

# RESPONSE TO EUROPEAN GENERAL AVIATION SAFETY STRATEGY

**Europe Air Sports**

**UK General Aviation Alliance**

**PPL/IR Europe**

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## PURPOSE OF DOCUMENT

This paper sets out a joint response to the European General Aviation Safety Strategy described below in the Background section. The Safety Strategy resulted from a joint Europe Air Sports / IAOPA-EUR initiative to the EASA Management Board.

There is significant consensus in the GA community as to the need for better regulation, and widespread support for the GA Safety Strategy. We therefore anticipate that many of the issues raised will be common to all users, and some duplication is inevitable. To facilitate the analysis of the issues by the Commission and the Agency, a number of organisations have collaborated in setting out the issues in a common format.

This submission is on behalf of:

## EUROPE AIR SPORTS

Europe Air Sports (EAS) membership embraces the National Aero Clubs of 22 countries, including most of the Member States of the European Union, together with the following pan-European representative air sports organisations (some of which might elect to make their own responses to the General Aviation Safety Strategy):

- European Gliding Union (EGU)
- European Hang Gliding and Paragliding Union (EHPU)
- European Microlight Federation (EMF)
- European Parachute Union (EPU)
- European Powered Flying Union (EPFU)
- PPL/IR Europe (PPL/IR)
- European Federation of Light Experimental and Vintage Aircraft (EFLEVA)

The activities represented also include ballooning and aeromodelling. Altogether we represent the interests of an estimated 650,000 sports and recreational aviation active participants.

## THE UK GENERAL AVIATION ALLIANCE

The General Aviation Alliance (GAA) is an independent grouping and partnership of organisations which individually promote the interests of General Aviation and particularly Sports and Recreational Aviation in the United Kingdom. GAA represents organisations with a total of 72,000 members involved in such activity. The views expressed here represent the agreed core views of its members and in this context the position of the Royal Aero Club of the UK. The individual organisation may also provide their own responses, to highlight areas specific to their particular interests.

## PPL/IR EUROPE

PPL/IR Europe, a member of both EAS and UK GAA, represents the interests of pilots operating light aircraft under IFR in Europe.

## BACKGROUND

To answer the concerns of the GA community highlighted during the EASA Management Board (MB) of March 13th, the MB deemed it necessary to propose a new approach in the way GA is considered, which would prevent placing undue burden on these activities while continuing to preserve an appropriate level of safety.

A dedicated working group was set up by the MB for this purpose, composed of representatives of National Aviation Authorities (NAAs) from UK, Spain, Czech Republic, France, of the EC, the Agency, of users and industry organisations (IAOPA Europe, EAS, EGAMA, ECOGAS).

The working group reported to the September 2012 MB meeting, presenting a paper entitled European General Aviation Safety Strategy, which was endorsed by the MB.

The paper recommended, *inter alia*, the following actions:

*A5: The Management Board to invite the users to suggest for end of October 2012 to the Agency a short list of items for which non-compliance with the above principles and guidelines would have an important impact and that could be solved quickly with a minimum regulatory work (for example, clarifying an interpretation).*

*A6: For existing texts the users to identify and transmit to the Agency and Members States before the end of November the key problems arising from aspects which do not comply with the above principles and guidelines or cannot readily be implemented in accordance with them, including for example problems with application of Annex V to the Basic Regulation.*

*A7: For texts in preparation and ongoing works, according to their degree of advancement, the Agency and Member States to consider the above principles and guidelines to orientate the work, or to prepare comments and discussions, including in Comitology. This must be implemented as a matter of urgency for the texts currently in the Comitology process (parts OPS-SPO, OPS-CAT-sailplanes, OPS-CAT-balloons).*

Neither the Agency nor the Management Board has yet published the paper and no invitation has been received corresponding to A5. However, we take this opportunity to set out in this paper some of the current regulatory issues for GA corresponding to A5 and A6. Some of the topics also touch on A7, though we note that the action did not explicitly request user input.

As noted below, the regulatory issues addressed here are sufficiently complex that it is often difficult for users themselves to judge whether the issues “could be solved quickly with a minimum regulatory work” (A5) or stem from deeper seated issues, including problems with the Basic Regulation (A6). We therefore put the issues on the table and offer to work with the Commission and the Agency to triage them as appropriate.

The European General Aviation Safety Strategy paper is available at:

[http://www.developpement-durable.gouv.fr/IMG/pdf/European\\_GA\\_Safety\\_Strategy\\_final\\_edit.pdf](http://www.developpement-durable.gouv.fr/IMG/pdf/European_GA_Safety_Strategy_final_edit.pdf)

This paper does not attempt to address actions A1 (interpretation of ‘commercial operations’ in relation to certain GA operations) nor A9 (GA representatives empowered to represent GA users in the dialogue with the Agency, the EC and the National Authorities).

## POSITIVE DEVELOPMENTS

Before identifying non-compliance with these principles and guidelines, it is constructive to look at areas where the Agency has worked in a manner consistent with them. We therefore highlight the following, for which we commend the Agency:

### QUALIFICATIONS FOR FLYING IN IMC

The Agency has, in response to stakeholder comment during the development of Part-FCL, engaged with FCL experts to propose (in NPA 2012-16) a path to the instrument rating that better meets the needs of GA stakeholders. The CRD has just been published, with the indication that this proposal for a competence-based modular instrument rating was welcomed by the vast majority of stakeholders.

It is expected that the Agency will publish an Opinion in early 2013, and we strongly support the progression into law of the concepts of a competence-based modular instrument rating and an enroute instrument rating.

### PART-M GENERAL AVIATION TASK FORCE

In order to improve the effectiveness and proportionality of the Part-M requirements for GA, the Agency has set up a Part-M GA Task Force, whose work has led to, as an interim step, NPA 2012-17 to simplify the airworthiness review process and the approval of aircraft maintenance programmes. It is understood that further aspects of Part M will be addressed as 'phase 2' of the work of the Task Force, starting early in 2013.

Whilst welcoming this development, which signifies a change of approach within EASA, nevertheless it should be noted that EASA's critique of the original Part M was on 5 November 2005 at a joint conference and it has taken 7 years to get to this stage, without a comprehensive final 'light Part M' yet being realised.

### CHANGES TO PART-21

Regulation (EU) No 748/2012 introduces a number of changes to Part-21 that address its effectiveness and proportionality for GA, including the concepts of standard repairs and the installation of parts without a Form 1 under the responsibility of the aircraft owner. This paper sets out further potential improvements in the areas of design, maintenance and engineering to improve proportionality.

### APPLICABLE MODEL LIST STC FOR GNSS EQUIPMENT

While EASA's general principle remains the unnecessarily burdensome principle of requiring an individual STC for the installation over even a piece of simple equipment for each and every aircraft type in which it is installed, it has varied this principle for certain GNSS equipment that is widely used in GA. This has been welcomed by the affected user community, and has significantly reduced the cost and administrative burden associated with important safety upgrades and the deployment of new technology, without compromising safety. We expect and require further progress along these lines.

### MDM.062 PBN

In response to stakeholder input, the Agency has set up Rulemaking tasks 0256/7 (MDM.062) to consider how the administratively burdensome requirement for Specific Approvals (SPAs) proposed for Performance Based Navigation could be mitigated. The work is ongoing but is expected to result in a proposal for PBN operations being integrated into Part-OPS and Part-FCL.

The issue behind this task demonstrates how regulatory solutions that may be appropriate for large organisations are unsuitable and disproportionate for individual users. While a specific approval process may add flexibility for a large airline, per-user specific approval represents an administrative and cost burden that is incommensurate with the benefit delivered to small operators (e.g. a single pilot operating a single aircraft). Where any activity has become a standard part of mainstream operations, the corresponding requirements should be migrated to core regulation, in a modular way, for example by the creation of a rating if the complexity of the activity justifies this.

