European General Aviation Safety Strategy

Discussion Paper

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1. Introduction

The social and economic benefits brought by General Aviation (GA), its specific importance in the aeronautical industry, and the particularities of GA activities which require the aviation system to adopt an approach for the safety system enabling this activity to continue and grow sustainably, has already been clearly assessed in specific communications by the European Commission (EC)[1], by the European Parliament (EP)[2] and by the European Council[3].

In particular support was expressed for:

- The core principle that 'one size does not fit all' when regulating;
- Proper vigilance in the application of proportionality and subsidiarity;
- Caution when considering definitions, particularly in respect of 'commercial operations';
- The idea that some degree of flexibility in implementing GA rules is desirable;
- The necessity to organise data collection on GA activity and safety.

In Europe, GA manufacturers generate €9 billion of commercial value with 2/3 exported around the word, 35,000 high quality jobs, and roughly 155,000 indirect jobs. One out of three aircraft produced worldwide is manufactured by a European company. It is a contributor to Europe's competitiveness and global economic success providing necessary innovation and skills to the commercial sector.

Despite numerous efforts in this direction – from the Agency, the European Commission and the Member States - it has proved difficult to achieve the above mentioned objectives. The current regulatory environment is not satisfactory in this respect, and is even often seen as a bureaucratically burdensome handicap for activities.

The specificities of GA require, and make possible, envisaging alternative ways of approaching the safety system for GA, different from the traditional systems used up to now and which have proved efficient for CAT.

To answer the concerns of the GA community highlighted during the EASA Management Board (MB) of March 13th, it is 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 (AOPA, EAS, EGAMA, ECOGAS)[4].

This group met on May 4th and May 25th 2012, and has received written contributions from some of its members and also an unsolicited contribution from GAMA.

The group has submitted its draft conclusions to the MB on June 6th 2012, and has incorporated feedback from that discussion in a third working group meeting on July 6th.

This document addresses possibilities for improving the regulatory approach to GA safety. It develops in detail the discussion that supports the proposed set of high-level principles and guidelines intended to create a new environment, and the specific organisational arrangements that are felt necessary to achieve appropriate results, that are described in the document "European General Aviation Safety Strategy".

[1] An Agenda for Sustainable Future in General and Business Aviation, COM (2007) 968

[2] European Parliament Resolution of 3 February 2009 on an Agenda for Sustainable Future in General and Business Aviation (2008/2134 INI)

[3] Council Conclusions on the Commission communication on an agenda for sustainable future in general and business aviation (Luxembourg, 7 April 2008)

[4] See Appendix 1

2. Principles

2.1. Why GA should be treated differently than CAT

It is important to recognise the differences between commercial and non-commercial environments from a safety management perspective:

1. Control of Risk

End-use stakeholders in non-CAT aviation generally have much more ability to assess and control the risk of the operation. In many cases, with the exception of very limited risk to third parties, the operators are the only stakeholders exposed to risk. Even when passengers (or more often and precisely 'participants') are carried, they are usually much closer to the process by which risk is assessed and managed, and their participation is discretionary, not an intrinsic part of their day-to-day business. Operational control is particularly important in determining appropriate target levels of safety. This is, and has been traditionally, a good justification for offering a high level of autonomy to the pilot. That is not to say that the pilot is the only stakeholder with control over the safety of a flight: operating entities and maintenance organizations also have their part to play. But for the most part, the operational control and conduct of a flight by a pilot is the key factor in assuring its successful completion.

2. Level Playing Field

In the competitive CAT market, a level playing field between actors is necessary to ensure that safety does not enter a vicious spiral. If the level of safety expenditure, or the value of safety compared to operational success, is left to the discretion of individual operators, a competitive advantage often arises for the operator who takes more risk. In essence, provided nothing catastrophic occurs, the braver airline succeeds at the expense of the more cautious. Thus without explicit standards set by the regulator, safety would be eroded. There is no corresponding effect for non-CAT aviation. Risk management in a non-commercial operation will typically be carried out by the pilot, who is able to take account of his own aversion to risk in making operational decisions. If the pilot chooses a more cautious approach, the operator does not suffer business failure.

3. Cost Burden and Economies of Scale

CAT operations are typically much more repetitive than non-commercial operations. This leads to a significant economy of scale in dealing with fixed costs and other resource requirements. For example, a particular piece of emergency equipment might provide a capability on at least 500 or thousands of flights per year for a CAT operator, but less than 50 for a non-CAT operator. Similarly, the time taken to make a specific and a detailed risk assessment of a procedure or a facility (e.g. an airport) costs much less per operation if that procedure or facility is to be used frequently. Finally, the range of aircraft types and equipment used in non-CAT operations is much more varied than in CAT operations.

4. Flexibility

CAT operations are usually planned in detail in advance with a limited need for short-term flexibility. By contrast, non-CAT operations are often planned at relatively short notice, tend to be dynamic and may even be opportunistic (e.g. highly weather dependent). Thus the needs of a non-CAT operation cannot always be foreseen as far in advance of the operation itself as a CAT operation.

5. Private flying including sporting and recreational / leisure aviation

Much of the private aviation activities in the EU are of a sporting and recreational nature. Sporting aviation includes competition flying, for which there is a world-wide governing organisation, the FAI. This form of flying only has two things in common with CAT, the 3-dimensional aspect and communications frequencies, and only one area of overlap or adjacent proximity, which is use of airspace and some airports.

6. Learning to fly an aircraft for private flying is an end in itself

Whilst it is important that governments and the CAT industry acknowledge and recognise the key role that GA plays in providing a resource pool of personnel for CAT, learning to fly an aircraft for private purposes is an end in itself, independent of whether a pilot goes on to qualify as a CPA or an ATPL.

For each of these operational aspects, there **is a corresponding lesson for the principles of regulation**.

On the role of the pilot / owner / operator of an aircraft

1. Generally, the user is motivated to, and well-placed to, manage and control risk in non-CAT operations. The operator, and the pilot, must be given considerably more discretion in determining an appropriate level of risk than for CAT operations.

On the necessity to regulate

2. It is important to impose (by more specific regulation) a uniform level of safety on CAT operations to avoid competitive considerations eroding safety. No such imperative exists for non-CAT operations, and therefore implementing rules for non-commercial aviation should focus on the responsibilities for managing safety and taking reasonable measures to achieve safety objectives.

On the acceptable costs of regulation

3. Fixed costs, involving for example procedural administration, approval or certification, make up a much greater proportion of a non-commercial operator's total costs, and can be disproportionately burdensome. Therefore *a priori* approval or certification should only be used in non-commercial aviation when there is a clear cost-benefit associated with it and the default should be *a posteriori* oversight.

