain Awareness Display (TAD). A single common position source error thus adversely affected all these apparently independent navigation/situational awareness systems. The existing certification standards for the aircraft navigation systems were met but were not sufficient to protect against this problem.

Safety Recommendation UNKG-2010-023 (AAIB):
It is recommended that the European Aviation Safety Agency and the Federal Aviation Administration review and revise the existing TAWS certification requirements with a view to ensuring that they protect against common mode failures that could induce a CFIT accident. Furthermore the minimum requirements for the navigational accuracy of sources used for TAWS should be tightened to reflect the needs of the system to perform its function. These revised standards should then be applied retrospectively to all aircraft required to be fitted with TAWS.

Reply:

The function of the Terrain Awareness Warning System (TAWS) is to provide information and alert to the flight crew in order to detect a potentially hazardous terrain situation and take effective action to avoid a Controlled Flight Into Terrain (CFIT).

Although the TAWS is able to check that the signal received from navigational sources, like a ground station (Very High Frequency Omni-Directional Radio Range = VOR), is within a reasonable range, the certification policy assumes that the signal value is correct when it is validated, and ground stations are adequately monitored and controlled by the responsible bodies [airport and Air Traffic Control (ATC)].

The Agency reviewed its database that is synchronised with the accident and statistical information collected by the International Civil Aviation Organisation (ICAO). We found no other accidents or serious incidents caused by similar VOR malfunctions.

It is reminded that

- TAWS is not part of the aircraft navigation systems and therefore shall not be used as mitigation means to detect navigation system/data problems or to set navigational data accuracy requirements.

- During this event, some indications were available to the pilots showing that there was a VOR signal problem: First approach: unexpected large heading correction when passing over the Addis Abeba (ADS) VOR; VOR beam bar fluctuations during the descent; the Automatic Direction Finder (ADF) indication showing the aircraft to the right of the approach course; the VOR beam bar disappeared. Second approach: height callouts not consistent with the theoretical approach profile.

Status: Closed – **Category:** Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-EZJK	BOEING 737	West of Norwich, Norfolk, United Kingdom	12/01/2009	Serious incident

Synopsis of the event: A flight control manual reversion check was being conducted as part of a post maintenance check flight. During the check, the aircraft pitched rapidly nose-down, descending approximately 9,000 ft before control was recovered. A number of maintenance and airworthiness check issues were identified.

Safety Recommendation UNKG-2010-072 (AAIB):
It is recommended that the European Aviation Safety Agency review the regulations and guidance in OPS 1, Part M and Part 145 to ensure they adequately address complex, multi-tier, sub-contract maintenance and operational arrangements. The need for assessment of the overall organisational structure, interfaces, procedures, roles, responsibilities and qualifications/competency of key personnel across all sub-contract levels within such arrangements should be highlighted.

Reply:

The Rulemaking Task 145.012 'Part-145 Single and Multiple Release', initiated in 2006, already tried to address this issue. However, as described in the Opinion 06/2010 issued by the Agency on 29 November 2010, this task did not generate any change to the regulations, to the acceptable means of compliance (AMC) or to the guidance material (GM) due to the opposition to the proposed changes from a significant number of competent authorities and stakeholders and to the fact that the task was mainly addressing Part-145 maintenance organisation responsibilities and an additional new focus needed to be placed also on the Continuing Airworthiness Management Organisation (CAMO) responsibilities. As a consequence, a new Rulemaking Task has been created [RMT.0217 (M.029) 'CAMO and Part-145 Responsibilities'] which covers Part-145 and CAMO responsibilities. The Terms of reference for this rulemaking task dated 12 March 2013 have been published on the EASA Website. This safety recommendation and the related investigation report are identified in the document.

In addition, Task RMT.0251 (MDM.055) 'Embodiment of Safety Management System (SMS) requirements into Commission Regulation (EC) No 2042/2003' proposes to mandate implementation of hazard identification and risk management by maintenance organisations, where any hazards stemming from such complex, multi-tier constellations should also be identified and assessed. The resulting Notice of Proposed Amendment (NPA) 2013-02 was published on 22 January 2013.

This is further supported by using the same approach throughout operational and Continuing Airworthiness/Maintenance rules when it comes to implementing SMS (same/similar rules for operators, CAMOs and Part-145s).

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-CJCC	CESSNA 680	London Luton Airport, United Kingdom	30/09/2010	Serious incident

Synopsis of the event: The aircraft was operating a commercial passenger flight from London Luton Airport, United Kingdom, to Milas-Bodrum Airport, Turkey. It departed with a full fuel load of approximately 11,000 lbs. As it passed FL300 for FL320 in the climb, the DC EMER BUS L amber Crew Alerting System (CAS) message appeared. The crew referred to the Emergency/Abnormal Procedures checklist and, from the observed indications, concluded that there was a fault on the left main electrical bus. They completed the required action items, which included selecting the left generator to OFF. They elected to return to Luton as the weather there was favourable and it was only 20 minutes flying time. When the left generator was selected OFF, a number of systems lost power, including the flaps, the left fuel quantity indication and the commander's Primary Flight Display (PFD). The commander handed control to the co-pilot, who remained the handling pilot for the rest of the flight. As the flight progressed, the co-pilot became aware that an increasing amount of right aileron control input was required to maintain a wings-level attitude. A flapless landing was completed at Luton Airport without further incident. When the aircraft was powered up again, all systems appeared to operate normally, including the left fuel quantity indication. The left tank fuel quantity indication was approximately 5,500 lbs (corresponding to full) and the right tank indication was approximately 3,300 lbs. The crew confirmed that they had not selected the fuel cross-feed during the flight.

Safety Recommendation UNKG-2011-026 (AAIB):

It is recommended that the European Aviation Safety Agency ensures that design organisations under their jurisdiction responsible for approvals affecting Flight Data Recorder (FDR) installations, hold the documentation required for decoding the FDR data, and that the documentation is to a suitable standard and available to operators.

Reply:

EASA addressed, on 08 June 2012, a letter to holders of Design Organisation Approval (DOA) or Alternative Procedures to DO, which highlights that they are responsible for producing the documentation needed for the serviceability and the operation of the Flight Data Recorders (FDR) when part of their design activities, including the FDR decoding documentation.

The letter reminds those organisations that they must ensure that the FDR decoding documentation is provided in a suitable format as part of the aircraft delivery or modification, and that they must keep the most recent version of the FDR decoding documentation they produced.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-REDL	AEROSPATIALE AS332	11 miles NE Petershead (Offshore), United Kingdom	01/04/2009	Accident

Synopsis of the event: The accident occurred whilst the helicopter was operating a scheduled passenger flight from the Miller Platform in the North Sea, to Aberdeen. Whilst cruising at 2,000 ft amsl, and some 50 minutes into the flight, there was a catastrophic failure of the helicopter's Main Rotor Gearbox (MGB). The helicopter departed from cruise flight and shortly after this the main rotor and part of the epicyclic module separated from

the fuselage. The helicopter then struck the surface of the sea with a high vertical speed. An extensive and complex investigation revealed that the failure of the MGB initiated in one of the eight second stage planet gears in the epicyclic module. The planet gear had fractured as a result of a fatigue crack, the precise origin of which could not be determined. However, analysis indicated that this is likely to have occurred in the loaded area of the planet gear bearing outer race. A metallic particle had been discovered on the epicyclic chip detector during maintenance on 25 March 2009, some 36 flying hours prior to the accident. This was the only indication of the impending failure of the second stage planet gear. The lack of damage on the recovered areas of the bearing outer race indicated that the initiation was not entirely consistent with the understood characteristics of spalling (see 1.6.5.7). The possibility of a material defect in the planet gear or damage due to the presence of foreign object debris could not be discounted. The investigation identified the following causal factor:

1. The catastrophic failure of the Main Rotor Gearbox was a result of a fatigue fracture of a second stage planet gear in the epicyclic module.

In addition the investigation identified the following contributory factors:

1. The actions taken following the discovery of a magnetic particle on the epicyclic module chip detector on 25 March 2009, 36 flying hours prior to the accident, resulted in the particle not being recognised as an indication of degradation of the second stage planet gear, which subsequently failed.

2. After 25 March 2009, the existing detection methods did not provide any further indication of the degradation of the second stage planet gear.

3. The ring of magnets installed on the AS332 L2 and EC225 main rotor gearboxes reduced the probability of detecting released debris from the epicyclic module.