## RESPONSES TO A5 AND A6

### SCOPE

“General Aviation” (GA) is defined for the purposes of this paper as all aircraft within the regulatory scope of Basic Regulation 216 / 2008 (thus excluding aircraft in Annex II of 216/2008) up to a Maximum Take off Mass (MTOM) of 5,700kg and used primarily, but not exclusively, for non-commercial purposes. However, the application of the definition in 216/2008 of ‘commercial operations’ is such that there are potential areas of doubt as to exactly which stakeholders are affected and therefore the borderline between ‘commercial’ and ‘non-commercial’ needs to be looked at flexibly in relation to the scope of this paper. Whilst the term ‘aircraft’ embraces aeroplanes, sailplanes (gliders), balloons, airships and helicopters, this paper addresses just the first three of the five items only as that was the practical scope addressed by the sub group of the EASA Management Board when drafting the European GA Safety Strategy paper.

We also note that, while the Basic Regulation and its associated implementing rules are not directly applicable to Annex II aircraft, many states will adopt common operating and flight crew licensing regulatory arrangements for EASA aircraft and Annex II aircraft, and thus these rules will have an indirect effect on a larger proportion of aircraft.

### INDIVIDUAL ISSUES

The following issues (of varying complexity and priority) have been identified below. We have divided them by regulatory area (Initial Airworthiness, Continuing Airworthiness, Organisations, Flight Crew Licensing, Medical, Operations).

For each we present the issue, identify the Principles and / or Guidelines from the European General Aviation Safety Strategy paper where we believe the regulations and / or rules do not comply with the principles and guidelines (albeit the regulations and rules were formulated before the principles and guidelines were agreed), and in consequence we make recommendations for changes to address the issue.

While the users can readily identify issues affecting them, without the support and expertise of the Agency it is more difficult to divide them into quick-fixes and key underlying problems as A5 and A6 envisage. In many cases, any of the Basic Regulation, the Commission Regulations (implementing rules) and/or the AMC/GM may be affected, and there are implications to the solution chosen which need to be carefully considered. We therefore have made recommendations, but have not attempted to make a division between A5 and A6.



### 1. ORGANISATIONS

#### ISSUES

The traditional ICAO model of aviation safety management works on the basis of individual responsibility and accountability. Individuals (pilots, engineers, etc.) undergo training and testing to demonstrate skills and competence: they are then issued with licences and ratings with privileges that are commensurate with their skills and competence. Primary responsibility for safety rests with those individuals.

In almost 70 years of practical experience of aviation safety, a global consensus has developed that safety in commercial air transport demands a more sophisticated model. After decades of attributing accidents to 'pilot error', modern aviation regulation rightly pays attention to human factors. Accidents in commercial air transport are rarely the result of the failure of a single individual to discharge responsibility properly, and more responsibility falls to the 'organisation'. There is no doubt that this paradigm shift has made a significant contribution to the outstanding safety record in scheduled airlines and associated support businesses.

But 'organisation' comes with administrative complexity and cost, and while this is a cost well worth paying in large companies involved in commercial air transport, it is disproportionate and stifles the GA industry in Europe. The preference within EU institutions for organisations has led to the invention of, for example:

- the Continuous Airworthiness Maintenance Organisation (CAMO)
- the Approved Training Organisation (ATO)
- the Design Organisation (DO)
- the concept of Organisational Requirements (OR) for aircrew (ORA), operations (ORO), etc.

Thus much regulation assumes the involvement of an 'organisation'. For example, applicants for an examination require a recommendation not from an 'instructor' but from an ATO.

*FCL.025 Theoretical knowledge examinations for the issue of licences*

*(2) Applicants shall only take the examination when recommended by the approved training organisation (ATO) responsible for their training, once they have completed the appropriate elements of the training course of theoretical knowledge instruction to a satisfactory standard.*

Worse still, in addition to regulating such structures, the Agency certifies, or requires NAAs to certify organisations in many of these categories. While in large organisations, such a safety model provides a sensible level of flexibility to allow stakeholders to make the most of their competences and go about their business efficiently, in typical GA situations, the cost-benefit is negative (unfavourable). Stakeholders are required to divert their limited resources on unnecessary bureaucratic activities where that time and money could be more effectively spent on the core business of exercising their privileges to create a safer overall environment, whether that is training pilots, designing parts or maintaining aircraft.

The disincentive to voluntary input presented by the bureaucracy and cost of Approved Training Organisation requirements will lead to loss of opportunity (either for leisure or to pursue a business) for those who no longer have reasonable access to affordable training and loss of rights to those who through a change in requirements are no longer permitted to exercise the previously held privileges to instruct and examine.

As a specific example of where this causes unnecessary cost is that holders of a class rating that allow their rating to lapse by a single day are required, under FCL.740, before they may take a proficiency check, to:

*(1) take refresher training at an ATO, when necessary to reach the level of proficiency necessary to safely operate the relevant class or type of aircraft;*

Is an examiner really incapable of making this assessment without the framework of an ATO?

The danger in allowing the fixation with 'organisational responsibility' to go unchallenged is twofold: firstly, it increases the risk of relying on organisational 'box ticking' for compliance, and away from personal and individual responsibility; secondly, it risks alienating and removing many very experienced individuals from the comprehensive and often largely volunteer-based cadre of personnel who form the underpinning matrix in SMS in GA because they are forced away from their individual roles and into an organisational framework. This is already becoming evident in the field of GA maintenance personnel (engineers) and is likely to also become evident with pilot instructors and examiners.

The FAA model for GA places less responsibility on organisations and more on individuals, and facilitates a vibrant GA industry in the USA without compromising safety. Europe too can harness the power of organisational learning for safety, without throwing out the baby with the bathwater.

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## PRINCIPLES AND GUIDELINES

G1.2: Do not start work from existing regulation which has essentially been designed for CAT, but take a fresh approach by establishing whether and what regulations are desirable specific to GA in all fields: initial and continuing airworthiness, licensing, operations, airports, and ATM.

G 3: Always consider alternative means to regulation, including the "do nothing" option, based on robust risk assessment and a cost benefit analysis methodologies.

G 5.2: Have more confidence in participants to do the right thing, thereby reducing the multiple layering of a priori safety nets, focus more on declarative processes and individual commitment for managing safety, subject to appropriate downstream oversight by the Authority.

G 5.5: Take the best account of global practices for GA, through consideration of various practices inside and outside EU, used as a proof of concept.

G 5.6: Adopt a more comprehensive competency based approach for personal licensing.

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## RECOMMENDATIONS

Review the cost-effectiveness (e.g. added-value and economies of scale not available to small organisations) and human-factors aspects of organisational requirements, certification and oversight in every aspect of GA, with particular emphasis on pilot/engineer training and aircraft maintenance/repair/upgrade. Where there is no clear and demonstrable positive cost-benefit in requiring organisational structure, allow individuals to exercise their privileges as individuals without imposing an organisational framework. In particular, start the review with:

- Annex I (Essential Requirements for Airworthiness) 3.x
- Annex III (Essential Requirements for Pilot Licensing) 3.x

and the associated implementing rules.

Permit sporting and recreational pilot training (for the LAPL, SPL, BPL and PPL, together with associated ratings) outside the framework of an ATO, under an appropriate level of national oversight for the issue and maintenance of licences, ratings and qualifications.

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## 2. TIMELY TRANSLATION OF NPA, CRDS, OPINIONS AND OTHER SOFT LAW

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### ISSUES

Much of the rulemaking process derives valuable input from individuals, as well as European organisations. However, the publication of rulemaking documents only in the English language puts non-English speakers at a considerable disadvantage in participation in the consultation process.

### PRINCIPLES AND GUIDELINES

G 5.1: Improve the dialogue with users, starting at the very first step of the rule making process, when the “do nothing” option is considered, and give appropriate explanations throughout the process in response to comments in particular when those comments are rejected.

### RECOMMENDATIONS

Make NPAs, CRDs, Opinions, AMC and GM with relevance to GA available in at least French, German, Italian and Spanish (and preferably in all Community languages) in a timely fashion to enable participation in consultation. Do not, however, allow such translations to delay the rulemaking process.