On the necessity to preserve operational flexibility

4. Operational situations for CAT operators can usually be foreseen and specific regulations tailored appropriately. By contrast, because regulation cannot anticipate the diverse needs of a non-CAT operator, there is a significant danger that an inflexible regulation can hinder good risk management by forcing the pilot or operator to choose an option that is both less safe and comes at a greater cost than an option that the regulation prohibits.

The system must also allow flexibility to tailor regulations to geographical and meteorological conditions, such as limited winter daylight in the Nordic countries, or 350 days of sunshine in the Mediterranean area.

On the comparison to other sporting activities

5. Whilst several of the sporting activities are conducted in Annex II aircraft, others are encompassed by the Basic Regulation. If this group is regulated unnecessarily and disproportionately it will decline. Apart from anything else, this would be counter to the EU sports agenda. Further, a reasonably comparable regulatory framework needs to exist between sporting aviation and other non-aviation sports.

On the purpose of pilot training

6. The JAA framework for a private pilot licence for aeroplanes made the mistake of assuming all student pilots wanted to be airline / commercial pilots. The Agency has gone a long way towards reversing this assumption, and should continue to do so. This further supports the arguments in this paper for proportionality in rule-making for private, non-commercial aviation.

Comparisons with other non-aviation activities

The regulatory 'culture' in aviation has developed over many years since the early days of commercial and military aviation in the 1920s and 1930s. Prior to and concurrent with those activities, private aviation thrived partly because it was novel and rapidly developing technically. It was relatively uncontrolled. From the mid 1940s onwards a 'control' culture took root within the regulator community, primarily to protect, justifiably, the fare paying passengers in CAT, and in the case of military aviation just because it was military. In both these areas, the investment values were and still are high; not just the aircraft and infrastructure but also the investment in pilot training, thus justifying a high degree of regulatory control to minimise risk. GA has been caught up in this increasing regulatory control culture ever since.

If one stands back and takes a view from the outside aviation, one inevitably makes comparisons with other activities that carry a certain level of risk to the participants and indeed uninvolved third parties, such as in car driving, ski-ing, mountaineering, sailing etc. Are these activities regulated to such a high degree? The plain answer is 'no'. Then why is it private non-commercial aviation so heavily regulated?

The answer lies probably in three parts.

Firstly, the history as outlined above.

Secondly, the perception, partly driven by the disproportionate media presentation of aviation accidents compared to accidents in other walks of life. But we should look at the accident data and particularly that relating to uninvolved third parties to assess what the risks really are.

Thirdly, and to some extent justifiably at least as regards airworthiness of aircraft, aviation is three dimensional, which is less forgiving than a two-dimensional activity, and this higher risk has to be mitigated.

2.2. Scope

Who is concerned

The needs for a new approach for GA are not limited to a specific category of aircraft or users. The proposed changes may be considered more generally as relevant for people and organisations:

- which are most at risk of disproportionate regulation,
- which, because of their limited size, scope and complexity of operations, or because of a direct involvement in operations or maintenance of key actors such as the owner or the pilot, do not require complex organisational requirements to achieve an acceptable level of safety,
- which due to the nature of their operations do not pose a significant risk to outside parties, be these other participants, fare paying passengers or third parties in other aircraft or on the ground.

These might roughly be identified as "small entities producing, maintaining or operating small aircraft", because:

- these small entities are very sensitive to "over regulation" and the financial burden it implies and, in the absence of more appropriate regulation, they may well disappear or operate outside of regulation if the regulation is not proportionate;
- they are also often not familiar with heavy administrative processes, which frequently seems to result from the mix of (or conflict between) National and European regulations ;
- they have difficulties in understanding and applying complex regulations and have no financial resources to hire additional staff to help them to ensure compliance with such regulations.

Common characteristics of non-commercial operations

Another of their common characteristics is that the purpose of the flight is generally not to transport passengers from one point to another, but moreover to offer specific activities to the participants to the flight (sports, recreation, ..), or in the case of aerial work, to provide professional services in which the transported persons are involved participants. In this respect the user (operator, pilot, sometimes passenger involved in the operation of the flight) is motivated, and is also well placed, to assess and control the risks associated with the activity, by difference to a flight involving air transport "consumers". In which case risk control has to rely much more on approved procedures in a regulated frame.

One comparison needs to be borne in mind. Cost sharing with passengers when driving a private car is not treated as 'hire and reward' or 'remuneration' in the EU. So why should private flying be treated potentially as 'commercial' if a 'participant' shares the cost of a fight (as distinct from a 'passenger', a term generally applied to someone who is paying a pre-determined fare to travel from A to B by scheduled airline)?

Definition of Commercial Operations

The definition of 'Commercial Operations' in the Basic Regulation leaves many areas of doubt as to interpretation across Member States. The absence of interpretation in the form of official guidance from the European Commission is causing considerable confusion for regulated stakeholders, particularly as the division between 'commercial' and 'non-commercial' has varied a bit across Member States, prior to the advent of EASA. Throughout this paper there is a common theme setting out the case for various types of GA operation to be treated as 'non-commercial' rather than 'commercial'. Whilst this issue has not been so critical during the period when only airworthiness rules have been implemented, the implementation of the Air Crew Regulation and various elements of

Part OPS over the next 2 to 3 years will give rise to many problems in the absence of official interpretation and clarification.

A wide range of activities

These definitions obviously cover a wide range of activities:

- Small maintenance and / or training organisations,
- GA aircraft manufacturers and designers,
- Sport and recreational aviation, privately or within aero clubs
- Aerial work.

The scope must encompass both IFR and VFR flight, include both local and A-to-B operations, and treat the diverse range of aviation activity that makes up GA on an equitable basis.

In this respect, the working group did not wish to enter in detailed – and often endless – discussions to define thresholds limiting the applicability of the principles it recommends.

Where to start from and what to include

It was agreed to consider a broad scope, covering all "non complex EASA aircraft"[5], and in this global area to propose principles and guidelines of a sufficiently general nature to be used as appropriate in different cases. This would not preclude, as an end result, specific requirements that are applicable to specific categories, to be fixed in the regulatory work. This range of includes aeroplanes, helicopters, sailplanes and balloons within the scope of EU regulation. Their uses range from purely sport and recreational to private flying, aerial work, owner-operator's business use through to commercial activities such as air taxi. The greatest numbers of aircraft are under 2000kg MTOM.