Safety Recommendation UNKG-2011-036 (AAIB):
It is recommended that the European Aviation Safety Agency (EASA) re-evaluate the continued airworthiness of the main rotor gearbox fitted to the AS332 L2 and EC225 helicopters to ensure that it satisfies the requirements of Certification Specification (CS) 29.571 and EASA Notice of Proposed Amendment 2010-06.

Reply:

EASA have requested Eurocopter to complete their current fatigue justification file of the Main Rotor GearBox (MGB).

Since the root cause of the accident is highly suspected to originate from spalling degradation, EASA have requested that Eurocopter provide a complementary assessment aiming to take into consideration MGB fatigue tolerance evaluation for "environmental effects, intrinsic/discrete flaws, or accidental damage" [see Certification Specifications (CS) 29.571 and Notice of Proposed Amendment (NPA) 2010-06].

The methodology for such fatigue re-evaluation is based on the following:

- to review Super-Puma AS332 and EC225 MGB overhaul and incident records in order to determine the list of credible flaws (threat) likely to occur on MGB power gears;
- to analyse the impact of those defects, as determined by the review of in-service records, in terms of fatigue behaviour and crack propagation;
- to provide an updated justification of the status of the available MGB monitoring means (e.g. chips detectors efficiency, overhaul checks);
- to perform complementary computations to assess the behaviour of MGB components with catastrophic failure modes (PSE).

Furthermore, Eurocopter have launched an 18 months duration test program for MGB actual spalling testing. It aims to gather more information about any potential MGB component degradation modes, in particular spalling degradation phenomenon and its growth speed. EASA is following the testing and depending on the results, the current MGB monitoring strategies might be reconsidered.

The gear fracture mechanisms investigated after the G-REDL accident have shown that the relevant degradation phase is relatively quick in comparison with other MGB degradation modes like spalling and fatigue. Therefore progressing Eurocopter's MGB testing up to components fracture is not foreseen, but should the test provide fruitful information about fatigue and fracture mechanisms, those will be used for the complementary fatigue assessment mentioned before.

In addition to the above activities, EASA consider that the safety of fleet relies primarily on the capability of the MGB magnetic plugs to ensure early detection of spalling.

In order to increase the likelihood of detecting any particles, EASA has issued Airworthiness Directive (AD) 2012-0129-E, dated 13 July 2012. This new AD retains the requirement for the accomplishment of MOD 0752522 (i.e. modification of the chip collector inside the MGB) of previous AD 2009-0099-E, which is superseded, and requires, for all models of the Super-Puma helicopter family, more stringent repetitive visual checks of all electrical and non-electrical chip detectors installed on MGB, and Intermediate Gear Box and Tail Gear Box as well.

Status: Closed – **Category:** Partial agreement

Safety Recommendation UNKG-2011-041 (AAIB):

It is recommended that the European Aviation Safety Agency research methods for improving the detection of component degradation in helicopter epicyclic planet gear bearings.

Reply:

The EASA research project 'Vibration Health Monitoring and Alternative Technologies' (Tender number EASA.2012.OP.13) has been launched to address the Safety Recommendation. Reported results will be published on the EASA website.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-REDU	EUROCOPTER EC225	132 NM east of Aberdeen, offshore, United Kingdom	18/02/2009	Accident

Synopsis of the event: The helicopter departed Aberdeen Airport at 1742 hrs on a scheduled flight to the Eastern Trough Area Project (ETAP). The flight consisted of three sectors with the first landing being made, at night, on the ETAP Central Production Facility platform. Weather conditions at the platform deteriorated after the aircraft departed Aberdeen; the visibility and cloud base were estimated as being 0.5 nm and 500 ft respectively. At 1835 hrs the flight crew made a visual approach to the platform during which the helicopter descended and impacted the surface of the sea. The helicopter remained upright, supported by its flotation equipment which had inflated automatically. All those onboard were able to evacuate the helicopter into its liferafts and they were successfully rescued by air and maritime Search and Rescue (SAR) assets.

Safety Recommendation UNKG-2011-059 (AAIB):
It is recommended that the European Aviation Safety Agency reviews the acceptability of crew-operated ON/OFF controls which can disable mandatory helicopter audio voice warnings.

Reply:

In the course of certification and approval of aircraft and/or installed systems, the proposed normal operation of each system is assessed against the applicable airworthiness requirements or certification specifications (CS 29.1309). Additionally, failures and emergencies directly and indirectly related to the use of the system are evaluated. This includes the acceptability of a means to disable a mandatory system, if proposed.

As a general principle, it is acceptable to have a means of deselecting such a system, but only if the pilot is at all times aware of the degraded status of the aircraft and there is mitigation to ensure that the aircraft continues to meet an acceptable airworthiness standard. There are many examples of the satisfactory application of this principle.

Status: Closed – **Category:** Partial agreement

Safety Recommendation UNKG-2011-061 (AAIB):
It is recommended that the European Aviation Safety Agency ensures that helicopter performance is taken into consideration when determining the timeliness of warnings generated by Helicopter Terrain Awareness and Warning Systems.

Reply:

EASA is awaiting results from studies which may allow redefining the Helicopter Terrain Awareness and Warning System (HTAWS) standards, especially for offshore operation, as the report FDP-CAA-Report 121019 "Report for UK Civil Aviation Authority on Class A Terrain Awareness Warning System (TAWS) for Offshore Helicopter Operations", which is currently interim and hence subject to change.

Status: Open – **Category:**

Safety Recommendation UNKG-2011-062 (AAIB):
It is recommended that the European Aviation Safety Agency reviews the frequency of nuisance warnings generated by Terrain Awareness and Warning System equipment in offshore helicopter operations and takes appropriate action to improve the integrity of the system.

Reply:

A project "Class A Terrain Awareness Warning System (TAWS) for Off-Shore Helicopter Operations has been launched as part of the UK CAA-run joint industry Helicopter Safety Research Management Committee (HSRMC) research programme and has been supported by the International Association of Oil & Gas Producers, Bristow Helicopters, Shell Aircraft Ltd and BP.

Flight trials were run with 2 helicopter types a S76A+ and a Eurocopter EC225. It appears that it has been possible to produce a single set of HTAWS 'classic mode' warning envelopes covering both helicopter types while maintaining a 'nuisance' alert rate of no worse than 1 in 100 flights and still provide significantly enhanced warning times.

The next step in the project will be to examine the form and format of the associated warnings. Simulator trials are then envisaged both for flight crew evaluation of the complete system and also to generate further 'accident' examples for testing the envelopes. Progress on these areas will be subject to availability of resource/funding. EASA monitors the project progress as member of the HSRMC. The final report will be published.

Status: Closed – **Category:** Agreement

Safety Recommendation UNKG-2011-066 (AAIB):

It is recommended that the European Aviation Safety Agency modifies European Technical Standard Order (ETSO) 2C70a and ETSO 2C505 to include a requirement for multi-seat liferafts, that do not automatically deploy their Sea Anchor, to include a label, visible from within the inflated liferaft, reminding the occupants when to deploy the Sea Anchor.

Reply:

According to the outcome of the SAE S-9A Safety Equipment and Survival Systems Committee work, the potential safety benefit from additional life raft markings, taking into consideration the operational aspects as well as the related necessary improvement in crew training, was not deemed to justify the associated burden and costs.

Following the publication of SAE standard AS1356, the Agency intends to harmonise ETSO 2C70b with the FAA, and this will be done in the frame of rulemaking task RMT.0206 (which will start in 2013).This ETSO update will not include the recommended action.

No revision is currently planned for ETSO 2C505.

