

**ADVANCE -NOTICE OF PROPOSED AMENDMENT (A-NPA) No 14-2006**

**A concept for better regulation in General Aviation**

**(Aircraft other than Complex Motor Powered Aircraft, used in  
Non-commercial activities)**

**Outline of the A-NPA**

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## **A concept for better regulation in General Aviation**

### **I. General**

1. The Agency is directly involved in the rule-shaping process. It assists the Commission in its executive tasks by preparing draft regulations, and amendments thereof, for the implementation of Regulation (EC) No 1592/2002 of the European parliament and the Council of 15 July 2002 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency<sup>1</sup> (hereinafter referred to as “the Basic Regulation”) which are adopted as “Opinions” (Article 14.1). It also adopts Certification Specifications, including Airworthiness Codes and Acceptable Means of Compliance and Guidance Material to be used in the certification process (Article 14.2). When doing so it shall follow an open and transparent process; such process is detailed in the EASA rulemaking procedure adopted by its Management Board<sup>2</sup>
2. The Advance-Notice of Proposed Amendment (A-NPA) procedure is a special procedure defined by article 14 of the EASA rulemaking procedure. It provides for preliminary consultation in those cases where the Executive Director concludes that additional information is needed prior to embarking on the drafting/consultation of a new rule. This may be the case for rulemaking in new areas. The A-NPA will allow for the publication of consultation papers seeking opinions and input on, for example, a choice of different rulemaking options to address a specific need. The purpose of this A-NPA is to propose a concept for the regulation of aircraft other than complex-motor-powered aircraft, and used in non-commercial operations. It is a first step towards further rulemaking actions.
3. As is further developed in this document, the proposed concept envisages significant regulatory principles that are not widely used in aviation. This A-NPA opens therefore the debate at conceptual level thus ensuring that views of the aviation community are taken into account before proposing changes to existing regulations.
4. This rulemaking activity is included in the Agency’s rulemaking programme for 2007. It implements the first phase of rulemaking task MDM.032 (Multi-Disciplinary Measures). The text of this A-NPA has been developed by a rulemaking group. It is submitted for consultation to all interested parties in

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<sup>1</sup> Regulation (EC) No 1592/2002. OJ L 240, 7.9.2002, p.1, Regulation as last amended by Regulation (EC) No. 1701/2003 OJ L 243, 27.9.2003, p. 5

<sup>2</sup> Decision of the Management Board concerning the procedure to be applied by the Agency for the issuing of opinions, certification specifications and guidance material (“rulemaking procedure”): EASA MB/7/03, 27.6.2003

accordance with Article 43 of the Basic Regulation and Articles 5(3) and 14 of the EASA rulemaking procedure.

## II. Consultation

5. To achieve optimal consultation, the Agency is publishing the draft concept for the regulation of aircraft other than complex-motor-powered aircraft, and used in non-commercial operations on its internet site. Comments should be provided within 2 months in accordance with Article 14 of the EASA rulemaking procedure. Article 14 states that the duration of the consultation period is determined by the Executive Director. The 2 months period has been chosen to fit with the timescales given to the group, which itself tries to accompany the legislative process on the Commission proposal on extending the scope of the Basic Regulation to the regulation of air operations, pilot licensing and third country aircraft<sup>3</sup>, so as to provide additional input on possible implementing rules and use the opportunity of the legislature to make adjustments as appropriate to the legislative proposal in due course.
6. Comments on this proposal may be forwarded (preferably by e-mail), using the attached comment form, to:

**By e-mail:** [NPA@easa.europa.eu](mailto:NPA@easa.europa.eu)

**By Fax:** +49(221) 89990 5508

**By correspondence:** Process Support Department  
Rulemaking Directorate  
EASA  
Ref: A-NPA 14-2006  
Postfach 10 12 53  
D-50452 Köln  
Germany

7. Comments should be received by the Agency **before 16 October 2006**. If received after this deadline they might not be treated. Comments may not be considered if the form provided for this purpose is not used. Furthermore, part V.D. of this A-NPA also includes several questions. The objective of these questions is to seek the opinion of stakeholders on key features of the future framework for the regulation of General Aviation. It would be most appreciated if beyond the comments on the concept below, comments were also related to these questions.

## III. Comment response document

8. All comments received in time will be responded to and incorporated in a comment response document (CRD). This may contain a list of all persons and/or

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<sup>3</sup> Commission legislative proposal COM (2005) 579 of 16 November 2005

organisations that have provided comments. The CRD will be widely available on the Agency's website.

#### IV. Background

9. In Opinion No 3/2004<sup>4</sup> that served as the basis for the Commission's legislative proposal referred to above, the Agency recognised that the current JAR-FCL PPL (Joint Aviation Requirement-Flight Crew Licensing Private Pilot Licence) may be too demanding for flying only simple aircraft in a simple air traffic environment and considered it appropriate to create an additional level of licence for these types of activities. As a consequence the Agency proposed the creation of a new category of private pilot licence, as an alternative to the existing JAR-FCL PPL that may be issued by assessment bodies<sup>5</sup>. The holders of such a licence would not be authorised to fly complex motor-powered aircraft<sup>6</sup> or to engage in commercial aviation. Conditions for issuing such licences, the type of aircraft that they allow flying and possible restrictions on airspace access would have to be specified in an implementing rule adopted by the Commission through a "comitology" process. This suggestion has been endorsed by the Commission and is part of its legislative proposal.
10. Opinion No 3/2004 also concluded that the operation of General Aviation aircraft needed to be regulated through rules adapted to the complexity of the aircraft rather than to the type of activity, except if such activity affects the related risks. In the case of non-complex aircraft not engaged in commercial activities these rules would most probably be limited to clarifying how the Essential requirements for operation included in the Basic Regulation should be implemented. They should also mandate equipments (emergency and radio equipments) and procedures (airspace use) to be used in certain circumstances. These "general operating rules" rules would be directly applicable and compliance verified by Member States without the need for neither certification nor declaration. They will

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<sup>4</sup> OPINION No 3/2004 OF THE EUROPEAN AVIATION SAFETY AGENCY for amending Regulation (EC) No 1592/2002 of the European Parliament and of the Council on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, to extend its scope to the regulation of pilot licensing, air operations and third country aircraft of the 16 December 2004

<sup>5</sup> As defined in COM (2005) 579),

Assessment body means an approved body which may assess conformity of legal or natural persons with the rules established to ensure compliance with the essential requirements laid down in this Regulation and issue the related certificate.

<sup>6</sup> As defined in COM (2005) 579

*Complex-motor-powered aircraft means:*

*(i) an aeroplane:*

- *with a maximum certificated take-off mass exceeding 5,700kg or;*
- *with a maximum approved passenger seating configuration of more than 9 or;*
- *certificated for operation with a minimum crew of at least 2 pilots or;*
- *equipped with (a) turbojet engine(s); or*

*(ii) a helicopter:*

- *with a maximum certificated take-off mass exceeding 3,175kg or;*
- *with a maximum approved passenger seating configuration of more than 5 or;*
- *certificated for operation with a minimum crew of at least 2 pilots; or*

*(iii) a tilt rotor aircraft;*

have to be developed by the Agency and adopted by the Commission through a “comitology” process. This suggestion has been endorsed by the Commission and is part of its legislative proposal.