The key element is that the regulation for GA must be proportionate. GA must therefore be treated for itself and not as a "CAT by–product." To achieve this, it is highly desirable that GA regulation starts from a clean sheet, considering first the simplest cases of aircraft design and operations, and setting the minimum requirements for these cases, then developing specific requirements for less simple cases (in terms of aircraft design or type of operations) to be progressively added to cover specific items. This "building block"[6] methodology should be promoted in GA regulatory structural design. It is the approach being adopted in the work of the current EASA Task Force for the review of Part M.

[5] 'Complex aircraft' being as defined in the Basic Regulation art. 3 (j) :

(i) an aeroplane with a maximum certificated take-off mass exceeding 5 700 kg, or certificated for a maximum passenger seating configuration of more than nineteen, or certificated for operation with a minimum crew of at least two pilots, or equipped with (a) turbojet engine(s) or more than one turboprop engine, or

(ii) a helicopter certificated for a maximum take-off mass exceeding 3 175 kg, or for a maximum passenger seating configuration of more than nine, or for operation with a minimum crew of at least two pilots, or

(iii) a tilt rotor aircraft;

[6] See Annex 2 – Building Block approach

2.3. Which safety objectives for GA?

Proposed acceptable risk hierarchy

Different stakeholders may demand and deserve a different approach to risk management. Some sort of hierarchy is proposed as follows, in descending order of 'risk averseness'.

1. Uninvolved third parties
2. Fare-paying passengers in CAT
3. Involved third parties (e.g. air show spectators, airport ground workers)
4. Aerial work participants / Air crew involved in aviation as workers
5. Passengers ("participants") on non-commercial flights
6. Air crew on non-commercial flights

How to address the various risk exposure of these categories lead to a proportionate approach, as for GA the most exposed categories are those from 3 to 6.

The ICAO reference point

As a consequence, the safety objectives of the Regulator may be different for GA than for CAT, as illustrated in the ICAO Annex 6 Part II foreword:

"Level of safety. The Annex should ensure an acceptable level of safety to passengers and third parties (third parties meaning persons on the ground and persons in the air in other aircraft). Also, as some international general aviation operations (typically under 5 700 kg) would be performed by crews less experienced and less skilled, with less reliable equipment, to less rigorous standards and with greater freedom of action than in commercial air transport operations, it was therefore accepted that the passenger in international general aviation aircraft would not necessarily enjoy the same level of safety as the fare-paying passenger in commercial air transport. However, it was recognised that in ensuring an acceptable degree of safety for third parties, an acceptable level of safety for flight crews and passengers would be achieved".

"The Commission endorsed the philosophy established during initial development of the Annex that the owner and pilot-in-command must assume responsibility for~~t~~ the safety of operations in non-commercial operations where travel is not open to the general public. In such operations the Standards and Recommended Practices need **not be as prescriptive as those in Annex 6, Part I, due to the inherent self-responsibility of the owner and pilot-in-command. The State does not have an equivalent 'duty of care' to protect the occupants as it does for fare-paying customers in commercial operations"** (bold emphasis added by authors of this report)**.** "The Commission endorsed the level-of-safety philosophy that the Standards and Recommended Practices of Annex 6, Part II, must protect the interests of third parties. It was therefore agreed that the basic provisions of Annex 6, Part II, should remain applicable to all general aviation operations, but updated to reflect current technologies and operational procedures and the use of safety management systems where appropriate".

2.4. A better regulation for GA

The safety objectives and the strategy to develop and apply them must be specific and adapted for GA.

Regulation and oversight are not the only way to improve safety. Voluntary safety initiatives by users or associations of users should be encouraged and supported by the regulator, including through appropriate delegation and control. The use of Codes of Practice should be encouraged as an

alternative to regulation, and the continuing development of a GA safety culture seen as a high priority.

It is considered that an overall common and consistent approach to a safety regulatory framework is still a necessary goal for GA in Europe, as it is very likely that, notwithstanding the safety issue it would raise, the absence of a pan-EU framework for GA would lead to rebuilding various national rules in contradiction with the European objective of facilitating market access for manufacturers, free movement across borders, aviation development and easy mutual recognition of certificates.

But this framework should however be limited, proportionate, and not over prescriptive. In particular, regulatory action should only be initiated when it has been clearly established that it is the proper response to an identified safety threat, i.e. statistically significant as evidenced by a trend analysis rather than a single event, and documented in a safety case.

It is therefore recommended that:

Reco 1.1:

Regulation for GA to be risk-based, proportionate and well tailored to activities.

For this purpose, the rule maker is asked not to start work from existing regulation essentially designed for CAT, but rather from a clean sheet and establishes whether and what regulations are most appropriate to GA in all fields: initial and continuing airworthiness, licensing, operations, airports, ATM.

The Agency takes advantage of the new rule-making process to continue to work cooperatively with manufacturers and end users through appropriate representation, from the very beginning of the work, including the discussion on the necessity or otherwise to regulate with the objective to adopt proportionate regulation~~,~~ for an acceptable level of safety.

A regulatory action should only be decided when

- there is a specific evidence-based safety concern, and
- other options including the "do nothing" option have been duly considered through an appropriate cost benefit analysis.

Reco 1.2

The rule-maker drafts 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.

Reco 1.3

The regulator values innovation and the use of new technology as proposed by manufacturers or users with the relevant justifications for safety.

Reco 1.4:

The EASA MB invites the EC, the Agency and the Member States to reassess the interpretation of the definition of “commercial operation” in the Basic Regulation (and associated other definitions) with the aim of:

- reflecting the considerations and scope of this paper, and
- taking into account the current practices in the Community where those practices currently achieve an acceptable level of safety without being treated as ‘commercial’, and

- providing clarity for stakeholders in understanding whether or not their operations fall within the scope of 'commercial operations',

-propose changes as required to the Basic Regulation.

3. Areas for improvements

3.1. Improve the dialogue with users

The necessity for early high level involvement of users

Whereas the existing consultation process has been in place for some time now, some of the difficulties encountered to date with the users in the rulemaking process could have been avoided if a very early involvement of the users on a strategic perspective had been set up. Questions such as : what benefits are expected from a new regulation with respect to the current safety situation? With what boundaries, for what actors? Are alternate ways of improving safety should not be investigated first?,... need to be discussed with users' involvement at high-level from the very beginning (cf reco 1.1)

The necessity of a regulation adapted to its stakeholders

Recognising that regulation always has its effect through a human filter, the human factors dimension is key to the way in which regulation is applied and implemented. The anticipated effects of a regulation have to be analysed through the way the regulated persons or organisations will react to, or live with, that regulation including the potential for unintended consequences.

In the case of GA, regulated organisations are often small scale with scarce resources. The organisations' representatives are less numerous, have far more limited means than those operating in CAT, and often rely upon volunteers for whom the ability to commit time and effort can be difficult.