Status: Closed – **Category:** Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
EI-SLG	ATR ATR72	Edinburgh Airport, United Kingdom	15/03/2011	Serious incident

Synopsis of the event: The aircraft had undergone routine maintenance at an engineering facility at Edinburgh Airport immediately prior to the incident flight. Everything appeared normal during the crew's pre-flight checks, which included a full-and-free check of the flying controls. The crew were able to visually monitor the roll control surfaces and observe the spoiler operation on a cockpit indication, but could not see the empennage and the aircraft was not fitted with a flight control position indicator. The aircraft took off at 2122 hrs from Runway 24 at Edinburgh, with the co-pilot acting as the handling pilot. After carrying out a standard instrument departure the crew climbed the aircraft to FL 230 at a speed of 170 kt with the autopilot engaged. As the aircraft levelled and accelerated through about 185 kt, the crew felt the aircraft roll to the left by about 5 to 10° and they noticed that the slip ball and rudder trim were both indicating fully right. The co-pilot disengaged the autopilot and applied right rudder in an attempt to correct the sideslip and applied aileron to correct the roll. He reported that the rudder felt unusually ''spongy" and that the aircraft did not respond to his rudder inputs. Approximately 15° to 20° of right bank was required to hold a constant heading with the speed stabilised above 185 kt and a limited amount of aileron him was applied to assist. Shortly after regaining directional control a FTL CTL caption appeared on the Crew Alert Panel (CAP) and the FLT CTL fault light illuminated on the overhead panel indicating a fault with the rudder Travel Limitation Unit (TLU). The commander requested radar vectors from ATC for a return to Edinburgh, later declaring a PAN. The crew carried out the required procedure from the Quick Reference Handbook (QRH). As part of the procedure they established that both Air Data Computers (ADC) were operating, before manually selecting the TLU switch to the LO SPD position. The aircraft had at this point temporarily slowed to below ISO kt. The co-pilot reported that on selection of LO SPD more roll control input was required to maintain heading and that roll authority to the right was further reduced. The commander therefore decided to return the TLU switch to AUTO and the required roll control input reduced. The green LO SPD indicator light did not illuminate. An approach was made to Runway 24, the aircraft was established on the ILS and was normally configured for a full flap landing. The crew added 10 kt to their approach speed, in accordance with the QRH. The co-pilot had to operate the control wheel with both hands in order to maintain directional control; the commander operated the power levers in the latter stages of the final approach. The co-pilot reported that the aircraft became slightly more difficult to control as the speed reduced, but remained controllable. The aircraft landed just to the left of the runway centreline, whereupon the commander assumed control of the aircraft and applied reverse thrust. Despite the application of full right rudder pedal during the rollout. the aircraft diverged towards the left side of the runway. The commander re-established directional contrei using the steering wheel tiller. The aircraft was taxied clear of the runway and back to the engineering facility for inspection.

Safety Recommendation UNKG-2012-002 (AAIB):

It is recommended that the European Aviation Safety Agency require ATR to modify the cams on the rudder Travel Limitation Unit on all applicable aircraft, to reduce the risk of incorrect assembly.

Reply:

After reviewing the system design / architecture as well as the technical documentation, updated following this incident, and the associated functional tests, it is EASA opinion that the current Rudder Travel Limitation Unit (TLU) cams design is compliant with the applicable requirement [Joint Authority Requirements (JAR) 25.671b, change 11].

Considering the worst potential impact of such event and the history of similar event occurrence (unique case), EASA will not require any modification of the current cam design.

Status: Closed – **Category:** Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-CCPW	BAE JETSTREAM3100	runway 26, Isle of Man Airport, United Kingdom	08/03/2012	Accident

Synopsis of the event: The aircraft's right main landing gear failed as it landed on Runway 26 at Isle of Man Airport. The right main landing gear detached, the aircraft slid along the runway on its remaining landing gears, right wingtip and luggage pannier and came to rest on the grass adjacent to the runway. The passengers and crew vacated the aircraft without injury. The mechanism to final failure is not yet fully understood, but was initiated as a result of stress corrosion cracking in the forward yoke pintle at the top of the right landing gear leg.

Safety Recommendation UNKG-2012-008 (AAIB):
It is recommended that the European Aviation Safety Agency review the effectiveness of Airworthiness Directive G-003-01-86 in identifying cracks in the yoke pintle housing on landing gears fitted to Jetstream 31 aircraft.

Reply:

EASA, together with the Type Certificate (TC) holder, has reviewed the effectiveness of the Airworthiness Directive G-003-01-86. A new design solution and a new inspection regime have been introduced which have been mandated by EASA AD 2013-0206 and EASA AD 2013-0208, respectively. Furthermore, a new inspection has been introduced in the Component Maintenance Manual of the Main Landing Gear.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-RIAM	SOCATA TB10	Coventry Airport, United Kingdom	27/07/2011	Serious incident

Synopsis of the event: The occupants were on a local flight at 2,500 ft when they noticed smoke entering the cabin around the base of the windscreen. The aircraft diverted into Coventry Airport, with the intensity of the smoke increasing and affecting visibility, and made a safe landing. The smoke was caused by an internal failure in the alternator regulator.

Safety Recommendation UNKG-2012-022 (AAIB):
It is recommended that the European Aviation Safety Agency review the alternator regulator installation of the SOCATA TB series of single-engine aircraft, with a view to reducing the risk to the operation of the aircraft as a result of smoke/fire arising from a failure of this component.

Reply:

EASA has reviewed the design of the electrical system and concluded that it is compliant to the requirements at the time when the aircraft was certificated. A Pilot Operating Handbook emergency procedure is available to enable the pilot to reduce the consequences of a fire and allow for a safe continuation of flight and landing. The service experience gained on the SOCATA TB series aircraft shows that the design solution provides an adequate level of safety.

Status: Closed – **Category:** Disagreement

Registration	Aircraft Type	Location	Date of event	Event Type
4R-ADG	AIRBUS A340	London Heathrow Airport, United Kingdom	05/02/2012	Serious incident

Synopsis of the event: The aircraft started its takeoff from a runway intersection for which no regulated takeoff weight (RTOW) chart was available in the aircraft. The pilots calculated performance using a chart for a different runway which did not consider obstacles relevant to the runway in use. The takeoff and subsequent flight were completed without further incident.

Safety Recommendation UNKG-2012-030 (AAIB):

It is recommended that the European Aviation Safety Agency introduce a requirement for fixed wing operators holding an Air Operator Certificate to record takeoff speeds and, where they are variable, thrust and configuration settings used for takeoff and retain this information with the Operational flight plan.

Reply:

The Agency has conducted a review of relevant accident and incident data. While the results indicate that improper use of takeoff data was a causal factor in a number of occurrences, the recording in the operational flight plan (OFP) does not seem to be the appropriate solution.

However, the Agency took note of the other Safety Recommendation made in the investigation report: "It is recommended that the International Civil Aviation Organization introduce a standard or recommended practice for fixed wing aeroplanes to record the flight management system takeoff performance data entries on the flight data recorder during the takeoff phase. The data should be retained in the operator's flight data analysis programme." The Agency is a member of ICAO Flight Recorder Panel and it will follow up the response of ICAO to this other Safety Recommendation. Depending on the outcome, the Agency may consider adding to Rulemaking task RMT.0308 the recording of the takeoff performance data entries of the flight management system.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-REDW	EUROCOPTER EC225	20 NM east of Aberdeen, United Kingdom	10/05/2012	Accident

Synopsis of the event: The helicopter was on a scheduled flight from Aberdeen Airport to the Maersk Resilient platform, in the North Sea, 150 nm east of Aberdeen. On board were two flight crew and twelve passengers. The helicopter was in the cruise at an altitude of 3,000 ft, 34 nm east of Aberdeen Airport, when the flight crew were presented with indications of low pressure in the MGB main and standby oil lubrication systems. The crew activated the MGB emergency lubrication system and, following a subsequent warning indicating failure of that system, carried out a controlled ditching into the sea. All the passengers and crew evacuated the helicopter into a life raft and were subsequently rescued. Two passengers sustained minor injuries.

Safety Recommendation UNKG-2012-034 (AAIB):

It is recommended that the European Aviation Safety Agency requires Eurocopter to review the design of the main gearbox emergency lubrication system on the EC225 LP Super Puma to ensure that the system will provide the crew with an accurate indication of its status when activated.

Reply:

The root cause of the in-flight Emergency Lubrication (EMLUB) false alarm has been identified. For both helicopters (registered G-REDW and G-CHCN) events, it has been caused by wiring discrepancies found between the electrical outputs of the Air & Glycol pressure-switches of the EMLUB system and the helicopter wiring harness connecting the switches to the EMLUB electronic card. This design non-conformity only exists on helicopters equipped with pressure-switches manufactured by the sensor supplier Industria. The corrective actions have consisted in the following: Eurocopter have developed, through design change MOD 07.53028, a fix at aircraft wiring harness level for helicopters equipped with Industria pressure-switches. The retrofit of the fleet with this EASA approved design change is handled with Eurocopter's Alert Service Bulletin No.05A032, which EASA mandated with Airworthiness Directive (AD) 2013-0037.