11. Furthermore, during the consultation that took place for the preparation of Opinion N° 3/2004, there appeared to be several additional issues that also needed to be addressed. Above all, the majority of stakeholders felt that they were over regulated and did not want to be faced with the same situation when the Operations and Flight Crew Licensing regulatory framework was transferred to EASA. They considered that this is one of the reasons for the poor development of European General Aviation. In their views, this was largely due to the fact rules initially established for commercial air transport by large aircraft had been generalised to the rest of the aviation community without proper adaptation or sufficient impact assessment. This has led many associations representing sports aircraft, glider and Micro-light aircraft, to express the will to be or to remain excluded from the scope of EASA. Doing so would certainly have raised the problem of aircraft that are almost identical in design and performance being regulated by different bodies, creating therefore legal uncertainties and in some cases unacceptable inequalities. Conversely, including more aircraft in the scope of the Basic Regulation to eliminate current unfair differences of treatment, for example between very light aircraft and ultra light ones, which present now similar characteristics and risks, can only be envisaged if the regulations are re-thought and adapted to the complexity of the aircraft. Further contacts with the concerned communities to investigate the actual difficulties, showed that a full review of the airworthiness regulations was urgently needed before the full set of rules adopted by the end of 2003 for implementing the basic Regulation fully enter into force by the end of 2008<sup>7</sup>.
12. The Agency is concerned about the situation highlighted during the consultation and ensuing meetings with this segment of aviation and therefore wishes to address this issue.
13. Taking into account the above, the Agency decided to address all the issues raised above in a single rulemaking task to develop a coherent system adapted to the needs of General Aviation as a whole. It has become known as task MDM-032. This activity is similar in scope to the one that led to the US Light Sport Aircraft rule and addresses all aspects of non-complex aircraft when not engaged in commercial operations (design, maintenance, operations and licensing). This should lead to appropriate adaptations of existing implementing rules (airworthiness) and the issuing of new ones (air operations and pilot licensing), using as appropriate JAA (Joint Aviation Authorities) material, such as draft JAR OPS 0 and 2 (Joint Aviation Requirements-Operations relative to general operating rules and corporate aviation respectively).

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<sup>7</sup> Commission Regulation (EC) Nr 1702/2003 of 24 September 2003 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products and parts, as well as for the certification of design and production organisations.

Commission regulation (EC) Nr 2042/2003 of 20 November 2003 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks.

14. To address this issue a rulemaking group, has been set up. It is composed of experts nominated by Europe-Air-Sports (7), ECOGAS (European council of General Aviation support) (2), IAOPA (International aircraft owner and pilots association) (2), National Authorities (3) and the Agency (3). The number of experts nominated by Europe Air Sports is justified by the need to represent all components of air sports. The group has met five times in plenary sessions to elaborate the concept presented in this A-NPA.
15. In the initial phase, the group was asked to brainstorm beyond the limits of conventional approaches to regulation in aviation, using as much as possible models used in different Member States for certain segment of General Aviation. It was then invited to elaborate a complete concept. 13 approaches were tabled for discussion. On this basis the group developed 7 options for initial airworthiness, 4 for continuing airworthiness (including maintenance), 2 for operations and 1 for pilot licensing. A pre-selection was made reducing the number of options to the ones presented in the attached regulatory impact assessments<sup>8</sup> (attachments A, B C and D) drafted by the group based on the expertise of its members and a review of several relevant studies as referred to in attachment E. The outcome of this exercise was used to define the concept presented below.
16. The next steps will be the review of comments received and the finalisation of the concept, which underpin the development and issuing of the following rules or building blocks thereof:
  - An Opinion on amending regulation (EC) 1592/2002 to adjust as appropriate its airworthiness provisions; such rule should be issued by March 2007 following an accelerated consultation, so that the on-going negotiations on the Commission proposal referred to above can be used as much as possible.
  - An NPA (Notice of Proposed Amendment) for an opinion on amending the current airworthiness implementing rules and their associated AMC as required to implement the amendment to Regulation (EC) 1592/2002 referred to here above; this should be ready by September 2007 and published at the same time that the above opinion to give full visibility on the amendment and its implications.
  - An Opinion on amending the current airworthiness implementing rules (1702/2003 and 2042/2003) to introduce changes that do not require the above adjustment of Regulation (EC) 1592/2002; such rule should be issued by March 2007 following an accelerated consultation so that the amendment can be adopted by the Commission sufficiently in advance of the full entry into force of these rules in the field of General Aviation by the end of 2008 and provide for enough time for the affected stakeholders to adapt.
  - Regulatory requirements for the recreational private pilot licence; this should be ready by September 2007 as an input to the development of the implementing rule of the extended Basic Regulation related to pilot licensing.

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<sup>8</sup> The development of regulatory impact assessments (RIA) is required by the EASA rulemaking procedure. It is a useful process to select options by evaluating their impact on the following factors: safety, economics, social field, environmental protection, international harmonisation and other aviation regulations outside the EASA remit when appropriate.

- Regulatory requirements for general operating rules; this should be ready by September 2007 as an input to the development of the implementing rule of the extended Basic Regulation related to air operations.

This work will of course be done in close co-operation with other rulemaking tasks initiated in parallel by the Agency to prepare the rules related to the implementation of the extended Basic Regulation on the basis of the Commission proposal COM (2005)579 and adaptations to Part M (continuing airworthiness) to ease its provisions as regards General Aviation and pilot owner maintenance<sup>9</sup>.

## V. A concept for the regulation of General Aviation<sup>10</sup>

### A. The state of play

17. There are approximately 300,000 private pilots and 80,000 aircraft in Europe excluding those aircraft exempted from the scope of the Basic Regulation by its Annex II. This only represents 25% of the General Aviation aircraft registered in the United States, which have has a lower population and comparable size and economy. Moreover, there is a continuous a decline in the traditional European General Aviation sector that is not mirrored on the American side. There is however a notable exception to this decline in Member States (e.g. Czech Republic, France) where the micro-light industry, subject to an extremely simplified regulatory regime, is a vibrant developing activity with a significant exporting potential. The same could be said of the gliding activity in Germany, where the regulatory regime departs significantly from the full brunt of JAA rules.
18. It is therefore felt by stakeholders that there is a correlation between the heaviness of rules or of their implementation, and the difficulties faced by General Aviation in developing their activity. Of course, the regulation alone cannot be blamed for all the problems, taxation, high fuel prices for instance are clearly also factors in the cost of operating a light aircraft. Nonetheless, there does seem to be a link. Before embarking however on relaxing the regulatory framework, it is necessary to examine what is the current level of safety and what could be the effect of lighter regulations taking example of precedents in Member States or third countries.
19. Although there are no European wide statistics as there is no common standard for recording data, available studies coming from Member States and other countries that were reviewed tend to show that the major fatalities risks for General Aviation are loss of control and controlled flight into terrain. These studies also show that the design related failure rate is very low in all cases. Human performance (in particular pilot decision making) and weather are contributing

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<sup>9</sup> These tasks are currently known in the expert environment as tasks M.005 and M.017.

<sup>10</sup> For the purpose of this document, consistent with the Commission proposal COM (2005)579, General Aviation means all non-commercial activities of aircraft other than complex-motor-powered aircraft

factors. Incapacitation due to medical causes appears to be a marginal risk. The impact to non-involved third parties is known to be statistically insignificant<sup>11</sup>.