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### 3. DELEGATION TO USER ORGANISATIONS

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#### ISSUES

The Basic Regulation envisages delegation of some certification tasks to qualified entities. This recognises the potential efficiency gains and cost savings available from a suitable concentration of expertise. However the criteria set out in Annex V of the Basic Regulation make it practically impossible for many organisations who would have a significant role in this process to participate. In particular, the prohibitions in criterion 1 are incompatible with the reality of most commercial organisations involved in GA.

1. *The entity, its Director and the staff responsible for carrying out the checks, may not become involved, either directly or as authorised representatives, in the design, manufacture, marketing or maintenance of the products, parts, appliances, constituents or systems or in their operations, service provision or use. This does not exclude the possibility of an exchange of technical information between the involved organisations and the qualified entity.*

It is almost inevitable that experienced staff of small entities in GA will have interactions with some products or services in a commercial context. While safeguards against abuse of privilege for commercial gain are undoubtedly important, there is a balance between ensuring impartiality and providing relevant and valuable expertise.

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#### PRINCIPLES AND GUIDELINES

G 6.1: Give appropriate privileges to approved organisations to achieve proportionality.

G 6.2: Through an appropriate partnership, enable devolution and delegation of tasks from National Authorities to competent users' organisations.

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#### RECOMMENDATIONS

Modify the requirements of Annex V criterion 1 to allow delegation of tasks from National Authorities to competent users' organisations.

## 4. APPLICATION OF THE BASIC REGULATION TO FOREIGN-REGISTERED AIRCRAFT

### ISSUE

A substantial proportion of the higher-end EU-based GA fleet operates on foreign registers, in particular the US 'N-register'. It has done so historically for two principal reasons: the cost and difficulty of obtaining an instrument rating in the EU and the cost and difficulty of maintaining and upgrading high-end GA aeroplanes and helicopters in the EU. The safety record of the much larger fleet of high-end GA aeroplanes and helicopters in the USA is at least as good as that of the corresponding market segment in the EU.

Art 4(c) introduces a requirement for pilots of foreign-registered aircraft resident or established in the EU to hold a Part-FCL licence. Most, if not all, states have applied the permitted two year derogation until April 2014. The effect of Article 4(c) on higher end GA will be significant and negative, both financially and from a safety perspective.

With the introduction of the competence-based modular instrument rating proposed by FCL.008 (NPA 2011-16), the changes to Part-21 introduced in 784/2012, and further changes proposed below, there should be no motivation in the long term for GA aircraft operators based in the EU to operate on a foreign register. However, until the Agency has addressed the issues that cause its regulatory environment to be unattractive for GA, the measures associated with Article 4(c) will take their toll on both safety and economic viability in the very sectors they seek to protect. Imposing costs and other burdens on the operators of foreign registered aircraft will cause many of those operations simply to cease: this will harm businesses supporting those operations (for example smaller airports and maintenance shops) whose profitability depends critically on the volume of business.

### PRINCIPLES AND GUIDELINES

G 2.3 Consider favourably new proposed technologies by OEMs and manufacturers, and demonstration of enhanced safety through an innovative approach.

G 3: Always consider alternative means to regulation, including the "do nothing" option, based on robust risk assessment and a cost benefit analysis methodologies.

G 4.1: Give specific attention to transitional arrangements, so that no activity is stopped, including unexpected specific cases, if it had not raised a statistically significant safety issue prior to the implementation of the new rules. Rely on proven competencies, and on NAAs' oversight and reporting to the Agency for transparency and sharing of good practice.

G 5.5: Take the best account of global practices for GA, through consideration of various practices inside and outside EU, used as a proof of concept.

### RECOMMENDATIONS

In the Basic Regulation amend Article 4(c) as follows:

*(c) registered in a third country and used by an operator for which any Member State ensures oversight of operations or used **for commercial operations** into, within or out of the Community by an operator established or residing in the Community; or*

### 5. REMOVAL OF THE REQUIREMENT FOR VALIDATION OF FOREIGN STCS BY EASA

#### ISSUE

Currently it is required that EASA validate any foreign STCs before they can be used as design data for aircraft modifications or repairs.

However, there are many smaller, specialist suppliers to General Aviation to whom this is a bureaucratic and financial burden that outweighs the potential increase in sales to European customers so they choose not to validate their STC with EASA. The result is that European owners of aircraft are denied access to modifications or repair processes that would bring social, business and safety benefits.

This situation has already been recognised by the Agency with respect to small, specialist repair facilities and documented in opinion 02/2008

*f) Accept directly US and Canadian release documents for maintained components*

*26. Many organisations and aircraft owners currently hold in stock components that were released after maintenance with the correspondent FAA 8130-3 or TCCA 24-0078 forms; however these forms were not issued by organisations approved in accordance with Community law and, as a consequence, they cannot be installed after 28 September 2008. Furthermore maintenance organisations in USA and Canada performing maintenance on components installed in General Aviation aircraft do not seem interested in holding a European approval. This could lead to a shortage of approved maintenance organisations to cover the needs of the European General Aviation community.*

*27. The Agency will therefore clarify in AMC M.A.613(a) that an M.A.Subpart F or Part-145 maintenance organisation (not rated for components) may issue a Form 1 after appropriate checks and verifications, for components that have been released after maintenance with an 8130-3 (FAA) or TCCA 24-0078 (Canada) without dual release. This alleviated procedure is based on the technical capability of these organisations and the confidence we can have in the oversight performed by the American and Canadian competent authorities, based on the assessments made for concluding the pending bilateral aviation safety agreements with these countries.*

An analogous issue arises for suppliers who are STC holders. However, it is understood that some foreign data, particularly for large aircraft in the form of such items as fuel venting, may not be accepted by EASA. In addition, there are some jurisdictions whose integrity of design data should not be trusted.

#### PRINCIPLES AND GUIDELINES

G1.2: Do not start work from existing regulation which has essentially been designed for CAT, but take a fresh approach by establishing whether and what regulations are desirable specific to GA in all fields: initial and continuing airworthiness, licensing, operations, airports, and ATM.

G 2.3 Consider favourably new proposed technologies by OEMs and manufacturers, and demonstration of enhanced safety through an innovative approach.

G 6.1: Give the right privileges to approved organisations.

G 5.5: Take the best account of global practices for GA, through consideration of various practices inside and outside the EU, used as a proof of concept.

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## RECOMMENDATIONS

Foreign STCs should be accepted without further validation steps by EASA within the following two constraints:

- a) modification or repair is to an aircraft of less than 5700 kg MTOM, and
- b) where the STC holder is from a jurisdiction with which EASA has a bilateral agreement

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## 6. REMOVAL OF THE REQUIREMENT OF AGENCY APPROVAL OF MINOR MODIFICATIONS

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### ISSUES

Currently, it is required that minor modifications require Agency approval. This is a disproportionate bureaucratic, financial and time burden that discourages European aircraft owners from making valuable improvements and repairs.

Global best practice is demonstrated in the USA, where minor modifications are approved by a licensed engineer and noted in the aircraft logbook.

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### PRINCIPLES AND GUIDELINES

G 5.5: Take the best account of global practices for GA, through consideration of various practices inside and outside EU, used as a proof of concept.

G 6.1: Give the right privileges to approved organisations.

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### RECOMMENDATIONS

For aircraft less than 5700 kg MTOM, allow an appropriately qualified engineer to approve a minor modification and record it in the aircraft logbook.



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## 7. PUBLISH A DEFINITIVE AND UNEQUIVOCAL LIST OF MAJOR MODIFICATIONS

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### ISSUES

There is confusion over what is a minor and a major modification. There are two negative effects:

- a) Aircraft owners choose not to make the modification
- b) A tendency to declare minor modifications as major to remove doubt and the risk of delay to a project. This adds unnecessary cost.

### PRINCIPLES AND GUIDELINES

G 5.3: Give special attention to the clarity and lack of ambiguity in proposed regulations in order to assist the GA community's understanding.