From the extensive design review of the EMLUB system, components examinations, system testing and analysis completed during the investigation, it has been furthermore determined that the actual average engine bleed air pressures for the EMLUB air circuit are lower than the certified design specifications, and indirectly it may also affect the pressures normally expected in the Glycol circuit of the EMLUB system. This brings the potential of triggering the thresholds of the Air and Glycol pressure-switches in some marginal flight conditions. To address this additional EMLUB system issue, Eurocopter are currently designing new pressure-switches with redefined lower pressure thresholds. After their approval, EASA will require installation of these redesigned pressure-switches for the fleet by another AD.

Status: Closed – **Category:** Agreement

Registration	Aircraft Type	Location	Date of event	Event Type
G-ZAPZ	BOEING 737	Chambery Airport	14/04/2012	Accident

Synopsis of the event: An onboard hand-held Electronic Flight Bag (EFB) computer was used to calculate the aircraft's takeoff performance. The commander omitted to enter the aircraft's takeoff weight into the performance calculation software, which defaulted to the previous flight's takeoff weight. The crew did not cross-check the data and incorrect speeds and thrust were calculated and subsequently used for the takeoff. As a consequence, the airspeed at rotation was too low and the pitch angle was sufficient to strike the tail on the runway. A broken spring within the aircraft's elevator feel and centering unit caused reduced resistance in the flight controls in pitch, contributing to the excessive pitch attitude achieved during rotation. The investigation also revealed wider issues relating to the general design and use of EFB computers to calculate performance data.

Safety Recommendation UNKG-2012-036 (AAIB):

It is recommended that the European Aviation Safety Agency establish a set of detailed guidelines for the operational evaluation and approval of Electronic Flight Bags. These should be more specific than the proposed Acceptable Means of Compliance (AMC) 20-25 and include information such as provided in the Federal Aviation Authority document 'Electronic Flight Bag Authorization for Use' and Joint Aviation Authorities Safety Information Communication No 7.

Reply:

The Acceptable Means of Compliance (AMC) 20-25 content has significantly evolved during the Note of Proposed Amendment (NPA) consultation phase of the Rulemaking Task .0001.

This evolution includes more detailed guidelines for the operational evaluation and take into account Joint Aviation Authorities Safety Information Communication No. 7 further extended, in particular, including erasing data not only when the Electronic Flight Bag (EFB) is shut down but even after a certain period in standby.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
G-CHZN	ROBINSON R22	Ely, Cambridgeshire	06/01/2012	Accident

Synopsis of the event: This Robinson R22 helicopter was flying from Manston to Fenland. Near Ely, witnesses on the ground saw it pitch and roll rapidly, the two main rotor blades separated from the rotor head and the aircraft fell to the ground. The pilot was fatally injured. The accident was caused by main rotor divergence resulting in mast bumping, the rotor blades striking the airframe and rotor blade separation.

Safety Recommendation UNKG-2012-038 (AAIB):
The European Aviation Safety Agency should amend the requirements in Certification Specification Part 27 to reduce the risk of 'loss of main rotor control' accidents in future light helicopter designs.

Reply:

As the report states, 'loss of main rotor control' can have a number of probable causes, including loss of rpm following engine failure/loss of power, low-g pushovers and large abrupt control inputs. In any category of rotorcraft, it is essential that the flight characteristics, handling qualities and limitations are fully understood by the pilot and respected at all times. In light helicopters, it is not always possible to eliminate these characteristics through design, so pilot training takes an important role in ensuring flight safety. Safety notices produced by the manufacturer and others, help to promote safety issues and reinforce pilot knowledge on what is good airmanship.

Pilot reaction time following loss of engine power, requires immediate pilot recognition and immediate pilot response to prevent excessive rotor speed decay and to successfully enter autorotation. Currently the rules dictating the available pilot reaction time are based on an average pilot. Previous research studies have indicated that this may be inadequate for this type of small rotorcraft, which is commonly used by pilots of various ability and with no or little previous experience.

The Agency has launched a study (EASA.2011.FC25.SC001) aimed at establishing the impact on future single engine helicopter designs should the regulations be amended in the area of pilot reaction time. The study is due for completion in September 2013, at which time the Agency will decide whether to plan a rulemaking task on this subject.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
G-BDTO	BRITTEN NORMAN BN2A	27 nm north-east of Alderney, Channel Islands	27/03/2012	Serious incident

Synopsis of the event: The aircraft was on a scheduled flight from Alderney Airport, Channel Islands to Southampton International Airport. Shortly after levelling in the cruise, the pilot heard a "very loud bang" and the aircraft experienced severe vibration, which the pilot subsequently identified as a failure of the No 2 tail-mounted engine. The propeller of the inoperative engine could not initially be feathered, and the pilot was unable to maintain altitude, so he declared an emergency. The propeller blades eventually moved to the feather position and the pilot performed an uneventful landing back at Alderney Airport. The No 2 cylinder on the No 2 engine was subsequently found to have released from the crankcase.

Safety Recommendation UNKG-2013-002 (AAIB):
It is recommended that the European Aviation Safety Agency, in collaboration with the UK Civil Aviation Authority, conduct a risk-based assessment of the Britten-Norman BN2 MKIII Series Trislander and BN2 Series Islander aircraft, with respect to one engine inoperative performance and the hazard and probability of an associated failure to feather of the affected engine's propeller.

Reply:

EASA is working in collaboration with CAA UK and has asked the Type Certificate Holder of BN2 MKIII Series Trislander and BN2 Series Islander aircraft to conduct a risk-based assessment with respect to one engine inoperative performance and the hazard and probability of an associated failure to feather of the affected engine's propeller.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
G-CHCN	EUROCOPTER EC225	32 nm southwest Sumburgh, Shetland Islands	22/10/2012	Accident

Synopsis of the event: The crew of the helicopter carried out a controlled ditching following indications of a failure of the main gearbox (MGB) lubrication system and, subsequently, a warning indicating failure of the emergency lubrication system. All passengers and crew evacuated the helicopter and were subsequently rescued without injury.

Safety Recommendation UNKG-2013-006 (AAIB):
It is recommended that the European Aviation Safety Agency requires the manufacturers of aircraft equipped with a Type 15-503 Crash Position Indicator system, or similar Automatically Deployable Emergency Locator Transmitter, to review and amend, if necessary, the respective Flight Manuals to ensure they contain information about any features that could inhibit automatic deployment.

Reply:

EASA, in cooperation with the manufacturer, has re-examined the requirements of the Emergency Locator Transmitter EUROCAE ED-62 and studied the system specifications again and it was concluded that the equipment is not 100% compliant to the Minimum Operational Performance Standards (MOPS). The manufacturer is preparing an update to change the behaviour of the system to only allow deployment and activation as being one event. Once the Service Bulletin is available EASA will prepare a corresponding Airworthiness Directive to mandate the system update.

This proposed solution, meeting the intent of the requirements, is still under discussion with the applicant to reach a final design change as the ultimate fix for the problem.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
G-EENN	SCHEMPP HIRTH NIMBUS3	Portmoak Airfield, Scotlandwell, Kinross	04/09/2012	Accident

Synopsis of the event: The glider was being winch launched from a grass airfield. At an early stage of the launch the right wing tip contacted the ground, the left wing lifted and the glider cartwheeled to the right before coming to rest, inverted. The pilot was fatally injured.

Safety Recommendation UNKG-2013-008 (AAIB):
It is recommended that the European Aviation Safety Agency amend the certification standard for Sailplanes and Powered Sailplanes (CS 22) to include the requirement that the cable release mechanisms can be operated at any stage of the launch without restricting the range of movement of any flying control.

Reply:

EASA support the proposal to make a change to Certification Specifications (CS) 22 that introduces a specification for the cable release mechanism in line with the safety recommendation.

The plan is to develop this change in cooperation with the Organisation Scientifique et Technique du Vol à Voile (OSTIV) Sailplane Development Panel (SDP). Because this existing forum has support and involvement of a high number of stakeholders, EASA intends to introduce the necessary change to CS-22 through rulemaking task RMT.0037 (22.010) 'Regular update of CS-22' that is already in the current EASA rulemaking programme.

Status: Open – **Category:**

Safety Recommendation UNKG-2013-009 (AAIB):
It is recommended that the European Aviation Safety Agency require that Type Certificate holders of EASA Type Certificated gliders ensure, where practicable, that the cable release control can be operated at any stage of the launch without restricting the range of movement of any flying control.