20. In the micro-light world, with an extremely simplified regulatory regime, the data available to the group do not show a significant difference with the traditional sector of General Aviation in spite of the lighter regulatory regime. The causes of accidents seem to be no different from those of aircraft regulated in the “classic” manner.
21. The General Aviation regulatory review conducted by the CAA (Civil Aviation Authority) of the United Kingdom (available on their web-site) concluded that the *estimated fatal accident rates per 100000 hours for the group of aircraft in the conventional aeroplanes full regulation category were statistically better than those in the devolved and self-regulation group. In comparison the fatal accident rate for fully regulated helicopters is very similar to self-regulated gliders, para-gliders and partially devolved micro-lights.* The review recommended further study to investigate the possible correlation between regulatory regime and general aviation fatal accident rates and causal factors. One area of investigation could be the licensing training regime. This confirms the finding that main causes of accident are related to human factors, in particular linked with an insufficient training. Any new concept should therefore concentrate more on training/licensing standards than on airworthiness or operational aspects.
22. From the above it can be concluded that in view of:
  - The stagnating, difficult economic prospects of General Aviation in Europe, in comparison with other regions of the world, particularly, North America;
  - The apparent growth of certain segments of General Aviation, particularly those that are not subject to the full set and machinery of the traditional civil aviation regulatory regimes;
  - The nature and extent of the safety risks, and particularly the absence of risks to non-involved third parties, in this sector of civil aviation;
  - The desire amongst most of the stakeholders to ensure the continued existence, and hopefully growth, of this sector of aviation;
  - The recognition that General Aviation forms an important part of the lives of many European citizens and that their participation and enjoyment of this activity should not be prejudiced by unnecessary complex regulation;
  - The recognition that General Aviation plays an important role in the European economy, particularly due to its innovative technical design capabilities; and
  - The general drive in the European Community to reduce the burden of regulation, and to only create regulation where there is a proven case that

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<sup>11</sup> This evaluation has voluntarily been kept qualitative because of the data limitation mentioned above. Quantitative data can be found into studies such as the General Aviation regulatory review conducted by CAA (in particular Annex L), the CAA Aviation Safety Review 2005, the Annual Review of Aircraft Accident Data: U.S. General Aviation, Calendar Year 2001 by NTSB, the statistical elements for aviation safety in 2005 from French Accident Investigation Board and the ECAC compilation of statistic accidents in general aviation for 2004 with a comparison with the years 2002 and 2003. See also Attachment E.

regulation is necessary, and, when this is established, that such regulations are proportional, easily understood and practical;  
it is necessary to review the legislation affecting this sector of civil aviation and to adopt a new approach more conducive to its harmonious development. Such is the purpose of the concept described hereunder.

B. Principles used in the development of the concept: proportionality and participation

23. The principle of proportionality is aimed at ensuring that regulation is appropriate and proportional to the safety risks it is intended to address. In General Aviation, those involved will generally be well informed, have control of the activity and are able to make decisions based on informed judgement. It is therefore appropriate to develop a lower level of regulation for GA than for commercial air transport, for example, where passengers will generally not have this insight or level of control. The principle also aims to target regulation where it can have the greatest safety benefit. An example of using the principle of proportionality may be found in the concept proposed below when dealing with initial airworthiness. It has been established that one of the main causal factors that can lead to accidents, including the major causes of loss of control and CFIT, is pilot error induced through a lack of situational awareness. New technology is available that can provide additional pilot cues to address this issue, but costs can be prohibitively high, due in part to the regulations imposed. Changes to certification standards and procedures could be a means of encouraging fitment of such systems, with the recognition that any reduction in safety resulting from lower airworthiness standards would be more than compensated for by reduced pilot error, leading to an overall increase in safety. Lower costs may also re-energise the industry, leading to new designs and a modernisation of the fleet, which would also aid safety.
24. It is also evident that bringing the regulation closer to the regulated population (participation) makes them more responsible for their actions. Regulation are better implemented when they are well understood and voluntarily accepted by those who live it from day to day rather than imposed by a distant civil servant. The regulated population must therefore take ownership of it, makes it live and adapts it to an evolving environment. Participation makes the regulated persons more responsible players. The concept includes therefore self-administration solutions that involve the regulated persons in the development of standards and in monitoring their actual implementation every time this is possible and accepted.

C. Description of the concept

25. The concept itself includes four components addressing respectively initial airworthiness, continuing airworthiness, air operations and pilot licensing. Only the retained options are presented here. The attached regulatory impact assessments provide the logic behind the choice of the options for each component. In some cases, it was not possible to retain only one solution without the opinion of all stakeholders; the various possibilities are reflected therefore

hereunder and open for comments. The final concept will take into account these comments in order to present the more consensual solution as possible.

#### 1. Initial Airworthiness

26. In this domain, after a review of the options proposed by the rulemaking group and reflected into the RIA for initial airworthiness, the Agency considers more appropriate to maintain the current certification process as prescribed by Regulation 1702/2003 for all aircraft with a maximum take-off mass (MTOM) of 2000 kg or more. Three options are possible to reduce the certification burden for aircraft below this mass. It was also considered more advisable that individual certificates of airworthiness be always issued by National Aviation Authorities for all aircraft whatever their mass.

#### 27. Option 1: relaxation of the current system

In this option the design of all aircraft with a MTOM of less than 2000kg remain under full EASA control. It differs from the current situation as regards the following elements:

- Design capability: simplified requirements, including the one-man organisation, to grant the current designer's privileges,
- Basis for Type Certificate (TC) or Supplemental Type Certificate (STC): approved by EASA on the basis of a simplified Certification Specification adopted by EASA
- Approval of design changes and repairs: TC or STC holder independently of their nature (major or minor)
- Production capability: simplified requirements including the one-man organisation, to grant the current manufacturer's privileges,
- Approval of Aircraft Flight Manual and Instructions for Continuing Airworthiness: TC or STC holder
- Activities relative to continuing airworthiness of design: TC or STC holder
- Body issuing Airworthiness directives: EASA in consultation with TC holder

#### 28. Option 2: industry monitoring

In this option most EASA tasks contained in option 1 are transferred to the industry. EASA retains the right to issue Airworthiness Directives at any time to correct dangerous situations not appropriately managed by the designer. It differs from the current situation as regards the following elements:

- Design capability: compliance with an Industry Standard<sup>12</sup> checked by an approved Assessment Body.
- Basis for Type Certificate: or Supplemental Type Certificate: defined by an approved designer using an Industry Standard
- Body issuing the TC: approved Assessment Body
- Certification basis for changes and repairs: TC or STC holder based on Industry Standard.
- Approval of design changes and repairs: TC or STC holder
- Production capability: compliance with an Industry Standard checked by an approved Assessment Body
- Body issuing Airworthiness directives: EASA or EASA following recommendation of an approved Assessment Body.

### 29. Option 3: industry monitoring with self declaration

This option builds on option 2 but another sub-category is established for aircraft with a MTOM of less than 750 kg. While option 2 applies to all aircraft above this limit, further delegation is introduced for an approved designer to self-declare compliance with Industry Standards. As a consequence, for these low weight aircraft this option differs from the previous one as regards the following elements:

- Body issuing the TC: approved designer
- Body issuing Airworthiness directives: EASA in consultation with TC holder

## 2. Continuing Airworthiness and Maintenance

30. In this field preparatory work on the impact of Part M conducted by the Agency together with preliminary discussions with the regulated population have allowed identifying the weaknesses of the current rules. The way forward is therefore well identified and the group came to the conclusion that the best option is to continue with the rulemaking tasks already initiated by the Agency and supported by its advisory bodies (the Safety standard Consultative Committee and the Advisory Group of National Authorities).