It is therefore of paramount importance:

- First, to assure a consultation process which is adapted to their means, and which enables them to fully anticipate the consequences of proposals;
- Second, to result in a well balanced regulation that can be understood by the regulated persons or organisations at the level required for them to comply with it. Clarity and an absence of ambiguity in interpretation is key. This should not be confused with simplicity: rules sometimes need to be complex to take account of complexities in the environment in which they will be applied. Rules should be as simple as possible, and no simpler.
- Third, as a consequence of different cultures and legal systems across Member States, attention and resources are applied to a more systematic approach for the roles of the Member States and the NAAs. In particular in the roll-out of regulations (implementing rules) and related AMC and GM with the aim of an increase in understanding before and during transition. This aspect also includes the issue of accurate translations of all relevant regulatory texts into the various EU languages.

The first point implies that it is necessary to provide sufficient time for the drafting of the regulation, which probably leads to a less ambitious schedule than that which we have currently. This is probably more acceptable from a political viewpoint now that the initial phase of establishing the European aviation regulatory system is largely complete.

Better recognise users' legitimacy and competence

The consultation process is in place, and has worked for some time now in a very open manner. The users' feelings are however that, too often, proposed comments are ignored by the Agency with no substantiation of accompanying explanation, or dismissed with little or no satisfactory justification. The difficulty in handling hundreds or sometimes thousands of comments obviously has to be recognised. The frustration endured by people, often volunteers, spending significant time and therefore funds to address complex regulatory issues while feeling their proposals are not appropriately considered, should not be underestimated.

It is therefore recommended that :

Reco. 2.1

The Agency and the NAAs devote a specific effort in the consultation process, to help users assimilate proposals and elaborate responses;

The EC, the Agency and the Members States adapt the regulatory schedule to addressing users' responses to consultation adequately and thereby recognising realistic requirements.

Reco. 2.2

The Agency devotes specific attention to ensuring the proposed regulations are kept as simple as possible (whilst allowing a degree of complexity so that exceptions can be made), and that they preserve the ability of the regulated persons or organisations to understand them and apply them.

Use standardisation to promote best practices

The EASA Standardisation Directorate should play a key role in identifying best practices i.e. those which provide quicker answers with fewer administrative burdens on end users. Identified mechanisms, specific to the GA activities, should be defined to ensure the standardisation process can capture and disseminate best practices throughout the GA community. This should be extended to study non-community regulations and practices that appear particularly efficient.

It is therefore recommended that:

Reco. 2.3

The Agency proposes a specific mechanism in the standardisation process that would enable best practices in GA to be identified and disseminated to the GA community.

3.2. Adapt regulation to GA specificities

More emphasis on 'soft' law than 'hard' law

In view of the variety of situations encountered in GA, the greater control and responsibility the user or the pilot has on the flight operations, leading to a conclusion that the appropriate approach for regulation is to focus on principles. Regulations should set the objectives more than the means to attain them, and keep a high level of flexibility for the detailed technical means. A good way to achieve the required proportionality of the regulation is to keep the detailed level of requirements in certification specifications, to be elaborated by the Agency and NAAs with the users. This places a higher burden on the standardisation process as it has to ensure adequacy of retained means of compliance and to disseminate the preferred practices.

It is therefore recommended that:

Reco. 2.4

The rulemaking process focuses implementing rules on objectives and outcomes to be achieved by the regulated persons or organisations and the NAAs.

The technical means of achieving these objectives are described in appropriate certification specifications and advisory material (AMCs) to be produced by the Agency or NAAs with the users,

The Agency's standardisation directorate is tasked with ensuring adequacy of the retained means of compliance and to promote best practices.

A more comprehensive competency-based approach for personnel licensing

Even more in GA than in CAT, individual competence including field experience should be considered positively in the licensing process, whether the relevant competence and / or experience has been acquired in the environment under the European civil aviation system, or outside, be it in non European countries or in the military sector. Requirements for personnel licensing for pilots or maintenance personnel should be more balanced between academic requirements and field experience.

It is therefore recommended that:

Reco. 2.5

The personal licensing criteria be more balanced in favour of competence including field experience, both in establishing the licensing requirements in the rulemaking process, and when examining the situation in various Members States during the standardisation process.

3.3. Affirm the fundamental principle of preservation of individual rights

For years, before moving towards common safety rules for aviation in Europe, a large range of activities have grown under national regulations, and individuals have acquired and must maintain their "rights to fly" in different countries.

The development of EU common rules is a step forward for ensuring free circulation of people and products, for ensuring where necessary a level playing field, and for continuous promotion of safety.

However, according to the large diversity of former national regulations and situations, implementation of these new common EU rules might result in preventing the continuation of activities, without real justification in terms of safety or unfair competition. This should be avoided for GA, and any retroactive effect of new rules, in the form of disenfranchising organisations, should be avoided whenever and wherever possible. This is true as well for individual rights (which attest that the competency of an individual has been recognised) as for specific activities which have shown to be beneficiary to GA growth. The example of the airworthiness certification field, where it has been decided that all design approved before entry into force of EU airworthiness IR have been deemed to be approved under the new regulation, should be followed whenever possible. This may need very fine tuning to examine individual situations and decide at which level "old" national certificates or licences should be converted in the new European equivalent. It would be unreasonable that such a fine tuning is done at the European level. Flexibility should therefore be given to NAAs to decide on these points, with appropriate reporting to the Agency for transparency and sharing of good practice.

It is therefore recommended that:

Reco 2.6:

The EC, the Agency and the NAAs should give specific attention to transitional arrangements.

There should be a presumption in favour of no loss of existing rights, except where a specific safety issue has been identified with the existing (pre EU rules) situation, and where the removal of these rights is demonstrated to be the correct and only viable answer to recover the desired safety level. The transition from old to new regulations without loss of rights should be managed by the NAAs in a transparent process.

Reco 2.7 :

Where local activities supportive of GA growth, have been satisfactorily developed in a country, and take place in a very limited area with no interference with free circulation or fair competition principles, have no impact on the operation of non-local pilots and have not raised specific safety issues, some flexibility should be left to their continuation under oversight of the relevant NAAs, without the need of detailed regulation at the European level.

However this should not be understood as a general opt-out from European rules, nor as a provision to create new local rules which detract from the benefits of standardisation and a level playing field. New flexibility should preferably be introduced equally to all European operators through the EU system.

3.4. Towards a better balance between upstream control and downstream oversight

General

In GA the ability to start a new activity without undue delay may be a condition for this activity to exist.