Reply:

EASA is investigating the issue in cooperation with sailplane Type Certificate Holders in order to identify affected sailplanes and possible retrofit. A rulemaking activity is planed [reference rulemaking task RMT.0037 (22.010) 'Regular update of CS-22']. Practical solutions and the way to implement them will be decided also taking into account the certification basis for these aircrafts at the time of certification.

Status: Open – **Category:**

United States

Registration	Aircraft Type	Location	Date of event	Event Type
N462UA	AIRBUS A320	Newark Liberty International Airport (EWR), Newark, New Jersey	25/01/2008	Incident

Synopsis of the event: On January 25, 2008, about 0945, an Airbus A320 operated by United Airlines as flight 731, returned to Newark Liberty International Airport (EWR), Newark, New Jersey, shortly after departure from runway 22R because three of the six electronic displays providing information to the flight crew went blank and several aircraft systems became inoperative. The flight crew landed the airplane without further incident, and no injuries were reported for anyone on board the flight. Visual meteorological conditions (VMC) prevailed at the time of the incident for the 14 Code of Federal Regulations Part 121 scheduled domestic flight, which was operating on an instrument flight rules plan.

Safety Recommendation UNST-2008-058 (NTSB):

The National Transportation Safety Board recommends that the European Aviation Safety Agency require all operators of A320 aircraft to develop new procedures, if necessary, and to provide flight crews with guidance and simulator training regarding the symptoms and resolution procedures for the loss of flight displays and systems in conjunction with an AC 1 electrical bus failure. (A-08-58)

Reply:

EASA issued the Airworthiness Directive (AD) No. 2009-0235 on 29th October 2009, applicable to A320 aircraft. It mandates the modification of the electrical network configuration management logic consisting in adding an automatic switching of the Alternating Current (AC) and Direct Current (DC) Essential (ESS) BUS power supply. This modification must be accomplished within 48 months from 12th November 2009. Therefore, EASA considers this Safety Recommendation is no longer applicable.

Status: Closed – **Category:** No longer applicable

Registration	Aircraft Type	Location	Date of event	Event Type
N106US	AIRBUS A320	the Hudson River about 8,5 miles from La Guardia Airport, New York, USA	15/01/2009	Accident

Synopsis of the event: On January 15, 2009, about 1527 eastern standard time, flight 1549, an Airbus Industrie A320-214, N106US, experienced an almost complete loss of thrust in both engines after encountering a flock of birds and was subsequently ditched on the Hudson River about 8.5 miles from La Guardia Airport (LGA), New York City, New York. The flight had departed LGA about 2 minutes before the in-flight event occurred and was en route to Charlotte Douglas International Airport, Charlotte, North Carolina. The 150 passengers, including a lap-held child, and 5 crewmembers evacuated the airplane via the forward and over wing exits. One flight attendant and four passengers were seriously injured, and the airplane was substantially damaged.

Safety Recommendation UNST-2010-088 (NTSB):
The National Transportation Safety Board makes the following recommendations to the European Aviation Safety Agency: Modify the small and medium flocking bird certification test standard in Joint Aviation Regulations–Engines to require that the test be conducted using the lowest expected fan speed, instead of 100-percent fan speed, for the minimum climb rate. (A-10-88)

Reply:

After this accident, a committee was created under the Aerospace Industries Association (AIA) to review engine bird ingestion experience in commercial aviation and to evaluate current certification specifications for engine bird ingestion. This committee included representatives from EASA and FAA. The AIA final report dated 16 November 2012 has been reviewed by the Agency.

The current CS-E 800 medium flocking birds test specification ensure robustness and tolerance of the engine fan blades during the critical take-off phase of flight.

However, the Agency agrees with the AIA committee recommendation to investigate rulemaking solutions to upgrade the core ingestion elements of the small and medium bird test requirements, to make future engine designs more tolerant to this threat.

The AIA recommended to create an Aviation Rulemaking Advisory Committee (ARAC) group to follow on this recommendation. The Agency will seek participation to this group and will consider further rulemaking activity if applicable.

Status: Open – **Category:**

Safety Recommendation UNST-2010-089 (NTSB):
The National Transportation Safety Board makes the following recommendations to the European Aviation Safety Agency: During the bird-ingestion rulemaking database (BRDB) working group's reevaluation of the current engine bird-ingestion certification regulations, specifically reevaluate the Joint Aviation Regulations–Engines (JAR-E) large flocking bird certification test standards to determine whether they should

1) apply to engines with an inlet area of less than 3,875 square inches and

2) include a requirement for engine core ingestion. If the BRDB working group's reevaluation determines that such requirements are needed, incorporate them into JAR-E and require that newly certificated engines be designed and tested to these requirements. (A-10-2-89)

Reply:

The Large Flocking Birds (LFB) test requirement was introduced to ensure that large engines fan blades have sufficient capability against birds with weight above 1.15Kg or 2.5Lbs; it was not the intent to address the risk of power loss due to core ingestion.

Point 1): The fan blades of the engines involved in this accident were not severely damaged and retained the capability to potentially provide a substantial amount of continued thrust after the birds ingestion, had the damages to the engine cores not occurred. Therefore the lessons learnt from this event do not show a deficiency on fan robustness against large birds ingestion and this does not justify creating a new large flocking birds ingestion requirement for this category of engine.

The current Medium Flocking Bird test provides sufficient margin for protection against larger birds.

Furthermore, as confirmed in the conclusions of the AIA committee in their final report, field service data on this category of engines (less than 2.5 m^2 or 3875 in^2 inlet area) show that they are operating near the safety objective of the current rule although only 22% of engines represented in the updated database are designed to the latest bird ingestion requirements; therefore the level of safety is expected to increase in the coming years when older engines will be less represented.

In spite of that, note that the AIA committee recommended that any future rulemaking activity identify means to introduce a requirement which assures capability of future fan designs in this engine category against the Large Flocking Bird (LFB) threat. This item should also be part of the tasks allocated to the Aviation Rulemaking Advisory Committee (ARAC) group in which EASA would participate.

Point 2): The Agency agrees with the AIA committee recommendation to investigate rulemaking solutions to upgrade the core ingestion elements of the small and medium bird test requirements. The AIA recommended to create an ARAC group to follow on this recommendation and the Agency will seek participation to it and consider rulemaking activity if applicable.

Status: Open – **Category:**

Safety Recommendation UNST-2010-092 (NTSB):

The National Transportation Safety Board makes the following recommendations to the European Aviation Safety Agency: Require Airbus to redesign the frame 65 vertical beam on A318, A319, A320, and A321 series airplanes to lessen the likelihood that it will intrude into the cabin during a ditching or gear-up landing and Airbus operators to incorporate these changes on its airplanes. (A-10-92)

Reply:

The EASA, as the primary certification authority, agrees to the Safety Recommendation and intends to mandate the related modification (MOD 153724) when available. The modification approval is expected in first quarter of 2014.

The Service Bulletin for retrofit will be developed by the Design Organisation and the EASA Airworthiness Directive will follow.

Status: Open – **Category:**

Safety Recommendation UNST-2010-093 (NTSB):
The National Transportation Safety Board makes the following recommendations to the European Aviation Safety Agency: Require, on all new and in-service transport-category airplanes, that cabin safety equipment be stowed in locations that ensure that life rafts and/or slide/rafts remain accessible and that sufficient capacity is available for all occupants after a ditching. (A-10-93)

Reply:

Life rafts and/or slide/rafts are located on each aeroplane based on available exits as determined in part by the floatation analysis.

For the subject aeroplane, the aft exits were designated as ditching exits as they provide the best means for escape under most scenarios. The aeroplane impacted the water at a vertical descent rate outside the envelope of a foreseeable ditching event. As a result, the aeroplane sustained more aft fuselage damage than had been considered in the ditching analysis. This extensive damage allowed water to flood the aft end of the fuselage which was not considered in the floatation analysis.

The current rules already require under forseeable ditching scenarios that the life rafts and/or slide/rafts are accessible, with sufficient capacity.

Status: Closed – **Category:** Disagreement

Safety Recommendation UNST-2010-094 (NTSB):
The National Transportation Safety Board makes the following recommendations to the European Aviation Safety Agency: Require quick-release girts and handholds on all evacuation slides and ramp/slide combinations. (A-10-94)

Reply:

A review of the installation of ramps/slides on current aeroplanes was performed, in order to determine whether adding quick-release girts and handholds should be considered.