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<sup>12</sup> Standards established or published by an official body whether having legal personality or not, which are widely recognised (by consensus) by the aviation community as constituting good practices. Examples of such bodies are: ASD (Aerospace and Defence), ASTM (American Standards for Test and Material), CEN (Centre Européen de Normalisation), CENELEC (Centre Européen de Normalisation Electrique), ETSI (European Telecommunications Standards Institute), EUROCAE (European Organisation for Civil Aviation Equipment), OSTIV (Organisation Scientifique et Technique du Vol à Voile), Radio Telecommunications for Aeronautics (RTCA), SAE (Society of Automotive Engineers), etc. It is worthwhile to highlight the role of ASTM in the development of standards supporting the light sport aircraft rule in the USA. More information about these bodies and their role may be found in attachment II.

31. Although the development of this preferred option needs further work it can be described in more details as follows:

- Adjusting Part-M to the needs of aircraft other than complex-motor-powered aircraft:
  - . To extend pilot owner maintenance
  - . To allow the Airworthiness Review Certificate (ARC) to be issued by organisation approved in accordance with Part-M Subpart G (continuing airworthiness management organisation) or by Competent Authorities
  - . To study the possibility of using assessment bodies
  - . To review the Competent Authority concept
  - . To review Part-M Subpart B (accountability)
  - . To consider the possibility to have proportionate rules according to the mass and kind of aircraft
  - . To develop standard modifications and repairs (such as the Federal Aviation Administration Advisory Circular AC 43-13)
  - . To consider the use of industry standards

If appropriate for ease of use, such revision of Part M could take the form of a specific stand alone “light Part M”.

- Creating a new level of licence for maintenance engineers in charge with General Aviation aircraft: a “Light” Part 66 license; and
- Establishing new privileges for approved maintenance organisations so that they can execute themselves some simple changes or repairs.

These changes, combined with any one of the previous options easing design approvals, would provide European General Aviation with much of the flexibilities of the American environment.

### 3. Air Operations

32. In this field also preparatory work conducted by the Agency when developing Opinion 3/2004 on ways and means to regulate air operations and pilot licensing showed the preferred way forward and the group confirmed the conclusions reached at the time. A set of “Light” implementing rules and AMC must be developed to ease the implementation of the Essential Requirements for air operations that will be incorporated in the Basic Regulation to set the legal obligations of air operators.

33. Here again further work is needed to clarify what “light” means and develop the related rules. At this stage it is understood as implying a level of details comparable to:

- The draft JAR OPS 0
- ICAO Annex 6 Part II (international General Aviation- aeroplanes) or
- Parts of such documents (relative for example to rules for equipment carriage or to fuel quantities)

#### 4. Pilot Licensing

34. Here again the Group confirmed the conclusions reached in Opinion 3/2004. There is a need to revise the current PPL licence as defined in JAR FCL to accommodate deficiencies recognised by the majority of stakeholders. It is also confirmed that adjusting the current PPL, which is a first step in building up professional licences, could entail unwanted consequences and that the most practical way forward is the creation of a new type of licence, as several Member States have already done. It is considered essential that such licences could be issued by Assessment Bodies, not only to preserve the existing situation in several Member States, but also to better involve the regulated persons, through clubs and federations, in the administration of the rules they have to abide by. It is felt however that the name chosen by the Agency - "Recreational PPL" (RPPL) - may not be the most appropriate.
35. It is envisaged therefore to include in the concept a European private pilot licence (RPPL) covering the full scope of aircraft other than complex-motor-powered aircraft, founded on a stepwise approach and on competence based training. This licence would be built around a basic common licence to which ratings for different categories of aircraft (aeroplanes, gliders, helicopters, balloons ...), operations (IFR, night, aerobatics, glider towing ...) and specific authorisations (e.g. authorisation to perform pilot-owner maintenance) would be attached, including simplified instrument rating and instructor rating. There should be no arbitrary restrictions on access to airspace and airports built into the licensing rule. Medical requirements should be based on risk assessment and consideration should be given to allowing general practitioners issuing medical certificates based for example on an assessment following a self-declaration signed by the pilot. 'Commercial' flying schools should have the possibility to train to RPPL. Finally a bridge with the standard FCL-PPL should be established.

#### D. Discussion

##### 1. General

36. As can be seen from the description of the concept, there are still a number of points to decide or clarify. This can only be done taking into account additional input from the most affected stakeholders. The Agency therefore wants to initiate a discussion on the previous description to seek the necessary feed back. Such is the purpose of this section. It is recognised however that any of the points described here above is open for comments and that they will be duly taken into consideration when making a final choice.

**Question 1**

*The Agency is interested in knowing the opinion of stakeholders on the general balance of the envisaged concept, as well as any suitable comment on its content not covered by the following questions.*

37. In many essential elements of the described concept, it is envisaged making use of assessment bodies. These may be organisations or companies providing services either in the whole EU or only in one region or country, at their own choice. They may be specialised or provide a whole scope of services. There may be several assessment bodies to cover a given field in which case competition between assessment bodies will exist. The certificates they issue are the official authority certificate valid in the whole Community; they must therefore have been approved appropriately either by EASA or an NAA (National Aviation Authorities). It is not excluded that the assessment body could be a one-man organisation, making then the system very similar to the American system of designees (designees are identified in FAR-183 and include DERs: Designated Engineering Representative or DARs: Designated Airworthiness Representative). For example, the British Gliding Association in UK may be considered to have operated as an assessment body because it issued official certificates such as certificates of airworthiness. Another example is the British Balloon Manufacturers Association. Other examples are classification societies in the maritime field. In Austria and Germany the National Aero Clubs and other associations are acting as competent authorities for different types of aircraft, such as micro-lights, parachutes, hang-gliders and para-gliders. In Austria, gliders are also under the oversight of the Austrian Aero Club. The German Aero Club runs 12 approved maintenance organisations taking care of the about 75 % of all maintenance required on gliders, including the annual inspection for airworthiness. Such a form of "self administration" has been working in these countries over the last 40 years without generating any increased risk.
38. As a general principle of course these organisations are responsible for the work they do. As a consequence, the Guide to the implementation of directives based on the New Approach and the Global Approach published by the Commission requires assessment bodies to *"be adequately insured to cover their professional activity.... The scope and overall financial value of liability insurance must correspond to the level of activity.... The manufacturer in particular retains, however, the overall responsibility for the conformity of the product with all the requirements of the applicable directives, even if some stages of the conformity assessment are carried out under the responsibility of a notified body.* This implies therefore taking over responsibility for the certification tasks executed, but this responsibility is limited as the main burden remains on the manufacturer (or other regulated entity), which is ultimately responsible for the compliance of its product/services. These responsibilities may nevertheless limit the interest of

investors in creating and developing assessment bodies to support the implementation of options 2 and 3<sup>13</sup>.

**Question 2**

*The Agency is interested in knowing the opinion of stakeholders, in particular potential assessment bodies, on introducing the possibility for approved assessment bodies to issue and administer approvals, certificates or licences, as a means to relax the regulatory framework applicable to General Aviation. It is also interested by comments about having one-man assessment bodies similar to the American system of designees.*

2. Initial Airworthiness

39. When considering the envisaged and still open options and after a review of the proposals from the rulemaking group as reflected by the Regulatory Impact Assessment on initial airworthiness, the Agency wants to draw the attention of stakeholders on the following considerations. Option 1 can be implemented rapidly as it does not depart from well known principles. It meets the goal of alleviating some of the burden on General Aviation design and manufacturing industry. It however contains built-in drawbacks as it is pushing the DOA (Design Organisation Approval) and POA (Production Organisation Approval)<sup>14</sup> concepts to their limits at the risk of undermining them. The one-man organisation is a questionable evolution as it will be difficult to explain how the same person can keep the necessary independence to control its own acts and arbitrate between his/her economic interests and his/her safety obligations. Moreover, if this is acceptable for some types of aircraft, why not for the other ones or for parts or any other piece of equipment?
40. The other options are therefore more promising as they introduce into aviation regulatory concepts already well known and tested in many other sectors where the industry plays a significant role in policing itself<sup>15</sup>. They however imply that the industry organises itself and accept to take over certain responsibilities. These options envisage for example the use of Industry standards to replace inter alia certification specifications; the development process of such standards should be such to offer guaranties of openness and transparency. It is noticeable however that such an evolution has already been implemented successfully in several aviation sectors such as gliders and micro lights, as well as in the USA. It may also be necessary to modify the essential requirements for airworthiness to make it

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<sup>13</sup> The Agency will start in September 2006 an external liability study which among others would include a full assessment of EASA's current activities and identification of the risks related to them, as well as a full analysis of the financial significance of each one of these risks. The results of this study are expected around March 2007.