Moreover, in the field of GA the operations are much more diverse, less predictable, and concern a much higher degree of variation in pilot experiences, than in CAT. A complex set of operational rules, requiring prior approval, is not the best way to assure flight safety in the GA environment.

Alternative solution

It is therefore felt more suitable and efficient to accept more confidence and greater recognition of the user's responsibility prior to the delivery of an authorisation, balanced with appropriate on-field oversight and penalties once the activity is started. This concerns applicable operations regulation, and also certification processes which should be as pragmatic as possible. Where an authorisation is required to conduct any activity, the NAA requires pre-activity involvement. However, if the declaration model were to be used there would be no requirement for pre-activity involvement.

The same concept has to be considered regarding requirements for the formal approval of organisations. A formal approval is often a heavy burden for a small organisation and results in a non-optimal use of its limited resources, with too much focus on administrative aspects. It should only be requested if it can be shown to be necessary in terms of safety promotion or to give effective privileges and / or delegation to the organisation. The more demanding are the requirements for an approval, the

broader the associated privileges should be. This would reinforce the previous point to increase reactivity and permit a quick start or resumption of activities.

It is therefore recommended that:

Reco 2.8:

GA activities may start or be resumed with a strict minimum of upstream control and authorisation process, on the basis of confidence in responsibility of the user for complying with the applicable requirements, and where applicable on the basis of declarative processes. This should take into account an appropriate oversight of operations to be implemented by the Agency and the NAAs.

Reco 2.9:

An organisation approval should only be requested when it has been demonstrated that it is necessary to perform certain activities. In these cases performing these activities should be a privilege of the approved organisation.

The level of autonomy that can be given to an approved organisation should be considered favourably but carefully.

3.5. Take best account of global practices for GA

In regulating and overseeing GA, the European system should take account of best practices in other world markets, especially those that have long experience of GA and are important markets for European industry. European industry can only be expected to compete successfully in third country markets if a level playing field and technical interoperability can be assured and if the manufacturers do not need to tailor their products separately to each market area. The most important market in this respect, both in terms of size and experience, is the United States due to the huge difference in size between American and European GA markets. However, best practises may also be found elsewhere such as in Canada, Australia and other major GA countries.

Conversely, the limited size of the European market may lead some US based organisations not to apply for a European approval because of its cost versus the expected benefits (example of part 147 approvals). This would result in difficulties for European owners (practical impossibility to find approved mechanics). Recognition of the US certificate would in such cases be in the interest of European stakeholders.

More generally, best practices in the North American market should be systematically examined against European needs. The success of the Light Sport Aircraft category would make a particularly interesting starting point as it covers both airworthiness and licensing, but other cases can also be found. Furthermore the EU should follow closely the on-going work to take a new approach to Part 23 certification. The EU should promote and develop European Intellectual Property (IP) and measure its competitive advantage in the market.

It is therefore recommended that:

Reco 2.10:

The Agency analyses regulations and practices in non EU countries whose regulations and practices regarding GA appear particularly efficient, with a view to incorporate the best practices contained therein. The example of the Light Sport Aircraft category should be considered as an interesting starting point.

4. Practical organisational arrangements

4.1. Assure a large stakeholders' buy-in

The proposed process for GA will represent, at least in some areas, a significant change in the way the safety system is looked at by the various regulatory organisations. Like any change process which deals with professional culture, and maybe specifically in any activities related to safety, resistance, whether explicit or not, conscious or not, is always difficult to override. Change will require a clear management support to the proposed approach, in the three actors' play between the EC, the Agency and the Members States throughout the totality of the process of construction and supervision of the European safety system for GA. If such support is insufficient, risk is high of seeing current difficulties continuing.

It is therefore recommended that:

Reco. 3.0

The Agency, the EC, the NAAs and Member States endorse the proposed principles and guidelines at the top management level so that they are adopted and applied effectively. Appropriate mechanisms should be implemented so that such endorsement is understood within the respective organisations.

4.2. Improve regulatory text elaboration

Four categories of European texts may be identified:

- Texts adopted, and already implemented
- Texts adopted, with on-going implementation, still in the transition phase.
- Texts for which work in underway but still on-going
- Future texts or texts at the beginning of the rule-making process.

Texts adopted and already implemented

When existing texts do not meet the guidelines and principles in this document, and create excessive burden for stakeholders, they should be revised and modified accordingly. However this process should avoid overloading the Agency's work programme with its existing rule-making resource base. Additional resources, or internal reallocation of existing resources, should be considered to address an agreed list of priorities for rule amendments, so that they can be delivered in an acceptable timescale for 'GA industry' stakeholders.

It is therefore recommended that:

Reco 3.1

Following review of this paper, the EC, in conjunction with the Agency, should identify, in very close cooperation with users' accredited representatives, the texts and processes already adopted and implemented which do not meet the above principles and guidelines and which are causing significant problems. A revision to the Agency's annual work programme should be adopted to incorporate such work, as a matter of priority. This should include possible transfers from IR to CS or advisory material (e.g. AMCs).

Reco 3.2

The EC, in conjunction with the Agency should identify a list of "quick wins" items, carefully discussed with all stakeholders as items for which limited changes may bring great alleviation and solve these items as an urgent priority.

Texts adopted with on-going implementation, still in the transition phase

For the texts being implemented now and still in the transition phase, and where problems arise in this transition period, due to the texts not meeting the principles and guidelines, the same strategy should be used. In this phase it would also be very helpful if the standardisation process is used to identify areas of difficulty and of non-compliance, and to propose necessary adaptations of the requirements.

It is therefore recommended that:

Reco 3.3

For the texts being implemented and in the transition phase the standardisation process should be used to identify areas of difficulties, to promote best practices for solving these difficulties and to propose appropriate changes to the regulations.

Texts for which work is underway but still on-going

Many activities related partially or in totality to GA regulations are still on-going in different areas such as Part/CS 23 Reorganisation ARC, AML-STC (Initial Airworthiness), Part M Task Force (Continuing Airworthiness), FCL 008 review group (Licensing), discussion of the Opinions on Part OPS SPO, NCC, NCO.

They should not necessarily be interrupted or unduly delayed but the EASA Committee and the Agency should be invited to take into account the agreed guidelines and principles in these activities, and if necessary to reorient the texts accordingly in consultation with the EC (where necessary; i.e. where Opinions have already been published).

It is therefore recommended that:

Reco 3.4

For the texts currently in discussion, the EC, the Agency and the MS are invited to undertake a swift review of these texts against the proposed Guidelines, and to consider the necessary time to do so with respect to the current regulatory schedule, in particular with respect to parts OPS-SPO, OPS-CAT-sailplanes, OPS-CAT-balloons.