### RECOMMENDATIONS

Issue an AMC with an authoritative and exhaustive list of major modifications for aircraft less than 5700 kg MTOM. By definition, all modifications not on the list are minor for aircraft less than 5700 kg MTOM.

## 8. PUBLISH AN AMC AUTHORISING THE USE OF FAA AC 43.13-1B AS APPROVED DATA FOR MAJOR AND MINOR REPAIRS

### ISSUES

Prior to EASA's competence in continuing airworthiness, this data was used by European NAAs for repairs. There is a widespread perception that this data is not acceptable to the Agency. However, the Bilateral Aviation Safety Agreement between the EU and the USA states:

*All repair design data developed by US organisations/persons for use on an EU-Registered aircraft and related articles are approved by ED Decision 2004/04/CF, as amended by ED Decision 2007/001/CF, except for critical component repair design data developed by organisations/persons which are not the TC/STC holder.*

### PRINCIPLES AND GUIDELINES

G 5.4: Put more emphasis on soft law than hard law: limit implementing rules to required objectives, and develop technical means in certification specifications or acceptable means of compliance supported by detailed guidance material, to be defined with users; use standardisation to check relevance and assure dissemination of best practices.

G 5.5: Take the best account of global practices for GA, through consideration of various practices inside and outside EU, used as a proof of concept.

### RECOMMENDATIONS

Publish AMC authorising the interim use of FAA AC 43.13-1B as approved data for major and minor repairs.

Note: Agency Opinion 01/2011 'ELA process and standard changes and repairs'. Adopting FAA AC 43.12-1B would be an expedient and cost effective solution for the Agency.

## 9. PUBLISH AMC AUTHORISING THE USE OF FOREIGN REPAIR STATIONS WHICH DO NOT HAVE EASA APPROVAL

### ISSUES

Small repair stations, especially in the US offer a valuable service to European pilots. However, the bureaucratic and financial burden of obtaining and maintaining EASA approval is greater than the additional business they might expect to gain.

The Agency has recognised this, starting with Opinion 02/2008, and has laid out procedures for issuing a Form 1 based on a non-EASA approved foreign repair when there is a bilateral agreement in place. However, this procedure is a complex trail of several documents, which is not a suitable working practice for a typical small maintenance organisation.

### PRINCIPLES AND GUIDELINES

G1.2: Do not start work from existing regulation which has essentially been designed for CAT, but take a fresh approach by establishing whether and what regulations are desirable specific to GA in all fields: initial and continuing airworthiness, licensing, operations, airports, and ATM.

### RECOMMENDATIONS

Publish AMC and GM authorising the use of foreign repair stations which do not have EASA approval.

## 10. PUBLISH AMC AUTHORISING A LICENSED ENGINEER TO APPROVE THE AIRWORTHINESS OF USED PARTS

### ISSUES

There is much confusion and impracticality in EASA regulation regarding the use of used parts for GA.

Practically, much of the GA fleet requires the occasional use of used parts. This is because of the average age of the fleet and the turmoils of the GA manufacturing industry over the last few decades. There are times when the only safe solution is to use a used part.

A licensed engineer is authorised to assess the airworthiness of the parts already fitted to an aircraft and without ever having seen the aircraft before. It would be reasonable and within the privileges of an engineer's licence to be authorised to assess the airworthiness of a used part from another aircraft.

### PRINCIPLES AND GUIDELINES

G 5.3: Give special attention to the clarity and lack of ambiguity in proposed regulations in order to assist the GA community's understanding.

G 6.1: Give the right privileges to approved organisations.

### RECOMMENDATIONS

Publish AMC authorising a suitably qualified engineer to approve the airworthiness of used parts when fitted to an aircraft of less than 5700 kg MTOM not used in commercial air transport.

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## 11. PUBLISH AMC AUTHORISING THE USE OF FAA PROCEDURES FOR OWNER-PRODUCED PARTS

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### ISSUES

On rare occasions, there is no option but to manufacture a part for a GA aircraft. Under EASA rules this requires the use of a Part-21 design organisation, and for major parts this is the correct route.

However, this process is too expensive, bureaucratic, and time consuming for the production of a non-safety critical, small component. This has been long recognised by the FAA which has produced procedures for owner-produced parts and which have been tested in practice over many years. This procedure is an example of global best practice and should be introduced in the EU.

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### PRINCIPLES AND GUIDELINES

G1.2: Do not start work from existing regulation which has essentially been designed for CAT, but take a fresh approach by establishing whether and what regulations are desirable specific to GA in all fields: initial and continuing airworthiness, licensing, operations, airports, and ATM.

G 5.2: Have more confidence in participants to do the right thing, thereby reducing the multiple layering of a priori safety nets, focus more on declarative processes and individual commitment for managing safety, subject to appropriate downstream oversight by the Authority.

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### RECOMMENDATIONS

Publish AMC authorising the use of FAA procedures for owner-produced parts when fitted to an aircraft of less than 5700 kg MTOM not used in commercial air transport.

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## 12. SELF-DECLARATIVE PROCEDURE FOR CS-LSA

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### ISSUES

While the ELA1/2 process introduced in Regulation (EU) 784/2012 to amend 21.A.14 goes some way towards lightening the load on organisations applying for a type-certificate or restricted type-certificate for these classifications, it still imposes an unreasonable burden on manufacturers that renders the EU regulatory regime uncompetitive in a global context. FAA experience with Light Sports Aircraft (LSA), as set out in EASA's own GA seminar in October 2012, is that a self-declarative regime for LSA meets appropriate safety objectives. The issue is probably best summed up in CRD 2008-07 (CS-LSA) in EASA's response to a UK CAA reaction:

*The Part-21 certification process does not contain a concept where the depth of the technical investigation can be dependant [sic] on the intended use of the aircraft.*

And thus, with a Part-21 certification process designed to keep fare-paying passengers safe on a 300-tonne commercial air transport aircraft crossing the Atlantic, it is practically impossible to meet the objective of proportionality when the intended use of the aircraft and the stakeholders' control and tolerance of risk is entirely different.

In many regulatory regime's including the FAA's, a self-declarative system of compliance with airworthiness requirements is used. This removes the very expensive step of having the authority review the compliance data and the resulting discussions that inevitably ensue. At the EASA GA seminar, the FAA stated that it was its intent that the system be industry-lead self-declaration and self-audit without FAA type design certification or direct production oversight.

### PRINCIPLES AND GUIDELINES

G1.2: Do not start work from existing regulation which has essentially been designed for CAT, but take a fresh approach by establishing whether and what regulations are desirable specific to GA in all fields: initial and continuing airworthiness, licensing, operations, airports, and ATM.

G 2.3 Consider favourably new proposed technologies by OEMs and manufacturers, and demonstration of enhanced safety through an innovative approach.

G 5.5: Take the best account of global practices for GA, through consideration of various practices inside and outside EU, used as a proof of concept.

### RECOMMENDATIONS

Design a process for the initial airworthiness of GA aircraft that:

- a) is based on the intended uses of the aircraft and the corresponding risk assumptions, not the risk assumptions of CS-25 and CAT; and
- b) captures and builds upon the global experience of the LSA category to create a globally competitive regulatory structure and process; and
- c) uses a self-declarative system of compliance with airworthiness requirements for LSA.

We also recommend that the Agency considers a maintenance qualification analogous to the FAA's Repairman (LSA) rating.

### 13. PILOT RESPONSIBILITY FOR DEFECTS

#### ISSUES

M.A.403 (b) is entirely unsuitable and disproportionate for non-commercial operations:

*Only the authorised certifying staff, according to points M.A.801(b)1, M.A.801(b)2, M.A.801(c), M.A.801(d) or Annex II (Part-145) can decide, using M.A.401 maintenance data, whether an aircraft defect hazards seriously the flight safety and therefore decide when and which rectification action shall be taken before further flight and which defect rectification can be deferred. However, this does not apply when:*

- 1. the approved minimum equipment list as mandated by the competent authority is used by the pilot; or,*
- 2. aircraft defects are defined as being acceptable by the competent authority.*

The requirement that *any* defect, however minor, can only be accepted and/or deferred by engineering staff is a significant burden on the operator, owner and/or pilot, in cost, time and convenience. As a result, the rule has the perverse effect of motivating crew and operators to avoid recording all but the most obvious defects: this means that not only do the defects not get the engineering attention that is warranted, but also the crew of subsequent flights are deprived of vital information on which to make their risk management decisions. Since the requirement to log defects in a non-commercial environment is practically unenforceable, good information flow is based on the good faith of the participants, which M.A.403(b) undermines comprehensively.