<sup>14</sup> DOA and POA are defined in Part-21 subparts J and G respectively.

<sup>15</sup> Refer to the European Community new approach to standardisation and global certification.

easier to develop the related industry standards and reduce the risks of inconsistencies.

41. The initial airworthiness options have considered the aircraft as a whole. The issue of engines, parts and appliance will be treated in more details in the next step of work. The process used to certify them should be consistent with the ones applied at the aircraft level.

**Question 3**

*The Agency is interested in knowing the opinion of stakeholders on which of the options described here above they think is the most suitable for regulating General Aviation initial airworthiness. In such a context comments on the weight limits envisaged are welcome.*

3. Continuing Airworthiness and Maintenance

42. The envisaged solution in this domain still requires additional orientation on the various points identified for further work: use of assessment bodies, the role of NAAs (National Aviation Authorities), adapting the rule to the type of aircraft, the development of standard modifications and repairs and the use of Industry Standards. Comments on these points will be useful to further progress the work.

**Question 4**

*The Agency is interested in knowing the opinion of stakeholders on the following points:*

- a) Should assessment bodies be involved in the oversight of continuing airworthiness, such as ARCs' renewal;*
- b) What should be the role of NAAs in this field?*
- c) Should continuing airworthiness requirements be adapted to the size/type of aircraft? How should this be done?*
- d) Is it worth developing standards modifications and repairs that could be embodied without the need for further approvals? Which bodies should do so?*
- f) Is it possible to develop Industry Standards to be used in continuing airworthiness processes? Which bodies should be in charge?*

4. Air Operations

43. As seen above, the content of the "light" implementing rules still needs to be defined. While the Agency sees this very much a simple set of general operating rules, comments are welcome on this point.

**Question 5**

*The Agency is interested in knowing the opinion of stakeholders on what they think should be the content of the “light” implementing rules for air operations.*

5. Pilot Licensing

44. As it can be seen from the above presentation, the expectations of the group on the content and privileges of the new RPPL are very ambitious. It can however be questioned whether this is achievable. The Commission proposal for the extended Basic Regulation have indeed met with scepticism as regards the possibility to allow flying any aircraft that is not a complex-motored powered aircraft with a licence that does not meet the conditions of the JAR FCL PPL. Addition of instrument or instruction ratings may raise the same objections. Another aspect of the conditions that is raising strong concerns is the possibility that medical attestations of fitness could be issued by general practitioners.

**Question 6**

*The Agency is interested in knowing the opinion of stakeholders on what they think should be the conditions and privileges of a European Private Pilot Licence, with particular emphasize on:*

- a) The type of aircraft it would allow flying and in particular whether an upper weight limit would be appropriate? If so, what it could be?*
- b) The ratings that could be attached to such a licence;*
- c) The way medical assessments could be done and the possible role of general practitioners.*

6. The scope of common rules

45. In the recitals of its legislative proposal COM (2005) 579, the Commission expressed the view that:

*“Consideration should notably be given to aeroplanes and helicopters with a low maximum take-off mass and whose performance is increasing, can circulate all over the Community and are produced in an industrial manner, which therefore might be better regulated at Community level to provide for the necessary uniform level of safety and environmental protection.”*

This perspective was heavily discussed by the rulemaking group. Its conclusion was however to not include in the concept proposals to modify the scope of the Basic Regulation (Annex II) at this stage, despite several proposals to do so: e.g. include all aircraft other than complex-motor-powered-aircraft used in non commercial activities; include gliders or balloons, create a specific category (Comparable to the light sport aircraft rule in the USA) for aircraft up to a maximum take-off mass of 600kg...

46. When adopting its opinion on a new approach to regulating General Aviation, the Agency cannot however avoid answering the question put in the above recital. Extending the scope of the Basic Regulation would not only ensure a level playing field for all aircraft, but facilitate the free movement of products and services currently still regulated at national level and therefore subject to national borders. It could also, as we have seen previously help improving safety of their operations if there were required to meet some commonly agreed standards, at least as regards training and operational discipline. Such extension however can probably not be considered if the current regulatory framework is maintained. Relaxations are an essential prerequisite. The envisaged concept draws heavily from the lessons learned from the experience gained in this sector of General Aviation and in countries with a tradition of lighter regulation. It is therefore interesting to know whether the envisaged framework would go far enough to allow the extension of the scope of Basic Regulation to a number of aircraft, such as micro-lights, that are currently excluded.

***Question 7***

*The Agency is interested in knowing whether stakeholders think possible to remove certain aircraft from Annex II if the envisaged concept (in particular with options 2 or 3 for initial airworthiness) were implemented?*

Appendix 1  
Useful links relative to Industry standards

ASTM:

<http://www.astm.org/cgi-bin/SoftCart.exe/index.shtml?E+mystore>

ASD:

<http://www.asd-europe.org/Content/Default.asp?>

CEN:

<http://www.cenorm.be/cenorm/index.htm>

CENELEC:

<http://www.cenelec.org/Cenelec/Homepage.htm>

EUROCAE:

<http://www.eurocae.org/>

ETSI:

<http://www.etsi.org/>

OSTIV:

[http://www.ostiv.fai.org/o\\_frame.htm](http://www.ostiv.fai.org/o_frame.htm)

RTCA:

<http://www.rtca.org/>

SAE:

<http://www.sae.org/servlets/index>

**Attachment A**  
**Regulatory Impact Assessment for Initial Airworthiness**

**Task Nr. MDM.032**

**Title: Aircraft other than Complex-Motor-Powered Aircraft, used in Non-commercial activities – Initial Airworthiness**

Headings	Sub Headings
<p><b>1. Purpose and Intended Effect</b></p>	<p><b><u>a. Issue which the A-NPA is intended to address:</u></b></p> <p>The issue is to define the best manner of regulating the initial airworthiness of aircraft other than complex-motor-powered aircraft, used in non-commercial activities. Initial airworthiness means the activities regulated by Part-21.</p> <p><b><u>b. Scale of the issue (quantified if possible):</u></b></p> <p>There are around 80000 such aircraft registered in EASA Member States. There are in Europe about 35 manufacturers of aeroplanes, gliders and balloons used in General Aviation (GA). In addition, this could concern in the future other aircraft that are today excluded from the scope of Community competence, by reason of Annex II of Regulation (EC) 1592/ 2002.</p> <p><b><u>c. Brief statement of A-NPA objectives:</u></b></p> <p>The aim of this task is to develop a concept of suitable regulations for the initial airworthiness of aircraft other than complex-motor-powered aircraft, used in non-commercial activities.</p>
<p><b>2. Options</b></p>	<p><b><u>a. The options identified :</u></b></p> <p>Four options were identified:</p> <p><u>Option 0:</u> Do nothing.</p> <p><u>Option 1:</u> Simplified DOA approval process with extended privileges for all non-complex aircraft and one man DOA/POA depending of scope. Simplified Certification Specifications (CS) to be developed by EASA.</p> <p><u>Option 2:</u> Creation of two categories for non-complex aircraft with different approaches for initial airworthiness including the use of assessment bodies.</p> <p><u>Option 3:</u> Creation of three categories for non-complex</p>