Future texts or texts at the beginning of the rule making process

In the same way, these principles and guidelines, once approved, should be duly taken into account in any future regulatory work for GA.

It is therefore recommended that:

Reco 3.5:

A systematic procedure to be used in the rulemaking process for GA should be established by the Agency in agreement with the EC, to ensure that the above principles and guidelines are taken into account.

The Regulatory Impact Assessment process could be used for that purpose, with a specific and compulsory paragraph demonstrating how and precisely where these principles and guidelines have been taken into account.

Finally it is likely that the capacity to solve some of the difficulties also necessitates some changes to the Basic Regulation. Since it should not be expected that this alone would be a sufficient incentive to launch a process of review of the Basic Regulation,

it is recommended that:

Reco 3.6:

The changes to the Basic Regulation suitable for fully implementing agreed principles and guidelines are identified and a formal review of the Basic Regulation is undertaken by the EC with stakeholders so that necessary changes are ready for incorporation in any future amendments to the Basic Regulation.

4.3. Identify specific GA responsibilities

The different sets of actions proposed in this document are specifically focused on GA, and have impacts on different technical domains simultaneously. It is necessary to be assured that the Agency and the NAAs will effectively develop such an approach different to and quite separate from the one for CAT. It is also essential not to duplicate resources either in relation to the complexity of processes or current organisations.

A promising way forward could be to identify a focal point (team) within the Agency responsible for ensuring the consistency of the implementation of the GA Strategy (including regulation, certification, and standardisation aspects). This team could be of limited size, comprising representatives of different nationalities in order to facilitate communication with NAAs.

Resource~~s~~ constraints may well lead to the use of part-time resources, but at least the focal point or leader of the team should be dedicated essentially to GA, in order to devote sufficient effort to these matters and to be clearly identified as a good entry point by external stakeholders of the GA community. This focal point also has to be of a sufficiently senior managerial level within the Agency to be able to influence work within the organisation in line with the proposed strategy.

It is also necessary that users' representatives are clearly identified and empowered to handle GA subjects specifically.

It is therefore recommended that:

Reco 3.7:

The Agency is invited to consider, inform the Management Board and implement a specific organisational measure that will ensure the GA strategy is implemented in an efficient and consistent manner within the Agency work programme and with NAAs, and that the dialogue with the GA community is improved in particular by a clear identification of appropriate contact points.

Reco 3.8:

Key users' representative organisations are invited to designate representative empowered to represent GA users, in the dialogue with the Agency, the EC and the NAAs.

4.4. Continuously evaluate efficiency

In order to evaluate the level of implementation of the present GA strategy, the difficulties encountered, the efficiency of the proposed principles and guidelines, and to be able to react as required, a regular appraisal of progress should be made with and by all interested parties.

Reco 3.9:

The Agency is invited to set up a process by which an appraisal of the GA situation is shared at regular intervals, with the EC, the NAAs and the users' representatives, so that the results of the proposed strategy for GA are evaluated, and corrective actions taken as required .

5. Annex 1 – List of recommendations

The recommendations identified in the document are listed hereafter, with cross-reference to the Guidelines and Actions as described in the European GA Safety Strategy paper.

P1. Proportional approach, quite separate from CAT

***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.*

Reco 1.1:

Regulation for GA to be risk-based, proportionate and well tailored to activities.

For this purpose, the rule maker is asked not to start work from existing regulation essentially designed for CAT, but rather from a clean sheet and establishes whether and what regulations are desirable specific to GA in all fields: initial and continuing airworthiness, licensing, operations, airports, ATM.

The Agency takes advantage of the new rule-making process to continue to work cooperatively with manufacturers and end users through appropriate representation, from the very beginning of the work, including the discussion on the necessity or otherwise to regulate with the objective to adopt proportionate regulation~~,~~ for an acceptable level of safety.

A regulatory action should only be decided when

- there is a specific evidence-based safety concern, and
- other options including the "do nothing" option have been duly considered through an appropriate cost benefit analysis.

P2. A philosophy of 'minimum necessary' rules

***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 2.2**: Where GA can interact with CAT, develop appropriate measures, including regulations as necessary, to prevent undesired events.*

Reco 1.2

The rule-maker drafts 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.

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

Reco 1.3

The regulator values innovation and the use of new technology as proposed by manufacturers or users with the relevant justifications for safety.

P3 .Adopt a risk-based 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.*

Reco 1.1

P4. Protect "Grand father rights"

***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.*

Reco 2.6:

The EC, the Agency and the NAAs should give specific attention to transitional arrangements.

There should be a presumption in favour of no loss of existing rights, except where a specific safety issue has been identified with the existing (pre EU rules) situation, and where the removal of these rights is demonstrated to be the correct and only viable answer to recover the desired safety level. The transition from old to new regulations without loss of rights should be managed by the NAAs in a transparent process.

***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.*

Reco 2.7 :

Where local activities supportive of GA growth, have been satisfactorily developed in a country, and take place in a very limited area with no interference with free circulation or fair competition principles, have no impact on the operation of non-local pilots and have not raised specific safety issues, some flexibility should be left to their continuation under oversight of the relevant NAAs, without the need of detailed regulation at the European level.

P5. Minimise bureaucracy and apply the "better regulation principles"

***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.*

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Reco. 1.1

Reco. 2.1

The Agency and the NAAs devote a specific effort in the consultation process, to help users assimilate proposals and elaborate responses;

The EC, the Agency and the Members States adapt the regulatory schedule to addressing users' responses to consultation adequately and thereby recognising realistic requirements.

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.

Reco 2.8:

GA activities may start or be resumed with a strict minimum of upstream control and authorisation process, on the basis of confidence in responsibility of the user for complying with the applicable requirements, and where applicable on the basis of declarative processes. This should take into account an appropriate oversight of operations to be implemented by the Agency and the NAAs.

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.

Reco. 2.2

The Agency devotes specific attention to ensuring the proposed regulations are kept as simple as possible (whilst allowing a degree of complexity so that exceptions can be made), and that they preserve the ability of the regulated persons or organisations to understand them and apply them.

***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.*

Reco. 2.4

The rulemaking process focuses implementing rules on objectives and outcomes to be achieved by the regulated persons or organisations and the NAAs.

The technical means of achieving these objectives are described in appropriate certification specifications and advisory material (AMCs) to be produced by the Agency or NAAs with the users,

The Agency's standardisation directorate is tasked with ensuring adequacy of the retained means of compliance and to promote 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.

Reco. 2.3

The Agency proposes a specific mechanism in the standardisation process that would enable best practices in GA to be identified and disseminated to the GA community.