The ramp/slide combinations are installed at over-wing exits on the A320 and A380, Boeing 747, some Boeing 757, and some Boeing 767 aeroplanes. For these aeroplanes, the compartments where the ramp/slide are stowed are completely or partially below the waterline defined in the floatation analysis for the aeroplane. As a result, the ramps/slides are not considered usable after a ditching and in some cases there are crew procedures to disarm the ramp/slides before opening the exit to mitigate the potential hazard of deployment.

Since ramps/slides can be considered unusable during ditching, we do not intend to require these units be equipped with quick-release girts and handholds.

Status: Closed – **Category:** Disagreement

Safety Recommendation UNST-2010-095 (NTSB):
The National Transportation Safety Board makes the following recommendations to the European Aviation Safety Agency: Require modifications to life vest stowage compartments or stowage compartment locations to improve the ability of passengers to retrieve life vests for all occupants. (A-10-95)

Reply:

The Agency has collaborated with the Federal Aviation Administration (FAA) to revise the minimum performance standards for aircraft seating systems, (European) Technical Standard Order (E)TSO-C127a by adding new life vest retrieval requirements taking into account this safety recommendation.

The FAA developed TSO-C127b. Corresponding amendment of ETSO-C127 from issue 'a' to issue 'b' is included in the Terms of Reference of EASA rulemaking task RMT.0206 (ETSO.011) on regular update of Certification Specifications (CS) for ETSO, dated 26 June 2013, which has been published on the EASA Website.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
N14053	AIRBUS A300	Belle Harbor, New York, United States of America	12/11/2001	Accident

Synopsis of the event: On November 12, 2001, about 0916:15 eastern standard time, flight 587, an Airbus Industrie A300-605R, N14053, crashed into a residential area of Belle Harbor, New York, shortly after takeoff from John F. Kennedy International Airport, Jamaica, New York. Flight 587 was a regularly scheduled passenger flight to Las Americas International Airport, Santo Domingo, Dominican Republic, with 2 flight crewmembers, 7 flight attendants, and 251 passengers aboard the airplane. The airplane's vertical stabilizer and rudder separated in flight and were found in Jamaica Bay, about 1 mile north of the main wreckage site. The airplane's engines subsequently separated in flight and were found several blocks north and east of the main wreckage site. All 260 people aboard the airplane and 5 people on the ground were killed, and the airplane was destroyed by impact forces and a postcrash fire. Flight 587 was operating under the provisions of 14 Code of Federal Regulations Part 121 on an instrument flight rules flight plan. Visual meteorological conditions prevailed at the time of the accident.

Safety Recommendation UNST-2010-120 (NTSB):

The National Transportation Safety Board recommends that the European Aviation Safety Agency after the yaw axis certification standard recommended in Safety Recommendation UNST-2010-119 (A-10-119) has been established, review the designs of existing airplanes to determine if they meet the standard. For existing airplane designs that do not meet the standard, the European Aviation Safety Agency (EASA) should determine if the airplanes would be adequately protected from the adverse effects of a potential aircraft-pilot coupling (APC) after rudder inputs at all airspeeds. If adequate protection does not exist, EASA should require modifications, as necessary, to provide the airplanes with increased protection from the adverse effects of a potential APC after rudder inputs at high airspeeds. (A-10-120)

Reply:

For transport aircraft, within the US Aviation Rulemaking Advisory Committee (ARAC) Committee there is a Flight Controls Harmonization Working Group (HWG) (Reference: Federal Register / Vol. 76, No. 59 / Monday, March 28, 2011 / Notices). The working group has the task to consider whether changes to Part 25 are necessary to address rudder pedal sensitivity and rudder reversals. EASA participates in the working group with the aim of developing harmonised material that can be proposed as a change to Certification Specifications for Large Aeroplanes (CS-25).

EASA will determine the basis to review the designs of existing aeroplanes after the above tasks are completed.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
N213EH	AEROSPATIALE AS350	34 miles east of Chickaloon, Alaska, United States	15/04/2008	Accident

Synopsis of the event: On April 15, 2008, about 0923 Alaska daylight time, a Eurocopter AS350B2 helicopter, N213EH, experienced a loss of engine power during flight and sustained substantial damage during an emergency descent and impact with terrain about 34 miles east of Chickaloon, Alaska. The commercial pilot and three passengers were fatally injured, and one passenger was seriously injured. The on-demand air taxi flight was conducted under 14 Code of Federal Regulations (CFR) Part 135 in visual meteorological conditions.

Safety Recommendation UNST-2010-131 (NTSB):

The National Transportation Safety Board recommends that the European Aviation Safety Agency Require Eurocopter to review the design of the fuel flow control lever (FFCL) and/or its detent track on AS350-series helicopters and require modification to ensure that the FFCL is protected to prevent unintentional movement out of its detents and that it does not move easily to an unintended position. (A-10-131)

Reply:

A review has been made by Eurocopter (EC) of the fuel flow control lever (FFCL) installed on AS350B2 and earlier AS350 models. It has been confirmed that the current design of FFCL mechanism incorporates a feature for locking its FLIGHT and STOP positions, requiring an additional single unlocking action to enable FFCL moving out of those positions. This locking is ensured by means of a leaf spring which holds the lever inside the selected (i.e. FLIGHT or STOP) notch. To move the lever from its notch, a lateral force is to be applied on the lever. This in particular is applicable to moving the lever from the FLIGHT position in order to go into the emergency range.

An additional analysis performed by EC after the AS350B2 N213EH accident in 2008 in Alaska indicates that moving the fuel flow control lever (either intentionally or unintentionally) out of the FLIGHT position towards the emergency range, during flight with the engine operating normally, does not result in an engine power failure due to shedding of free turbine blades caused by engine overspeeding.

Consequently, EASA concludes that a mandatory action, as identified in the Safety Recommendation, is not warranted.

Although not under a mandatory action regime, the FFCL design has been recently modified by EC. A modification AMS 07 3283 made to AS350B2 type design, introduced in the assembly line for new helicopters on 01 July 2012, that was launched before the AS350B2 N213EH accident, was initially intended to provide a locked IDLE position of FFCL to prevent shut down of the engine during autorotation training with power recovery. With the AMS 07 3283 installed, in that position the lever is locked by a locking pin. That modification has been taken as an opportunity to also install such locking feature for FLIGHT and STOP positions of FFCL as well as an additional locking device limiting the FFCL access to the emergency range. Moving the FFCL from the locked STOP position requires an action on a start button or a dedicated push paddle, both installed on the lever. Moving the lever from IDLE or FLIGHT positions requires an action on the paddle. Regarding AS350 B2 helicopters already in service, a retrofit option (Service Bulletin) is foreseen. Regarding the remaining older AS350 models, there is no information available at EC whether such retrofit will be offered.

Status: Closed – **Category:** Partial agreement

Registration	Aircraft Type	Location	Date of event	Event Type
N902FX	ATR ATR42	Lubbock, Texas, United States	27/01/2009	Accident

Synopsis of the event: On January 27, 2009, about 0437 central standard time, an Avions de Transport Régional Aerospatiale Alenia ATR 42-320, N902FX, operating as Empire Airlines flight 8284, was on an instrument approach when it crashed short of the runway at Lubbock Preston Smith International Airport, Lubbock, Texas. The captain sustained serious injuries, and the first officer sustained minor injuries. The airplane was substantially damaged. The airplane was registered to FedEx Corporation and operated by Empire Airlines, Inc., as a 14 Code of Federal Regulations Part 121 supplemental cargo flight. The flight departed from Fort Worth Alliance Airport, Fort Worth, Texas, about 0313. Instrument meteorological conditions prevailed, and an instrument flight rules flight plan was filed.

Safety Recommendation UNST-2012-026 (NTSB):

The National Transportation Safety Board makes the following recommendations to the European Aviation Safety Agency: require Avions de Transport Régional (ATR) to revise the stick pusher's activation angle of attack (AOA) on ATR 42-series airplanes to ensure that the stick pusher activates before the stall AOA in the presence of airframe ice accretions. (A-12-26)

Reply:

The ATR 42-200/-300/-320 have been certificated in compliance with Joint Aviation Requirements (JAR) 25.201 and 25.203 requirements (JAR25 Change 8 and amendment 81-2) which do not require the installation of a stick pusher as long as the stall protection system was adequately set for both clean wing and icing conditions.