Headings	Sub Headings
	<p>aircraft with different approaches to initial airworthiness including the use of assessment bodies and self certification for the aircraft below a certain weight.</p> <p>These options are further described in the Supplement located at the end of this RIA.</p> <p><b><u>b. The preferred option selected (if possible):</u></b></p> <p>The preferred option is option 1 for the short term though option 2 and 3 seem to be good longer term solutions.</p>
<p><b>3. Sectors concerned</b></p>	<ul style="list-style-type: none"> <li>• Designers, organisations involved in design, manufacturers of aircraft other than complex motor powered aircraft and associated parts and appliances</li> <li>• National authorities and potential assessment bodies</li> </ul>
<p><b>4. Impacts</b></p>	<p><b><u>a. All impacts identified</u></b></p> <p><u>i. Safety</u></p> <p>No European wide statistics are available as there are no common standards for recording data. However available studies coming from Member States and other countries were consulted and they are listed in Attachment E. Their review tends to show that the major fatalities risks for General Aviation are loss of control and control flight into terrain and that the design related failure rate appears to be very low in all cases. Human performance and weather are contributing factors. The impact to non-involved third parties is known to be statistically insignificant.</p> <ul style="list-style-type: none"> <li>• <u>Option 0:</u> This option will have no direct effect on safety however the regulatory constraints put on designers may prevent them from investing in safety enhancing innovations and in the development of new aircraft.</li> <li>• <u>Option 1:</u> This option should not have a negative effect on safety as it keeps the main principles of Part-21 but reduces the burden on General Aviation by proposing alleviations to Part-21 (See description of the option in the supplement)</li> <li>• <u>Option 2:</u> This option introduces new concepts (e.g. use of assessment bodies) for initial airworthiness. It includes safeguards such as approval by EASA of assessment bodies for airworthiness and Airworthiness Directives mandated by EASA. The perceived reduction in safety</li> </ul>

Headings	Sub Headings
	<p>level created by simplified regulations should be compensated by the possibility to certify more easily safety enhancing features and new designs.</p> <ul style="list-style-type: none"> <li>• <u>Option 3:</u> Option 3 is very comparable to option 2 except that for the lower range of aircraft where it introduces self certification. This departs significantly from well proven certification principles and may have a negative impact on safety if the designers and manufacturers are not made fully aware of their responsibilities.</li> </ul> <p>ii. <u>Economic</u> General Aviation represents a non negligible activity with direct and indirect benefits for the economy. There are in Europe about 35 manufacturers of GA aeroplanes, gliders and balloons. Most European based manufacturers selling their products in Europe are faced to a current situation of small market numbers. In turn, the investment risks for developing new products are high and this is driven partly by the substantial front-end costs including regulatory compliance which have to be recovered over relatively low volumes.</p> <p>In addition, for 2006 approx. 75% of the Light Sport Aircraft type aircraft sold in USA are produced in Europe outside of PART 21. Unfortunately, these aircraft can not be flown in the EU system. There is a risk of transfer of this activity to the outside of Europe.</p> <p>There are approximately 300,000 private pilots and 80,000 aircraft in Europe. However this only represents 25% of the General Aviation aircraft registered in the USA that has a comparable population and economy to Europe. Furthermore, in recent years, these numbers have been decreasing in the European General Aviation sectors whose operations are regulated in a stringent manner. It should be noted that the development of certain activities such as micro lights and gliders in some countries has been closely linked to the less stringent regulation of the activity.</p> <ul style="list-style-type: none"> <li>• <u>Option 0:</u> The burden generated by present rules on GA will not be alleviated. This option could lead to a further decrease of GA activity with a risk of terminal decline.</li> <li>• <u>Option 1:</u> This will generate more activity through simplified procedures: the DOA approval process will be simplified and the DOA will have extended privileges. This will</li> </ul>

Headings	Sub Headings
	<p>help the creation of new aircraft and will ease the development of modifications and repairs of existing aircraft. The proposed one man approvals (depending of scope) will also contribute to increase activity through reduced organisational costs. Simplified Certification Specifications will also contribute to reduce the cost of certification.</p> <ul style="list-style-type: none"> <li>• <u>Option 2:</u> As option 1 this option will increase the activity in General Aviation. The setting-up of Assessment Bodies will generate costs: in particular they will have to take insurance to protect themselves for liability reasons. When Assessment Bodies are in place EASA may reduce the size of its certification system thus reducing its cost. If the costs of Assessment Bodies are too high, it could be an option for EASA to undertake the task of issuing the certificates. As there is likely to be several Assessment Bodies, a healthy competition will occur with its advantages and drawbacks: at one extreme one Assessment Body will then have a monopoly, at the other extreme if there are too many of them, the applicant may be induced to shop around to find the cheapest Assessment Body. It should be pointed out that this option relies on the possibility for industry to organise itself.</li> <li>• <u>Option 3:</u> The impact is the same as for option 2. In addition, the self-certification for the lower range of products will reduce costs and will increase activity. They will not carry the cost of Assessment Body but will have increased liability. This self certification will reduce the business case for Assessment Bodies. The risk of transfer of the industrial activities to the outside of Europe will be minimized.</li> </ul> <p><u>iii. Environmental</u> The environmental impact will be directly linked to the variation of the activity resulting from these new rules. This task however does not address this dimension that will be treated separately.</p> <p><u>iv. Social</u></p> <ul style="list-style-type: none"> <li>• <u>Option 0:</u> This option could lead to a further decrease of GA activity. As a consequence, employment in the GA field</li> </ul>

Headings	Sub Headings
	<p>may be adversely affected.</p> <ul style="list-style-type: none"> <li>• Option 1: This option should lead to an increase of GA activity and should have a positive impact on employment in the sector. On the other hand reduced work load in the EASA certification system will be compensated partially by increased oversight of the DOA due to increased activity.</li> <li>• Option 2: The impact is similar to that of option 1 with the extra consequence that the introduction of Assessment Bodies will affect the EASA certification system.</li> <li>• Option 3: The impact is similar to that of option 2 with the even stronger consequences for very light aircraft.</li> </ul> <p><u>v. Other aviation requirements outside EASA scope</u> There may be a consistency issue with ICAO Standards and Recommended Practices for option 2 and 3. Furthermore option 2 and 3 may lead our international partners to include these new approaches in the bilateral agreements or working arrangements.</p> <p><u>vi. Foreign comparable regulatory requirements</u> United States has recently modified its regulatory regime to simplify the airworthiness of certain aircraft through the light sport aircraft rule.</p> <p><b><u>b. Equity and Fairness Issues</u></b> None for option 0 and 1. Option 2 and 3 could lead to the creation of monopolies for certain Assessment Bodies in some specific fields with consequences on prices and communication issues.</p>
<p><b>5. Summary and Final Assessment</b></p>	<p><b><u>a. Comparison of the positive and negative impacts for each option evaluated:</u></b></p> <p>Option 1 can be implemented rapidly as it does not depart from well known principles. It meets the goal of alleviating the burden on GA design and manufacturing industry.</p> <p>Option 2 and 3 would deserve further study as they might have far reaching consequences that are difficult to evaluate due to their innovative nature in the traditional aviation field. However other less regulated aviation sectors have demonstrated</p>