Reco 2.10:

The Agency analyses regulations and practices in non EU countries whose regulations and practices regarding GA appear particularly efficient, with a view to incorporate the best practices contained therein. The example of the US Light Sport Aircraft category should be considered as an interesting starting point.

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

Reco. 2.5

The personal licensing criteria be more balanced in favour of competence including field experience, both in establishing the licensing requirements in the rulemaking process, and when examining the situation in various Members States during the standardisation process.

***G 5.7**: Do not impose inappropriate pressure to build new regulations and give all necessary time for a sound rule-making process in order to get it right at the first iteration.*

Reco. 2.1

P6. Make best use of available resources of expertise and delegate responsibilities to the appropriate level

G 6.1: Give the right privileges to approved organisations.

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

Reco 2.9:

An organisation approval should only be requested when it has been demonstrated that it is necessary to perform certain activities. In these cases performing these activities should be a privilege of the approved organisation.

The level of autonomy that can be given to an approved organisation should be considered favourably but carefully.

Actions to be taken and next steps

***A 1:** The Member States to identify and transmit to the Agency before the end of October 2012, specific GA activities (such as cost sharing by private individuals or A-A introductory flights in an aeroclub) that they did not submit to commercial air transport activities rules. On the basis of a review of this survey by the Agency, the Commission to clarify before April 2013 the interpretation of 'commercial operations' and 'commercial air transport' in relation to certain GA operations. If necessary propose a change to the definitions in the Commission Regulations and / or Basic Regulation., so that the focus on actual professional business activities is explicit.*

Reco 1.4:

The EASA MB invites the EC, the Agency and the Member States to reassess the interpretation of the definition of "commercial operation" in the Basic Regulation (and associated other definitions) with the aim of:

- reflecting the considerations and scope of this paper, and
- taking into account the current practices in the Community where those practices currently achieve an acceptable level of safety without being treated as 'commercial', and
- providing clarity for stakeholders in understanding whether or not their operations fall within the scope of 'commercial operations',
- propose changes as required to the Basic Regulation.

***A 2:** The Agency to develop and publish before July 2013 internal guidance material to ensure that the new rule making process is implemented consistent with the above guidelines when applied to GA*

activities. This should include explicit checking and a statement of compliance with the above principles and guidelines at various steps (RIA, NPA, CRD) of the procedure.

Reco 3.5:

A systematic procedure to be used in the rulemaking process for GA should be established by the Agency in agreement with the EC, to ensure that the above principles and guidelines are taken into account.

The Regulatory Impact Assessment process could be used for that purpose, with a specific and compulsory paragraph demonstrating how and precisely where these principles and guidelines have been taken into account.

A 3: The Agency and the Members States to devote specific attention to ensuring the proposed regulations are kept as simple as possible. When necessary the Agency should provide explanatory guidance in "plain language" to assist regulated individuals in understanding the requirements with which they are required to comply.

Reco 2.2

A 4: The Agency to implement a specific mechanism in the standardisation process that would enable best practices in GA to be identified and disseminated to the GA community and to propose changes to regulation when necessary in close relationship with the regulation directorate. A specific item on sharing of good practice should be part of the agenda of standardisation meetings.

The Agency, with the users, to incorporate in this mechanism a way to take into account, when relevant, best practices from non-EU countries with significant GA activity. The example of the US Light Sport Aircraft category should be considered as an interesting starting point.

Reco. 2.3

Reco. 2.4

Reco 3.3:

For the texts being implemented and in the transition phase the standardisation process should be used to identify areas of difficulties, to promote best practices for solving these difficulties and to propose appropriate changes to the regulations.

Reco 2.10

***A 5:** 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).*

Reco 3.2

The EC, in conjunction with the Agency should identify a list of “quick wins” items, carefully discussed with all stakeholders as items for which limited changes may bring great alleviation and solve these items as an urgent priority.

A 6: 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.. On this basis the Agency to set up before march 2013 Agency an ordered review process to to address this situation, including, as necessary, proposed changes to the Basic Regulation.

In the mean time Member States, the Agency and the Commission to consider and agree how these principles and guidelines might be used in preparing and assessing cases under the flexibility provisions to use consistently between them the procedures under Article 14.4 or 14.6 of Regulation 216, where legally possible.

Reco 3.1

Following review of this paper, the EC, in conjunction with the Agency, should identify, in very close cooperation with users' accredited representatives, the texts and processes already adopted and implemented which do not meet the above principles and guidelines and which are causing significant problems. A revision to the Agency's annual work programme should be adopted to incorporate such work, as a matter of priority. This should include possible transfers from IR to CS or advisory material (e.g. AMCs).

Reco 3.6:

The changes to the Basic Regulation suitable for fully implementing agreed principles and guidelines are identified and a formal review of the Basic Regulation is undertaken by the EC with stakeholders so that necessary changes are ready for incorporation in any future amendments to the Basic Regulation.

A 7: For texts in preparation and on going 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).

Reco 3.4

For the texts currently in discussion, the EC, the Agency and the MS are invited to undertake a swift review of these texts against the proposed Guidelines, and to consider the necessary time to do so with respect to the current regulatory schedule, in particular with respect to parts OPS-SPO, OPS-CAT-sailplanes, OPS-CAT-balloons..

***A 8:** The Agency to consider and present to the MB in March 2013 a study and possible adaptation of its internal organisation to assure that GA matters are given at the appropriate management level the necessary resources and attention, that they are dealt with consistently throughout all directorates in accordance with above principles and guidelines, and that GA stakeholders can have easy access to the staff of the Agency responsible for of GA matters.*

Reco 3.7:

The Agency is invited to consider, inform the Management Board and implement a specific organisational measure that will ensure the GA strategy is implemented in an efficient and consistent

manner within the Agency work programme and with NAAs, and that the dialogue with the GA community is improved in particular by a clear identification of appropriate contact points.

A 9: *The Management Board to invite key GA users' representative organisations to propose to the Agency by the end of 2012 a team of representatives empowered to represent GA users in the dialogue with the Agency, the EC and the National Authorities.*

The Agency to establish by mid 2013 a GA Subgroup of the Safety Standards Consultative Committee (SSCC) in order to periodically examine the implementation of this new approach to GA and the efficiency with which it is done.

Reco 3.8:

The EAB is invited to designate specific individuals of the GA representative bodies empowered to represent those GA representative bodies, in the dialogue with the Agency, the EC and the NAAs.

Reco 3.9:

The Agency is invited to set up a process by which an appraisal of the GA situation is shared at regular intervals, with the EC, the NAAs and the users' representatives, so that the results of the proposed strategy for GA are evaluated, and corrective actions taken as required .