On ATR 42-200/-300/-320, the stick pusher setting was based upon the results of wind tunnel testing (clean half wing mock-up) and was installed on the prototype aircraft in case of deep stall phenomena. Test flights later revealed that the ATR 42 was not prone to such behavior. However, the stick pusher was judged as a good indicator on the impending stall and a practical means for test repeatability.

EASA confirms that during certification flight tests in natural icing conditions or with simulated ice shapes, the stick pusher threshold has not been changed because either the stall occurred at, or beyond, the stick pusher setting or natural indicators (buffet, limited roll oscillations) were clearly identified prior to the stall.

Putting this background in perspective with the facts that:

- the Stick pusher activation Angle of Attack (AoA) is not considered to have contributed to the accident;
- the aircraft Type Certification, as well as the accident circumstances, have not evidenced any deficiency/weakness through the aircraft stall protection, neither inside nor outside icing conditions perimeter.

Then EASA supports the position that, at the light of the accident scenario and of the current aircraft architecture, there is no reason to require the stick pusher AoA re-setting.

Status: Closed – **Category:** Disagreement

Safety Recommendation UNST-2012-027 (NTSB):

The National Transportation Safety Board makes the following recommendation to the European Aviation Safety Agency: evaluate all European Aviation Safety Agency-certificated transport-category airplanes equipped with stick pushers to ensure that the stick pusher activates at an angle of attack that will provide adequate stall protection in the presence of airframe ice accretions. (A-12-27)

Reply:

EASA issued a letter to all Large Aeroplane European Type Certificate (TC) holders on 5 July 2013, inquiring which of their EASA certified types and models featured a stick pusher function/device as part of the stall protection, and when it is the case, was this device/function part of the compliance demonstration to Joint Aviation Requirements (JAR)/Certification Specifications (CS) 25.201 and 25.203 or equivalent requirements. For these models, EASA requested to be provided with data indicating the values of angle of attack triggering the stall warning (stick shaker), the stall protection (stick pusher) and the stall occurrence for both icing and non-icing conditions.

Status: Open – **Category:**

Registration	Aircraft Type	Location	Date of event	Event Type
F-HPJD	AIRBUS A380	John F. Kennedy International Airport, New York, United States	11/04/2011	Accident

Synopsis of the event: On May 30, 2012, about 1300 central daylight time, American Eagle Airlines flight 4265, an Embraer 135, N834AE, was struck by EVA Air flight 661, a Boeing 747-400, Taiwan registration B16481, while the 747 was taxiing at Chicago O'Hare International Airport, Chicago, Illinois. The Embraer was stopped at the ramp area and awaiting ground personnel to guide it to gate G20. Its tail section was protruding into taxiway A. The 747 was taxiing westbound on taxiway A when its right wingtip contacted the Embraer rudder and vertical stabilizer. No injuries were reported on either airplane. The Embraer experienced substantial damage to the rudder and vertical stabilizer, and the 747 experienced minor wingtip and slat damage.

On July 14, 2011, about 1933 eastern daylight time, Delta Air Lines flight 266, a Boeing 767-300ER, N185DN, was taxiing on taxiway B for departure on runway 4R at Boston Logan International Airport, Boston, Massachusetts, when its left winglet struck the horizontal stabilizer of Atlantic Southeast Airlines flight 4904, a Bombardier CRJ900, N132EV. The CRJ900 was on taxiway M, which is perpendicular to taxiway B, awaiting departure on runway 9. No injuries were reported on either airplane. The CRJ900 sustained substantial damage, including damage to the horizontal tail and vertical tail, and the airplane lost fluid in all three hydraulic systems. The 767 sustained substantial damage; parts of its winglet were sheared off and embedded in the tail of the CRJ900.

On April 11, 2011, about 2006 eastern daylight time, Air France flight 7, an Airbus A380, F-HPJD, collided with Comair flight 263, a Bombardier CRJ701, N641CA, while the A380 was taxiing for takeoff from John F. Kennedy International Airport, Jamaica, New York. At the time of the accident, the CRJ701 was stationary with the forward part of its fuselage on the parking ramp and its tail extended onto taxiway M, which intersects and is perpendicular to the taxiway on which the A380 was taxiing. No injuries were reported on either airplane. The A380 sustained substantial damage to its left wingtip and winglet, and the CRJ701 sustained substantial damage to its left horizontal stabilizer and rudder.

Safety Recommendation UNST-2012-050 (NTSB):

The National Transportation Safety Board makes the following recommendation to the European Aviation Safety Agency: Require the installation of an anti-collision aid, such as a camera system, on all newly manufactured and newly type-certificated large airplanes and other airplane models where the wingtips are not easily visible from the cockpit to provide a cockpit indication that will help pilots determine wingtip clearance and path during taxi. (A-12-50)

Reply:

The EASA acknowledges NTSB's concern regarding determining wingtip clearance during taxi operations and has examined the potential safety benefit and feasibility of this Safety Recommendation.

All the wingtip collision events cited in the NTSB letter, while resulting in damage to the aircraft involved, did not result in any passenger, flight, or ground personnel injuries. From a safety risk management perspective, the limited safety benefit of a taxi anti-collision system, such as wingtip cameras, does not justify the cost burden of an EASA mandate for their installation on the transport airplane fleet.

Status: Closed – **Category:** Disagreement

Safety Recommendation UNST-2012-051 (NTSB):
The National Transportation Safety Board makes the following recommendation to the European Aviation Safety Agency: Require all existing large airplanes and other airplane models where the wingtips are not easily visible from the cockpit to be retrofitted with an anti-collision aid, such as a camera system, to provide a cockpit indication that will help pilots determine wingtip clearance and path during taxi. (A-12-51)

Reply:

The EASA acknowledges NTSB's concern regarding determining wingtip clearance during taxi operations and has examined the potential safety benefit and feasibility of this Safety Recommendation.

All the wingtip collision events cited in the NTSB letter, while resulting in damage to the aircraft involved, did not result in any passenger, flight, or ground personnel injuries. From a safety risk management perspective, the limited safety benefit of a taxi anti-collision system, such as wingtip cameras, does not justify the cost burden of an EASA mandate for their installation on the transport airplane fleet.

Status: Closed – **Category:** Disagreement

Definitions

Definitions

The following definitions are extracted from Regulation (EU) No 996/2010 of the European Parliament and of the Council of 20 October 2010.

Accident: occurrence associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time it comes to rest at the end of the flight and the primary propulsion system is shut down, in which:

(a) a person is fatally or seriously injured as a result of:

- being in the aircraft, or,
- direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or,
- direct exposure to jet blast,

except when the injuries are from natural causes, self- inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or

(b) the aircraft sustains damage or structural failure which adversely affects the structural strength, performance or flight characteristics of the aircraft, and would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to a single engine, (including its cowlings or accessories), to propellers, wing tips, antennas, probes, vanes, tires, brakes, wheels, fairings, panels, landing gear doors, windscreens, the aircraft skin (such as small dents or puncture holes) or minor damages to main rotor blades, tail rotor blades, landing gear, and those resulting from hail or bird strike, (including holes in the radome); or

(c) the aircraft is missing or is completely inaccessible;

Incident: an occurrence, other than an accident, associated with the operation of an aircraft which affects or would affect the safety of operation;

Serious incident: an incident involving circumstances indicating that there was a high probability of an accident and is associated with the operation of an aircraft, which in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time it comes to rest at the end of the flight and the primary propulsion system is shut down.

A list of examples of serious incidents is given below. The list is not exhaustive and only serves as guidance with respect to the definition of 'serious incident':

- a near collision requiring an avoidance manoeuvre to avoid a collision or an unsafe situation or when an avoidance action would have been appropriate,
- controlled flight into terrain only marginally avoided,
- aborted take-offs on a closed or engaged runway, on a taxiway, excluding authorised operations by helicopters, or from an unassigned runway,
- take-offs from a closed or engaged runway, from a taxiway, excluding authorised operations by helicopters, or from an unassigned runway,
- landings or attempted landings on a closed or engaged runway, on a taxiway, excluding authorised operations by helicopters, or from an unassigned runway,
- gross failures to achieve predicted performance during take-off or initial climb,
- fires and smoke in the passenger compartment, in cargo compartments or engine fires, even though such fires were extinguished by the use of extinguishing agents,
- events requiring the emergency use of oxygen by the flight crew,
- aircraft structural failure or engine disintegration, including uncontained turbine engine failures, not classified as an accident,
- multiple malfunctions of one or more aircraft systems seriously affecting the operation of the aircraft,
- flight crew incapacitation in flight,
- fuel quantity requiring the declaration of an emergency by the pilot,
- runway incursions classified with severity A according to the Manual on the Prevention of Runway Incursions (ICAO Doc 9870) which contains information on the severity classifications,
- take-off or landing incidents. Incidents such as undershooting, overrunning or running off the side of runways,
- system failures, weather phenomena, operation outside the approved flight envelope or other occurrences which could have caused difficulties controlling the aircraft,
- failure of more than one system in a redundancy system mandatory for flight guidance and navigation.