Headings	Sub Headings
	<p>innovative developments successfully such as gliders and micro lights and this can be seen as a possible model.</p> <p>Option 0 would not alleviate the present burden on General Aviation.</p> <p><b><u>b. A summary of who would be affected by these impacts and issues of equity and fairness:</u></b></p> <ul style="list-style-type: none"> <li>• Designers, organisations involved in design, manufacturers of aircraft other than complex motor powered aircraft and associated parts and appliances</li> <li>• National authorities and potential assessment bodies</li> </ul> <p>No issues of equity and fairness were identified for option 0 and 1. Option 2 and 3 could lead to the creation of monopolies for certain assessment bodies in some specific fields with consequences on prices and communication issues.</p> <p><b><u>c. Final assessment and recommendation of a preferred option:</u></b></p> <p>After due consideration the rulemaking group believes that the preferred option is option 1 for the short term (implementation up to 2 years) though option 2 and 3 seem to be better longer term (implementation up to 5 years) solutions, but they would require changes to Regulation (EC) 1592/2002.</p>

## Supplement to RIA for Initial Airworthiness

### Description of the options 1, 2 and 3

#### Option 1:

- Scope: All non complex aircraft
- Design capability: simplified DOA (Design Organization Approval) or Alternative Procedures to DOA with privileges
- Basis for Type Certificate (TC): EASA in consultation with applicant based on simplified CS adopted by EASA (For aircraft of less than 2000 kg)
- Body issuing the TC: EASA (on the basis of applicant recommendation)
- Certification basis for changes and repairs: EASA in consultation with TC Holder or STC (Supplemental Type Certificate) Holder.
- Approval of design changes and repairs: TC Holder or STC Holder with 1 man-DOA
- Type of individual aircraft certificate: certificate of airworthiness
- Body issuing individual aircraft certificate: Member State
- Production capability: POA with the possibility of a one-man POA depending of scope.
- Approval of Aircraft Flight Manual and Instructions for Continuing Airworthiness: TC Holder or STC Holder
- Activities relative to continuing airworthiness of design: TC Holder or STC Holder
- Body issuing Airworthiness directives: EASA in consultation with TCH

#### Option 2:

This option creates two categories of aircraft: (i) maximum take-off mass above 2000kg; (ii) maximum take-off mass below 2000kg.

The same conditions as for option 1 would apply for aircraft with a maximum take-off mass above 2000kg

For aircraft with a maximum take-off mass below 2000kg, the following criteria would apply:

- Design capability: compliance with an Industry standard checked by an Assessment Body.
- Basis for Type Certificate (TC): defined by the applicant using an Industry Standard
- Body issuing the TC: Assessment Body
- Certification basis for changes and repairs: TC or STC Holder based on Industry Standard.
- Approval of design changes and repairs: TC or STC Holder
- Type of individual aircraft certificate: Certificate of Airworthiness
- Body issuing individual aircraft certificate: Member State
- Production capability: compliance with an Industry Standard checked by an Assessment Body

- Approval of Aircraft Flight Manual and Instructions for Continuing Airworthiness: TC or STC Holder
- Activities relative to continuing airworthiness of design: TC or STC Holder
- Body issuing Airworthiness directives: EASA or EASA following recommendation of the Assessment Body.

### **Option 3:**

This option creates three categories of aircraft: (i) maximum take-off mass above 2000kg; (ii) maximum take-off mass between 750 kg and 2000kg, (iii) maximum take-off mass below 750 kg

The same conditions as for option 1 would apply for aircraft with a maximum take-off mass above 2000kg

The following criteria would apply to aircraft with a maximum take-off mass between 750 kg and 2000kg: (same as option 2 for below 2000kg)

- Design capability: compliance with a Industry standard checked by an Assessment Body.
- Basis for Type Certificate (TC): defined by the applicant using an Industry Standard
- Body issuing the TC: Assessment Body
- Certification basis for changes and repairs: TC or STC Holder based on Industry Standard.
- Approval of design changes and repairs: TC or STC Holder
- Type of individual aircraft certificate: Certificate of Airworthiness
- Body issuing individual aircraft certificate: Member State
- Production capability: compliance with an Industry Standard checked by an Assessment Body
- Approval of Aircraft Flight Manual and Instructions for Continuing Airworthiness: TC or STC Holder
- Activities relative to continuing airworthiness of design: TC or STC Holder
- Body issuing Airworthiness directives: EASA or EASA following recommendation of the Assessment Body.

The following criteria would apply to aircraft with a maximum take-off mass below 750 kg (introduce the concept of self-certification)

- Design capability: compliance with a Industry standard checked by an Assessment Body.
- Basis for Type Certificate (TC): defined by the applicant using an Industry Standard
- Body issuing the TC: TC Holder

- Certification basis for changes and repairs: TC or STC Holder based on Industry Standard.
- Approval of design changes and repairs: TC or STC Holder
- Type of individual aircraft certificate: certificate of airworthiness
- Body issuing individual aircraft certificate: Member State
- Production capability: compliance with a Industry standard checked by an Assessment Body.
- Approval of Aircraft Flight Manual and Instructions for Continuing Airworthiness: TC or STC Holder
- Activities relative to continuing airworthiness of design: TC or STC Holder
- Body issuing Airworthiness directives: EASA in consultation with TCH.

**Attachment B**  
**Regulatory Impact Assessment for Continuing Airworthiness**

**Task Nr. MDM.032**

**Title: Aircraft other than Complex-Motor-Powered Aircraft, used in Non-commercial activities – Continuing Airworthiness**

Headings	Sub Headings
<p><b>1. Purpose and Intended Effect</b></p>	<p><b><u>a. Issue which the A-NPA is intended to address:</u></b></p> <p>The issue is to define the best manner of regulating the continuing airworthiness including maintenance of aircraft other than complex-motor-powered aircraft, used in non-commercial activities.</p> <p><b><u>b. Scale of the issue (quantified if possible):</u></b></p> <p>There are around 80000 such aircraft registered in EASA Member States. In addition, this could concern in the future other aircraft that are today excluded from the scope of Community competence, by reason of Annex II of Regulation (EC) 1592/2002.</p> <p><b><u>c. Brief statement of A-NPA objectives:</u></b></p> <p>The aim of this task is to develop a concept of suitable regulations for the continuing airworthiness including maintenance of aircraft other than complex-motor-powered aircraft, used in non-commercial activities.</p>
<p><b>2. Options</b></p>	<p><b><u>a. The options identified</u></b></p> <p><u>Option 0</u></p> <p>Do nothing – Present regulation 2042/2003 and its annexes (Part-M, Part-145, Part-66 and Part-147) will remain applicable.</p> <p><u>Option 1</u></p> <p>This option would propose:</p> <ul style="list-style-type: none"> <li>• Either adjustment of Part-M to the needs of aircraft other than complex-motor-powered aircraft or creation of a separate “Part-M Light”, specific to aircraft other than complex-motor-powered aircraft, combined with a “Light” Part 66 license: this work should be done by the group working on task M.017 ( incorporating the results of NPA 07-2005). This includes in particular: <ul style="list-style-type: none"> <li>○ An extended pilot owner maintenance: this work</li> </ul> </li> </ul>