GA pilots should be quite capable of assessing and managing the risk associated with simple defects. They also should be capable of understanding when engineering input is warranted. These are a matter of airmanship. An MEL-style system is entirely inappropriate for GA. The UK CAA makes a useful distinction between Aircraft Defects and Operational Equipment Defects in Airworthiness Communication 2010/12.

#### PRINCIPLES AND GUIDELINES

G 5.2: Have more confidence in participants to do the right thing, thereby reducing the multiple layering of a priori safety nets, focus more on declarative processes and individual commitment for managing safety, subject to appropriate downstream oversight by the Authority.

G 5.4: Put more emphasis on soft law than hard law: limit implementing rules to required objectives, and develop technical means in certification specifications or acceptable means of compliance supported by detailed guidance material, to be defined with users; use standardisation to check relevance and assure dissemination of best practices.

#### RECOMMENDATIONS

Make M.A.403 (b) applicable only to commercial operators. Give pilots the responsibility for assessing the condition of their aircraft, and accepting it subject only to the requirements for minimum instruments, data and equipment in the operating rules. Encourage and support appropriate risk management practices, and information sharing.

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## 14. MANDATORY ELEMENTS OF A MAINTENANCE PROGRAMME

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### ISSUES

There is confusion over what is mandated and what is advisory in a maintenance programme. In the desire not to be found to be omitting mandatory actions, unnecessary advisory work and replacements are being carried out. This increases cost for aircraft owners whose funds could otherwise be applied in a way that would bring greater economic or safety benefit.

### PRINCIPLES AND GUIDELINES

G 5.2: Have more confidence in participants to do the right thing, thereby reducing the multiple layering of a priori safety nets, focus more on declarative processes and individual commitment for managing safety, subject to appropriate downstream oversight by the Authority.

G 5.3: Give special attention to the clarity and lack of ambiguity in proposed regulations in order to assist the GA community's understanding.

### RECOMMENDATIONS

Extend the option (proposed in NPA 2012-17) for the owner to issue a declaration for his/her own aircraft's maintenance programme to all aircraft of less than 5700 kg MTOM not used in commercial air transport.

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### 15. MODULAR, COMPETENCE-BASED TRAINING AND LICENSING

#### ISSUES

While Part-FCL includes some “modular” courses (for the ATPL, CPL and IR) as well as “integrated” courses, the flexibility of Part-FCL is limited in its approach to building up the competences needed for particular operations and aircraft of particular types, classes and categories. The rigid hours-requirements for the courses, many exceeding ICAO Annex 1 minima by considerable margins, assume a uniformity of student aptitude that does not reflect what is observed by organisations involved in training GA pilots.

In the commercial air transport environment, the gap between core aviation skills and the competences required in operations tends to be filled by the organisation. Innovations such as the Multi-crew Pilot Licence (MPL), which can only be acquired in an operational environment, are enabled by organisational training programmes. GA flight crew have fewer such opportunities, and, for example the theoretical knowledge and practical skills taught by the instrument rating have drifted considerably from what is required in real GA IFR operations. The significant investment of time and money required to acquire new privileges is a deterrent for pilots to obtain new qualifications which would increase the level of safety.

Other regulators use the licence “endorsement” as a tool for modular, competence-based privilege extension. In the USA, the FAA sport pilot starts with a limited licence and can receive endorsements for operations in particular classes of airspace. In Australia, the privileges of the Private IFR rating are built up using Flight Procedure Authorisations (FPAs) for different types of navigation and approach.

The majority of GA pilots are not aviation professionals, and cannot afford the time to devote to spend tens of hours in courses at ATOs to advance their flying, merely to make up the hours that the average pilot takes to acquire the corresponding skills for a standard block of training. As a consequence, Part-FCL as applied to GA needs to reflect the realities of GA training needs.

#### PRINCIPLES AND GUIDELINES

G1.2: Do not start work from existing regulation which has essentially been designed for CAT, but take a fresh approach by establishing whether and what regulations are desirable specific to GA in all fields: initial and continuing airworthiness, licensing, operations, airports, and ATM.

G 5.5: Take the best account of global practices for GA, through consideration of various practices inside and outside EU, used as a proof of concept.

G 5.6: Adopt a more comprehensive competency based approach for personal licensing.

#### RECOMMENDATIONS

Review Part-FCL from first principles, analysing what aspects of GA pilot education can be transformed into modular, competence-based training. Conduct a training needs analysis. In particular:

- Consider a modular path to the LAPL, where privileges (e.g. to fly with passengers, to fly beyond a certain radius, to land away from base, to enter certain classes of airspace, to fly certain sub-classes of aircraft) are added by instructor or examiner endorsement.

- Consider a modular path to the FI rating (including on the path a rating to teach only for LAPL based on LAPL medical standards), avoiding the need for TK at a higher level than that at which instruction is offered.
- Review on an ongoing basis, as with the MPL and as proposed for the Enroute IR, the efficacy of all licences and ratings to assess their performance as a tool for achieving proportionate safety.
- Permit a seaplane rating or equivalent to be added to the LAPL.

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## 16. TEMPORARY VALIDATION OF THIRD-COUNTRY LICENCES FOR PRIVATE OPS

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### ISSUES

Annex II of Regulation 1178/2011 requires a pilot wishing to use a third-country licence for temporary activities, such as competition flying or simple sight-seeing as tourism, to go through an administratively complex validation procedure including a skills test and theoretical knowledge. Further, such a validation only available once for a period of 12 months. This is disproportionate, and has no safety case to justify it.

### PRINCIPLES AND GUIDELINES

G 3: Always consider alternative means to regulation, including the "do nothing" option, based on robust risk assessment and a cost benefit analysis methodologies.

G 4.1: Give specific attention to transitional arrangements, so that no activity is stopped, including unexpected specific cases, if it had not raised a statistically significant safety issue prior to the implementation of the new rules. Rely on proven competencies, and on NAAs' oversight and reporting to the Agency for transparency and sharing of good practice.

G 5.5: Take the best account of global practices for GA, through consideration of various practices inside and outside EU, used as a proof of concept.

### RECOMMENDATIONS

Amend Annex II of Regulation 1178/2011 to validate, as recommended in ICAO Annex 1 (Personnel Licensing) 1.2.2.3, third-country licences for use on EU-registered aircraft, *without* further formality for private flight within the EU.

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## 17. EXAMINERS AND THEIR STUDENTS

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### ISSUES

FCL.1005 requires that:

*FCL.1005 Limitation of privileges in case of vested interests*

*Examiners shall not conduct: (a) skill tests or assessments of competence of applicants for the issue of a licence, rating or certificate:*

*(1) to whom they have provided flight instruction for the licence, rating or certificate for which the skill test or assessment of competence is being taken;*

While the principle of avoidance of conflict of interest is a good one, in smaller aviation communities (e.g. balloons, seaplanes) the number of examiners and instructors is so limited that strict adherence is impractical. Where only a handful of examiners are available, students will avoid using the examiners as an instructor for any flight training whatsoever to preserve the possibility of using them for examination at a later stage, knowing that taking a single lesson from them would preclude this possibility. The effect is to reduce the proportion of instruction given by the most experienced instructors, with a commensurate effect on the overall quality of instruction.

### PRINCIPLES AND GUIDELINES

G 2.1: Draft regulations on a “minimum necessary” and “focused on the main risks” basis for the relevant activity, starting from the simplest cases in terms of design and operations, and adding “building blocks” as necessary to cope progressively with more complex issues and environments, and possible interfaces with other aviation users.