Safety investigation: process conducted by a safety investigation authority for the purpose of accident and incident prevention which includes the gathering and analysis of information, the drawing of conclusions, including the determination of cause(s) and/or contributing factors and, when appropriate, the making of safety recommendations;

Safety recommendation: proposal of a safety investigation authority, based on information derived from a safety investigation or other sources such as safety studies, made with the intention of preventing accidents and incidents.

CHAPTER 1

CHAPTER 2

CHAPTER 3

ANNEX A.

ANNEX B.

ANNEX C.

Safety Recommendations classification

Safety Recommendations classification

The classification has been established in the scope of the Safety Recommendations taxonomy working group in cooperation with representatives from European Accident Investigation Bodies, Eurocontrol, the European Joint Research Center (JRC) and EASA. The aim of this group was to initiate a taxonomy dedicated to recommendations. This activity took place in 2007 and is being used to implement a Safety Recommendation database developed by the JRC.

In addition to common definitions, the taxonomy also defines a unique pre-defined format for referencing safety recommendations. This format is composed by a 4 digits originating state name followed by the year it was issued and then a three digits number (ex: UNKG-2007-001 for recommendation #1 issued by United Kingdom in 2007). Consequently, all references comply with this taxonomy foreseeing that existing safety recommendations will be imported in a central database and shared with a community of users.

Classification category: assessment given to a safety recommendation by the addressee as defined below:

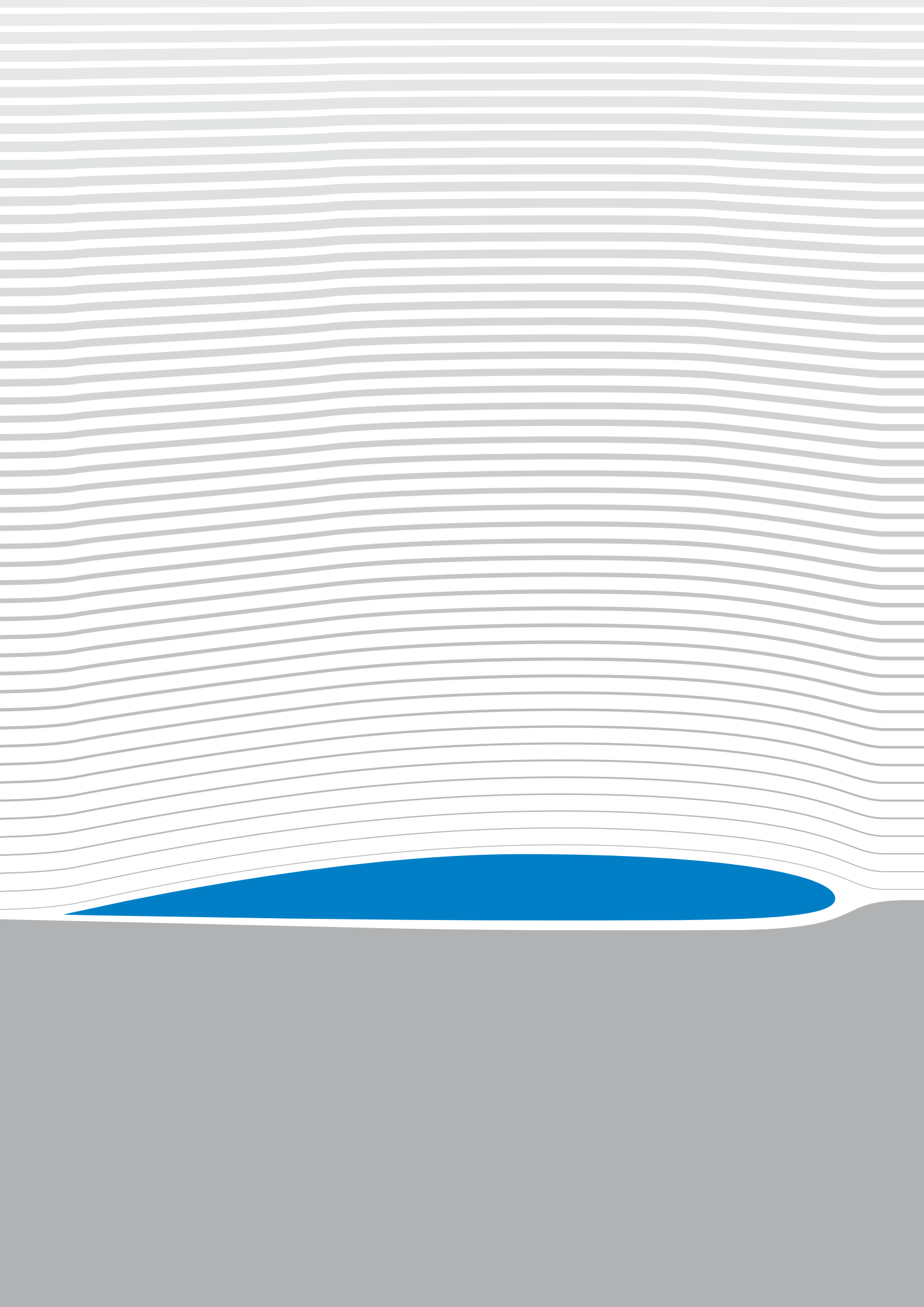
- **Agreement:** Safety Recommendation for which the safety concern is agreed by the addressee and subsequent action is planned or implemented.
- **Partial agreement:** Safety Recommendation considered relevant by the addressee but not applicable and for which a Safety issues has been recognised and a new orientation has been given to the recommended action.
- **Disagreement:** Safety Recommendation considered not relevant or not applicable by the addressee.
- **No longer applicable:** Safety Recommendation has been superseded or has become no longer applicable.
- **Not Responsible:** Safety Recommendation wrongly allocated or not in the scope of responsibility of the addressee.
- **More information required:** Safety Recommendation for which more information is required by the addressee before any action initiated. Additional information should be sent by the originator.
- **Unknown:** Safety Recommendation which was issued before any tracking implementation status and for which insufficient information to assign any other status has been received.

Status of a safety recommendation: progress of the implementation of the response to a recommendation as defined below:

- **Open safety recommendation:** safety recommendation for which the reply has not yet been defined or the appropriate action addressing the safety concern is still in progress.
- **Closed safety recommendation:** safety recommendation for which appropriate action has been taken and completed addressing the safety issue.

Concluding actions: measures taken by the Agency for a safety recommendation as defined below:

- **Add/Modify Rule/Directive:** Rulemaking action aiming at reviewing, developing or amending implementing rules / Acceptable Means of Compliance (AMC) / Guidance Material (GM) /Airworthiness Directives (AD) other than those below mentioned.
- **Inspection:** Inspection, review of design, replacement or test conducted in the frame of the Continued Airworthiness.
- **Information:** Information sent through Safety Information Bulletin (SIB) or other means to inform interested parties.
- **Training:** Action related to promote or improve training, including when the Safety Recommendation is taken into account in a Rulemaking Task.
- **Add/Modify Procedure:** Action modifying Aircraft and / or Operation documentation.
- **Study:** Study or research project conducted.
- **Compliance with procedure/rule:** Standardisation audit of Design Organisation Approval (DOA), Product Organisation Approval (POA), Maintenance Organisation Approval (MOA) and Air Operator Certificate (AOC) holders. Furthermore, it is also included when the Safety Recommendation leads to perform a review or inspection of a system but, after this action, EASA does not consider doing/changing anything.
- **No action taken, already covered:** When the Safety Recommendation aims at amending the current rules, but after a review, EASA does not consider to change anything.
- **Other:** Promoting or supportive EASA actions when the subject is, in that moment, out of its remit.



EUROPEAN AVIATION SAFETY AGENCY
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