6. Annex 2 – Building Block approach

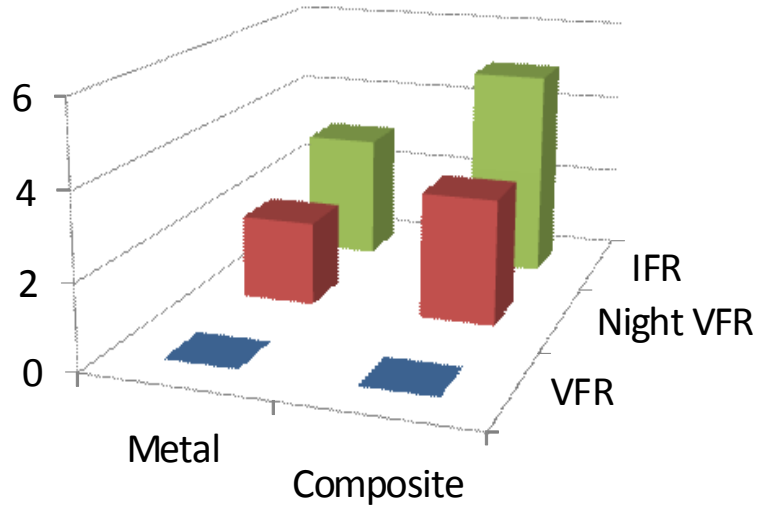
The objective of the "Building Block" approach is to specify any kind of applicable requirements and compliance showing by no longer using predefined major categories (e.g. prescriptive weight limits) and their set of predefined requirements, but by addressing each and every subjects of a project with the most appropriate requirements. Having no solid boundaries between categories should reduce the "stepping effect". It could apply to any kind of activity (type design, organisation, operation, etc…). Its main benefit is that it will be capable to address all needs under one hat.

The "Building Block" approach should starts with a very basic set of items, and will continue by adding all necessary bits and pieces depending on the design / setup of the project, in order to cover all parts to the extend needed. This will result in a matrix of requirements applicable for the project. Should changes be introduced to the project, it will be adapted as necessary.

For compliance showing Objective Rules should be used together with a proportionate application of acceptable means of compliance. Also in doing so, different requirements can be combined in one "applicable code" (for example CS-LSA, CS-VLA, and CS-23 can become one common code) without excessively high burden (it should be particularly relevant when a project is evolving from one category / regulation into the next applicable one with different philosophies which are always applicable in whole and not only to the border crossing subjects).

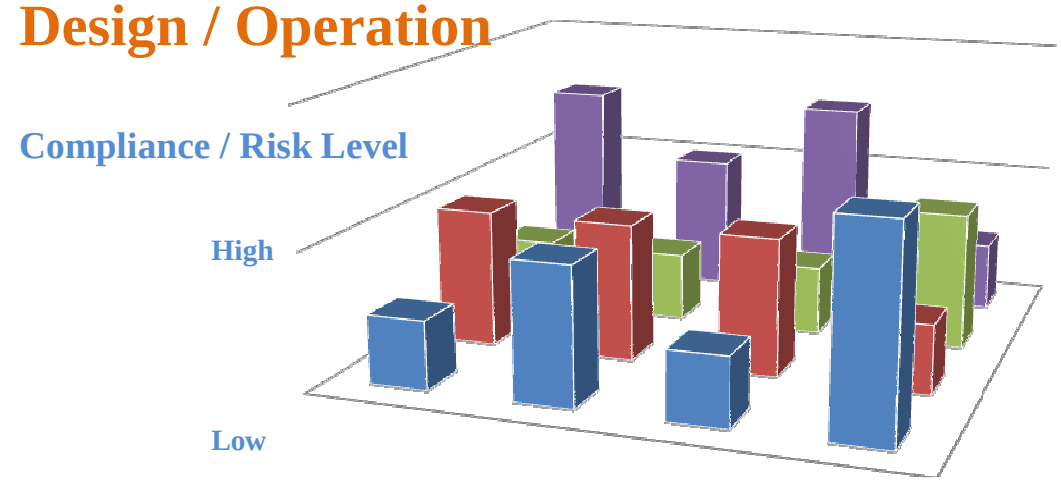
With the new building block approach and its objective driven requirements, it should be easier to let a project grow step by step (e.g. into more advanced areas) without invalidating all the previous compliance demonstration work simply because of a change of category.

As an example, the principle of the building block approach is shown to establish the level of compliance requirement for a design example (Lightning Protection).

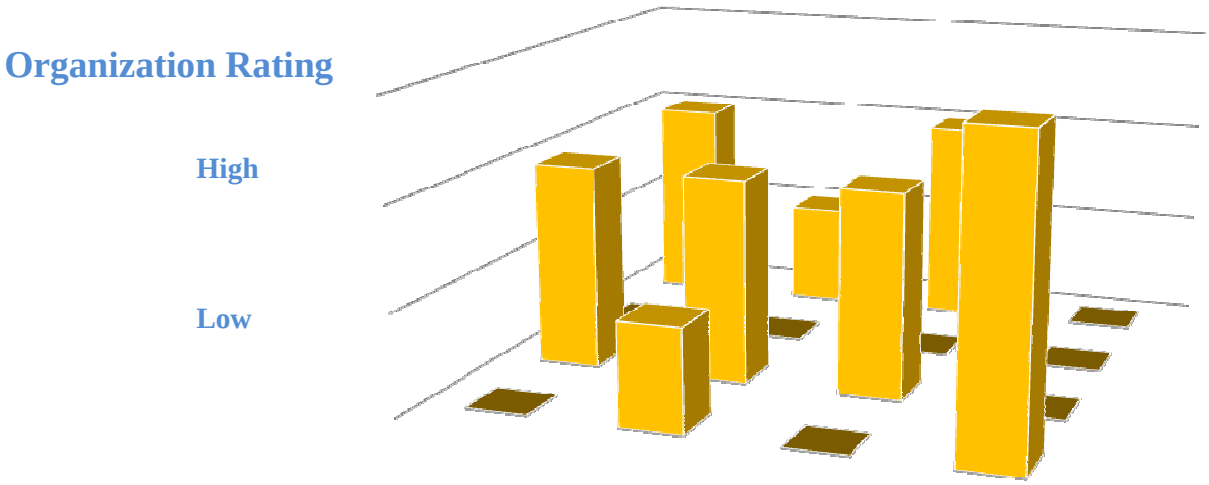


Following this process can automatically lead to the definition of the Level of Involvement of the Authorities depending on the agreed compliance/risk level determined upfront.

Design / Operation



Organization



Authority