G 5.2: Have more confidence in participants to ‘do the right thing’, thereby reducing the multiple layering of a priori safety nets, and focusing more on declarative processes and individual commitment for managing safety, subject to appropriate downstream oversight by the NAA.

G 5.4: Put more emphasis on soft law than hard law: limit implementing rules to required objectives, and develop technical means in industry standards, in certification specifications or in acceptable means of compliance supported by detailed guidance material, to be defined with users; use standardisation to check relevance and assure dissemination of best practices.

### RECOMMENDATIONS

Amend FCL.1005 as follows:

*(1) to whom they have provided **a significant proportion of** flight instruction for the licence, rating or certificate for which the skill test or assessment of competence is being taken;*

and issue AMC to support the definition of “significant proportion” (for example, it might be interpreted as 50% in many GA contexts). Alternatively, require that where an examiner has given instruction to the student, a recommendation of readiness for the examination is endorsed by a different instructor.

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## 18. THE UK IMC RATING

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### ISSUES

For more than 40 years, the UK has used a sub-ICAO instrument qualification called the “IMC rating” to offer limited instrument privileges to pilots wanting to fly IFR outside the airspace predominantly used by CAT. The training requirements (15 hours of instrument time) and training environment (typically PPL-focused training schools) make the rating very accessible, and are believed to have contributed to safety by avoiding accidents such as controlled flight into terrain in marginal weather and loss of control in IMC.

While the rating was considered by FCL.008, the dependence of the privileges on the unique structure of UK airspace meant that an analogous pan-European rating was impractical to implement. Nevertheless, because of the strong safety benefits offered by the IMC rating, it would be counterproductive to lose those benefits in the UK simply because they cannot be replicated across the Community. Indeed the rating will continue to be available for use on Annex II aircraft within the UK.

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### PRINCIPLES AND GUIDELINES

G 4.2: Accept flexibility under NAA responsibility for continuation of specific local activities when they have not proven harmful to safety, to fair competition or to free circulation.

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### RECOMMENDATIONS

Permit the privileges of the IMC rating to be used within the UK on EASA aircraft and for the rating to be attached to an EASA Part-FCL licence.

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## 19. REQUIREMENT FOR MEDICAL EXAMINATION

### ISSUES

Medical examination of pilots has its roots in the selection of military aircrew in World War I. Through the history of aviation, the efficacy of medical examinations as a safety tool appears to have escaped the objective and quantitative failure mode analysis that has been used to improve safety management in other aspects of aviation. While it is understood that a routine medical examination does not *guarantee* the fitness of aircrew at the time of a subsequent flight, as a discriminator it should be subject to the same rigours of analysis as measures used in other aspects of the safety chain.

For many years, some sectors of aviation have relied on a declarative system of medical fitness. In the UK, the British Gliding Association has operated under a system of medical declaration by the pilot equivalent to private driving medical standards for solo pilots, and commercial driving medical standards for instructors. In 2003 the requirements were aligned with the UK National PPL (NPPL) in requiring the declaration to be confirmed by a General Medical Practitioner by comparison with the declarer's medical history (not, importantly, by physical examination). UK PPL(B) pilots operate under a similar medical scheme. In the US, the sport pilot licence has operated successfully on the basis of the pilot requiring only a valid driver's licence and this system looks to be set to be extended to PPLs flying simple aircraft (fixed gear SEP, less than 180 hp).

As with any other aspect of safety management, there is a cost associated with a regulatory requirement. In the case of the medical examination, this is two-fold:

- a) the cost of routine medical examinations for the examinee
- b) the loss of opportunity (either for leisure or to pursue a business) for those who fail an examination

The latter also deserves careful consideration against national legislation on equality and likely EU legislation on disability. For example, the UK's Equality Act 2010 prohibits application of a provision, criterion or practice which is discriminatory in relation to disability if it cannot be shown it to be a proportionate means of achieving a legitimate aim. Thus it is no longer sufficient to set the medical fitness bar for flight crew licensing at an arbitrary level: it is for the regulator to demonstrate that the risk associated with particular medical conditions is unacceptable in the context of the proposed operation. A similar concern applies with discrimination on the basis of age.

The safety benefit (by way of avoidance of accidents) delivered by the discriminator should be evaluated for its proportionality to the cost in achieving the target level of safety associated with the aviation activity. Such an analysis needs objectivity, and it should be clear that the aeromedical industry, while it would undoubtedly act in good faith, has a conflict of interest and should not be expected to evaluate the efficacy of medical examination without external support.

While there are no perfect controls in inferences from accidents and incidents, the history of the systems described above (gliding, FAA sport pilot, UK NPPL) shows no significant difference between the efficacy of these declarative/self-assessment systems and those based on medical examination.

Reference: *Pilots' fitness, a time for questions*, Saundby P, *Occup Environ Med* 2000;**57**:69-71

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## PRINCIPLES AND GUIDELINES

G1.1: Recognize GA does not necessary aim at reaching an equivalent level of safety as CAT, and ensure this is understood by all GA participants

G 2.1: Draft regulations on a “minimum necessary” and "focused on the main risks" basis for the relevant activity, starting from the simplest cases in terms of design and operations, and adding "building blocks" as necessary to cope progressively with more complex issues and environments, and with possible interfaces with other aviation users.

G 3: Always consider alternative means to regulation, including the "do nothing" option, based on robust risk assessment and a cost benefit analysis methodologies.

G 5.2: Have more confidence in participants to do the right thing, thereby reducing the multiple layering of a priori safety nets, focus more on declarative processes and individual commitment for managing safety, subject to appropriate downstream oversight by the Authority.

G 5.5: Take the best account of global practices for GA, through consideration of various practices inside and outside EU, used as a proof of concept.

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## RECOMMENDATIONS

Amend Article 7(2) of the Basic Regulation and associated Essential Requirements (e.g. 4.a.1) and Implementing Rules to permit a self-declarative system of medical fitness for non-commercial operations of other-than-complex-motor-powered aircraft within the EU.

## OPERATIONS

Experts from both Europe Air Sports and IAOPA were involved in the OPS.001 RG04 that helped shape Part-NCO. In their joint reaction to the CRD to NPA 2009-02B published 25 Nov 2012, this team felt that:

*...issues remain where the EASA OPS team has unilaterally decided to make significant changes to the text agreed by RG04 without adequate justification. Some of these changes appear to the group to be based on principles that are inconsistent with non-commercial operations of other than complex motor powered aircraft*

...

*The review group feels that some aspects of the resulting text of the CRD fail to meet the requirements of the Basic Regulation with respect to proportionality to NCO stakeholders.*

While the principles and guidelines to be used for non-commercial operations had not, at that time, been agreed with the Management Board, many of the issues associated with Part-NCO become clear in the light of the GA Safety Strategy paper.

The review group identified some issues of principle, some of execution. This section of the paper focuses on the former.



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## 20. DANGEROUS GOODS OF THE OPERATOR

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### ISSUES

NPA 2009-02B included exceptions to the requirement for a Part-SPA.DG approval, in particular, where dangerous goods were:

*OPS.GEN.030 Transport of dangerous goods*

*(2) required on board the aircraft in accordance with airworthiness and operational requirements;*

OPS.001.RG.04 raised the narrow scope of the exception as an issue and proposed to exempt dangerous goods if:

*SPO.GEN.155 Transport of dangerous goods*

*(4) they are used to facilitate flight safety where carriage aboard the aircraft is reasonable to ensure their timely availability for operational purposes, whether or not such articles and substances are required to be carried or intended to be used in connection with a particular flight.*

Surprisingly, the proposal of OPS.001.RG.04 was replicated in the Part-SPO Opinion but omitted from Part-NCO. Instead, the latest draft of Part-NCO exempts dangerous goods if:

*NCO.GEN.140 Transport of dangerous goods*

*(3) they are carried by operators of ELA2 aircraft.*

While the compromise of taking ELA2 aircraft outside the scope of Part-SPA.DG is welcome, it does raise some issues of rationale. ELA2 aircraft operators would now be free to transport dangerous goods with no restrictions, regardless of whether or not the goods are related to the operation of the aircraft. In contrast, non-commercial operators of aircraft falling outside the ELA2 definition (essentially, less than 2000 kg MTOM) cannot carry essential operational supplies, such as de-icing fluid and spare fuel. We would prefer to see a reversion to the RG.04 proposal.

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### PRINCIPLES AND GUIDELINES

G1.1: Recognize GA does not necessary aim at reaching an equivalent level of safety as CAT, and ensure this is understood by all GA participants

G 5.2: Have more confidence in participants to do the right thing, thereby reducing the multiple layering of a priori safety nets, focus more on declarative processes and individual commitment for managing safety, subject to appropriate downstream oversight by the Authority.

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### RECOMMENDATIONS

*Amend NCO.GEN.140 Transport of dangerous goods paragraph 3 to read:*

*(3) they are used to facilitate flight safety where carriage aboard the aircraft is reasonable to ensure their timely availability for operational purposes, whether or not such articles and substances are required to be carried or intended to be used in connection with a particular flight.*

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## 21. EMERGENCY SIMULATION WITH “PASSENGERS”

*The following issue is submitted only by UK GAA and PPL/IR Europe.*

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### ISSUES

Essential Requirement for Operations 7.e. requires that:

*Emergency abnormal situations must not be simulated when passengers or cargo are being carried.*

Further, NCO.OP.180 even includes the simulation of flight in instrument meteorological conditions (IMC), which is not an “emergency abnormal situation”, within this restriction.

*NCO.OP.180 Simulated situations in flight*

*(a) The pilot-in-command shall, when carrying passengers or cargo, not simulate:*

*(1) situations that require the application of abnormal or emergency procedures; or*

*(2) flight in instrument meteorological conditions (IMC).*

Both the ER and the IR are inappropriate for non-commercial operations. The simulation of both emergencies and IMC (with the appropriate rules-of-the-air requirements for a safety pilot) are essential parts of maintaining currency as a pilot. While commercial pilots have the opportunity to practise such events in simulators, non-commercial pilots often struggle to find the opportunity to practise. To reduce the scope for them to do so will result in a degradation of pilot skills and a negative safety impact.

The GA Safety Strategy paper recognises in its risk hierarchy that passengers in non-commercial operations are much more likely to be able to assess and control risk than fare-paying passengers in commercial air transport.

In many cases, the ‘passengers’ may be other pilots and are likely to be in close communication with the pilot-in-command. The value of being able to practise pilot skills in such a situation should not be underestimated.

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### PRINCIPLES AND GUIDELINES

G1.1: Recognize GA does not necessary aim at reaching an equivalent level of safety as CAT, and ensure this is understood by all GA participants

G1.2: Do not start work from existing regulation which has essentially been designed for CAT, but take a fresh approach by establishing whether and what regulations are desirable specific to GA in all fields: initial and continuing airworthiness, licensing, operations, airports, and ATM.

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### RECOMMENDATIONS

Delete NCO.OP.180 and move the content of ER 7.e. to ER 8 (Additional requirements for operation for commercial purposes and operation of complex motor-powered aircraft).

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## 22. PILOT DETERMINATION OF OXYGEN NEED

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### ISSUES

Part-NCO includes a specific requirement for the use of oxygen at altitude.

*NCO.OP.190 Use of supplemental oxygen*

*The pilot-in-command shall ensure that he/she and flight crew members engaged in performing duties essential to the safe operation of an aircraft in flight use supplemental oxygen continuously whenever the cabin altitude exceeds 10 000 ft for a period of more than 30 minutes and whenever the cabin altitude exceeds 13 000 ft.*

There are corresponding IDE requirements for carriage of supplemental oxygen. ICAO Annex 6 Part II Chapter 2 edition 7 requires only (2.2.3.8 *Oxygen supply*) that:

*The pilot-in-command shall ensure that breathing oxygen is available to crew members and passengers in sufficient quantities for all flights at such altitudes where a lack of oxygen might result in impairment of the faculties of crew members or harmfully affect passengers.*

Oxygen requirements vary considerably with environment, acclimatisation and individual physiology. The pilot in command of an NCO operation with no or few passengers is able to take such factors into account in an overall risk assessment in a way that may not be possible for CAT or NCC operations. An altitude limitation (or worse, time limitation at altitude) may cause the pilot in command to make suboptimal inflight safety management decisions. RG04 reviewed available evidence and came to the conclusion that there is no evidence suggesting that such an implementing rule would enhance safety in practice and would if anything potentially reduce safety. Moreover, modern technology for measuring SPO2 in the form of pulse oximeters has fallen in price to about EUR 25. While not foolproof as a safeguard against hypoxia, they are a useful tool in the management of oxygen requirements.

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### PRINCIPLES AND GUIDELINES

G1.1: Recognize GA does not necessary aim at reaching an equivalent level of safety as CAT, and ensure this is understood by all GA participants

G 5.2: Have more confidence in participants to do the right thing, thereby reducing the multiple layering of a priori safety nets, focus more on declarative processes and individual commitment for managing safety, subject to appropriate downstream oversight by the Authority.

G 5.4: Put more emphasis on soft law than hard law: limit implementing rules to required objectives, and develop technical means in certification specifications or acceptable means of compliance supported by detailed guidance material, to be defined with users; use standardisation to check relevance and assure dissemination of best practices.

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### RECOMMENDATIONS

Amend NCO.OP.190 to the ICAO Annex 6 Part II Chapter 2 wording with the specific recommendations therein as AMC/GM.

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## 23. PILOT DETERMINATION OF ICING RISK

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### ISSUES

Airframe icing is one of the most significant threats to IFR aviation safety experienced by GA. It deserves priority in the mind of the pilot-in-command when planning a flight in a GA aircraft which, for the most part, have limited capability to deal with icing. Notwithstanding the threat posed by icing, Essential Requirement 2.a.5 might be interpreted to limit the flexibility of GA flying to the extent of being detrimental to system safety:

*2.a.5. In case of flight into known or expected icing conditions, the aircraft must be certified, equipped and/or treated to operate safely in such conditions.*

Fatalities are not caused by the **entrance** of an aircraft into icing conditions by an aircraft not equipped to do so. Rather, fatalities are invariably caused by an attempt by the crew to **sustain** flight in the icing conditions. In many operational scenarios, the safest overall flight trajectory cannot be achieved without the possibility of exposure to icing conditions. Icing is unpredictable, and may be expected in a wide variety of conditions, leading to warnings of icing in many circumstances in which icing is not, in fact, encountered.

For example, airways over much of Europe have minimum altitudes of 8 to 9000 ft, which puts them above the freezing level for all but a small proportion of the year. Thus a choice may exist between IFR flight in the airway and VFR flight below the airway. The latter may, icing aside, be possible but bear a vastly higher overall risk, due to poor weather conditions, lack of ATC, or the necessity of low-level flight. For an aircraft without icing protection, the safest overall course of action is to plan an IFR flight in the airway, with a contingency plan that provides a safe alternative course of action if icing conditions are indeed encountered.

A regulation that prohibits flight when even a **possibility** of icing exists encourages the adoption of higher risk strategies and leads to an overall degradation of safety.

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### PRINCIPLES AND GUIDELINES

G 5.2: Have more confidence in participants to do the right thing, thereby reducing the multiple layering of a priori safety nets, focus more on declarative processes and individual commitment for managing safety, subject to appropriate downstream oversight by the Authority.

G 5.3: Give special attention to the clarity and lack of ambiguity in proposed regulations in order to assist the GA community's understanding.

G 5.4: Put more emphasis on soft law than hard law: limit implementing rules to required objectives, and develop technical means in certification specifications or acceptable means of compliance supported by detailed guidance material, to be defined with users; use standardisation to check relevance and assure dissemination of best practices.

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### RECOMMENDATIONS

Publish interpretive material (AMC/GM) that clarifies best practice in dealing with known and expected icing conditions with the input of stakeholder organisations (for example, PPL/IR Europe and IAOPA) who have experience of icing in the real operating environment of GA.

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## 24. FUEL MANAGEMENT IN-FLIGHT

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### ISSUES

NCO.OP.185 In-flight fuel management requires that:

*The pilot-in-command shall check at regular intervals that the amount of usable fuel or, for balloons, ballast remaining in flight is not less than the fuel or ballast required to proceed to a weather-permissible aerodrome or operating site and the planned reserve fuel as required by NCO.OP.125, NCO.OP.126 or NCO.OP.127.*

NCO.OP.125-7 specify the pre-flight planning requirement for fuel. It does not in fact use the phrase "reserve fuel" but the implication is that the reserve fuel is 30 minutes for VFR (10 minutes for local flights), 45 minutes for IFR. Thus NCO.OP.185 effectively introduces to Part-NCO the concept of final reserve fuel, by requiring an aircraft to land with no less than the reserve fuel.

The concept of "final reserve fuel" is not appropriate for non-commercial operations. The ICAO Annex 6 Part 2 requirement is for a planned minimum to be loaded **before** flight, which includes a contingency. ER 2.a.7. specifies "a fuel reserve must be carried to provide for contingencies", which is equivalent to the ICAO requirement. This is not the same as the Commercial Air Transport concept of a "final reserve fuel". The contingency included in the planning minimum **may** be used in flight.

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### PRINCIPLES AND GUIDELINES

G1.1: Recognize GA does not necessary aim at reaching an equivalent level of safety as CAT, and ensure this is understood by all GA participants

G 5.2: Have more confidence in participants to do the right thing, thereby reducing the multiple layering of a priori safety nets, focus more on declarative processes and individual commitment for managing safety, subject to appropriate downstream oversight by the Authority.

G 5.4: Put more emphasis on soft law than hard law: limit implementing rules to required objectives, and develop technical means in certification specifications or acceptable means of compliance supported by detailed guidance material, to be defined with users; use standardisation to check relevance and assure dissemination of best practices.

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### RECOMMENDATIONS

Delete NCO.185. In non-commercial operations in-flight fuel management is a matter of airmanship, not regulatory compliance.

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### ISSUES

Without an exemption for local flights, many operations that are currently carried out safely will be impractical if required to carry 30 minutes more fuel than required for the flight. The Annex 6 Part 2 rule, which is reflected in NCO.OP.125-7 was designed to apply to international air navigation, not local flights.

Essential Requirement 2.a.7 simply says:

*The amount of fuel and oil on board must be sufficient to ensure that the intended flight can be completed safely, taking into account the meteorological conditions, any element affecting the performance of the aircraft and any delays that are expected in flight. In addition, a fuel reserve must be carried to provide for contingencies.*

Many non-commercial operations (for example, aerobatic flights) are significantly limited by fuel carriage. The standards of fuel planning required to meet the target level of safety of commercial air transport should not be imposed. To date, many states including the UK have a requirement for fuel planning that (depending on the interpretation of the word “reserve”) echoes the wording of the Essential Requirement 2.a.7.

For example, the Air Navigation Order 2009, Art 86 requires the pilot in command to take all reasonable steps to ensure that:

*(e) sufficient fuel, oil and engine coolant (if required) are carried for the intended flight, and that a safe margin has been allowed for contingencies;*

We note that fuel starvation is a significant factor in a proportion of GA accidents, despite, in many states, an existing requirement for a 30/45 minute planning reserve. No evidence has been presented to suggest that states that impose an explicit reserve have a better record in this regard than those which choose a regulatory approach based on the safety objective rather than numerical requirement. We believe that training and safety culture together with operational flexibility offer the best opportunity to reduce the frequency of such incidents and accidents.

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### PRINCIPLES AND GUIDELINES

G1.1: Recognize GA does not necessary aim at reaching an equivalent level of safety as CAT, and ensure this is understood by all GA participants

G 5.2: Have more confidence in participants to do the right thing, thereby reducing the multiple layering of a priori safety nets, focus more on declarative processes and individual commitment for managing safety, subject to appropriate downstream oversight by the Authority.

G 5.4: Put more emphasis on soft law than hard law: limit implementing rules to required objectives, and develop technical means in certification specifications or acceptable means of compliance supported by detailed guidance material, to be defined with users; use standardisation to check relevance and assure dissemination of best practices.

## RECOMMENDATIONS

Move NCO.OP.125-7 to AMC and replace with the implementing rule:

The amount of fuel and oil on board must be sufficient to ensure that the intended flight can be completed safely, taking into account the meteorological conditions, any element affecting the performance of the aircraft and any delays that are expected in flight, with a sufficient margin for contingencies.

### ISSUE

The Basic Regulation classifies any aeroplane equipped with more than one turboprop engine as a 'complex motor-powered aircraft', while aeroplanes equipped with a single turboprop engine are not. This brings twin-engined turboprops into a regime that is vastly more onerous both in terms of the burden compliance and the restrictive nature of the rules. In particular, the Agency proposes in Part-NCC that for such aeroplanes:

*NCC.POL.125 Take-off — aeroplanes*

*(b) In the event of an engine failure during take-off, the pilot-in-command shall ensure that:*

*(1) for the aeroplane where a V1 is specified in the AFM, the aeroplane shall be able to discontinue the take-off and stop within the accelerate-stop distance available; and*

*(2) for the aeroplane where a net take-off flight path is specified in the AFM, the aeroplane shall be able to continue the take-off and clear all obstacles along the flight path by an adequate margin until the aeroplane is in a position to comply with NCC.POL.130.*

This restriction is disproportionate for non-commercial operations of multi-engined turboprops. The requirement is not applied to single-engined turboprops. It appears to be derived from ICAO Annex 6 Part II Chapter 3, and in particular 3.5.2 which is applicable only to aeroplanes exceeding 5700 kg MTOM.

*3.5.2.7 Take-off. The aeroplane shall be able, in the event of a critical power-unit failing at any point in the take-off, either to discontinue the take-off and stop within either the accelerate-stop distance available or the runway available, or to continue the take-off and clear all obstacles along the flight path by an adequate margin until the aeroplane is in a position to comply with 3.5.2.8.*

The result of this is to make many airfields and airports that are currently used for non-commercial operations of multi-engined turboprops unavailable to them. As well as causing significant economic damage to small and medium sized aerodromes, the effect is to motivate the operators of multi-engined turboprops to move to single-engined turboprops which can then be operated with no regard for the consequences of an engine failure, either during the take-off run or, more importantly, during the remainder of the flight.

NCO.POL.130 includes a similar illogical bias against multi-engined aeroplanes:

*NCC.POL.130 En-route — one engine inoperative — aeroplanes*

*The pilot-in-command shall ensure that in the event of an engine becoming inoperative at any point along the route, a **multi-engined** aeroplane shall be able to continue the flight to an adequate aerodrome or operating site without flying below the minimum obstacle clearance altitude at any point.*

### PRINCIPLES AND GUIDELINES

G1.1: Recognize GA does not necessarily aim at reaching an equivalent level of safety as CAT, and ensure this is understood by all GA participants.

G1.2: Do not start work from existing regulation which has essentially been designed for CAT, but take a fresh approach by establishing whether and what regulations are desirable specific to GA in all fields: initial and continuing airworthiness, licensing, operations, airports, and ATM.



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## RECOMMENDATIONS

- Limit the applicability of NCC.POL to aircraft exceeding 5700 kg MTOM (and revert to NCO.POL for others), and
- consider deleting the criterion “equipped with (a) turbojet engine(s) or more than one turboprop engine” out of the definition of “complex” entirely.

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## 27. RESTRUCTURING OF SPO

In early November 2012 Europe Air Sports submitted a separate paper to the European Commission, DG MOVE, recommending the restructuring of Part-SPO. While we believe that, in the intervening weeks, significant progress has been made with respect to Part-SPO, we regard the structure of Part-SPO and in particular its inclusion of non-commercial specialised operations to be flawed. We attach our position paper on Part-SPO as an Appendix to this paper.