Headings	Sub Headings
	<p>should be done by the group working on task M.005</p> <ul style="list-style-type: none"> <li>○ Airworthiness Review Certificates should be issued either by Organizations approved in accordance with Part-M Subpart G or by Competent Authorities</li> <li>○ Study the possibility of using assessment bodies</li> <li>○ Review Competent Authority concept</li> <li>○ Review Subpart B of Part-M</li> <li>○ Consider possibility to have proportionate rules according to the mass and kind of aircraft</li> <li>○ Development of standard modifications and repairs (such as the FAA Advisory Circular AC 43-13)</li> <li>○ Consider the use of industry standards</li> </ul> <ul style="list-style-type: none"> <li>● Additional privileges to the approved maintenance organization such as some Part 21 privileges (e.g. modifications, repairs, replaced parts design and manufacture) or implementation of single man DOA/POA concepts.</li> </ul> <p><u>Option 2:</u> Owner's responsibility for Continuing Airworthiness:</p> <ul style="list-style-type: none"> <li>● Possibility to deviate from the designer published documentation under the owner responsibility.</li> <li>● Maintenance carried out under the responsibility of the owner.</li> <li>● Indefinite Certificate of Airworthiness with no ARC.</li> <li>● No authority approval of modifications and repairs</li> </ul> <p><u>Option 3:</u></p> <ul style="list-style-type: none"> <li>● Choice for no obligation to use an approved Maintenance Organization, but alternatively using a competent person who approves the periodic maintenance inspections, and who is subject to technical competence checks.</li> <li>● Renewal ARC by approved body or authority. No licence mandatory.</li> </ul> <p><b><u>b. The preferred option selected (if possible):</u></b> The preferred option is option 1.</p>
<p><b>3. Sectors concerned</b></p>	<ul style="list-style-type: none"> <li>● Aircraft owners, organisations engaged in non commercial</li> </ul>

Headings	Sub Headings
	<p>use of aircraft, maintenance organisations</p> <ul style="list-style-type: none"> <li>• Representative bodies</li> <li>• National authorities and potential assessment bodies</li> </ul>
<p><b>4. Impacts</b></p>	<p><b><u>a. All impacts identified</u></b></p> <p><u>i. Safety</u></p> <p>No European wide statistics are available as there are no common standards for recording data. However available studies coming from Member States and other countries were consulted and they are listed in Attachment E. Their review tends to show that the major fatalities risks for General Aviation are loss of control and control flight into terrain. Human performance and weather are contributing factors. The impact on third parties is known to be statistically insignificant.</p> <ul style="list-style-type: none"> <li>• <u>Option 0:</u> This option will have no effect on safety but there is a risk to have non-approved maintenance actions to avoid having to comply with present rules.</li> <li>• <u>Option 1:</u> This option should not have a negative effect on safety as it keeps the main principles but reduces the burden on General Aviation.</li> <li>• <u>Option 2:</u> This option departs significantly from well proven maintenance principles and may have a negative impact on safety if the owners are not made fully aware of and discharge their responsibilities.</li> <li>• <u>Option 3:</u> This option should not have a negative safety impact if the competence of the person is well established.</li> </ul> <p><u>iii. Economic</u></p> <p>General Aviation represents a non negligible activity with direct and indirect benefits for the economy. There are approximately 300,000 private pilots and 80,000 aircraft in Europe. However this only represents 25% of the General Aviation (GA) aircraft registered in the USA that has a comparable population and economy to Europe. Furthermore, in recent years, these numbers have been decreasing in the European General Aviation sectors whose operations are regulated in a stringent manner. It should be noted that the development of certain activities such as micro lights and gliders in some countries has been closely linked to the less stringent regulation of the activity.</p>

Headings	Sub Headings
	<ul style="list-style-type: none"> <li>• <u>Option 0:</u> The burden generated by present rules on GA will not be alleviated. This option could lead to a further decrease of GA activity.</li> <li>• <u>Option 1:</u> This option proposes to simplify Part-M and proposes a simplified Part-66 license: it should therefore have a positive economic impact. In addition it will facilitate development of GA and this will have positive direct and indirect impact on economy.</li> <li>• <u>Option 2:</u> This option will reduce maintenance cost as it proposes a deregulation of maintenance. However this will have a negative impact on the value of aircraft and cost of insurance. Also maintenance workshops will be negatively affected.</li> <li>• <u>Option 3:</u> This option should have economic advantages but will negatively affect maintenance workshops. The benefits of controlled environment will also disappear.</li> </ul> <p><u>iii. Environmental</u> The environmental impact will be directly linked to the variation of the activity resulting from these new rules. This task however does not address this dimension that will be treated separately.</p> <p><u>iv. Social</u></p> <ul style="list-style-type: none"> <li>• Option 0: This option could lead to a further decrease of GA activity. As a consequence, employment in the GA field may be affected.</li> <li>• Option 1: This option should lead to an increase of GA activity and should have a positive impact on employment in the sector.</li> <li>• Option 2: This option will reduce maintenance cost as it proposes a deregulation of maintenance. The workshops activity may be negatively affected leading to loss of jobs.</li> <li>• <u>Option 3:</u> This option may reduce maintenance costs but workshops activity will be negatively affected leading to</li> </ul>

Headings	Sub Headings
	<p>loss of jobs.</p> <p>v. <u>Other aviation requirements outside EASA scope</u> No impact is foreseen.</p> <p>vi. <u>Foreign comparable regulatory requirements</u> United States has recently modified its regulatory regime to simplify the maintenance of certain aircraft through the light sport aircraft rule.</p> <p><b><u>b. Equity and Fairness issues</u></b> Through Option 0 the burden on small organisations and individuals will continue to be greater than for large organisations. Option 2 and option 1 to a lesser degree (depending of the outcome of the M.017 task) may favour individuals over organisations. <u>Option 3:</u> It favours individuals over organisations.</p>
<p><b>5. Summary and Final Assessment</b></p>	<p><b><u>a. Comparison of the positive and negative impacts for each option evaluated:</u></b> Option 0 should not be retained as it maintains a system that has been shown to have an unnecessary burden on GA. Option 2 will bring a radical change that may have far reaching consequences that are difficult to fully evaluate. Option 3 is considered as offering no significant benefit compared to option1. On balance, option 1 is the recommended option.</p> <p><b><u>b. A summary of who would be affected by these impacts and issues of equity and fairness:</u></b></p> <ul style="list-style-type: none"> <li>• Aircraft owners, organisations engaged in non commercial use of aircraft, maintenance organisations</li> <li>• Representative bodies</li> <li>• National authorities and potential assessment bodies</li> </ul> <p><b><u>c. Final assessment and recommendation of a preferred option:</u></b> After due consideration the rulemaking group believes that option 1 is to be preferred.</p>

**Attachment C**  
**Regulatory Impact Assessment for Operations**

**Task Nr. MDM.032**

**Title: Aircraft other than Complex-Motor-Powered Aircraft, used in Non-commercial activities - Operations**

Headings	Sub Headings
<p><b>1. Purpose and Intended Effect</b></p>	<p><b><u>a. Issue which the A-NPA is intended to address:</u></b></p> <p>The issue is to define the best manner of regulating the operations of aircraft other than complex-motor-powered aircraft, used in non-commercial activities.</p> <p><b><u>b. Scale of the issue (quantified if possible):</u></b></p> <p>There are around 80000 such aircraft in EASA Member States but as explained below this part of the A-NPA will concern all aircraft even those coming from third countries. In addition, this could concern in the future other aircraft that are today excluded from the scope of Community competence, by reason of Annex II of Regulation (EC) 1592/2002.</p> <p><b><u>c. Brief statement of A-NPA objectives:</u></b></p> <p>The aim of this task is to develop a concept of suitable regulations for operations of non complex-motor-powered aircraft, used in non-commercial activities.</p> <p>The regulatory system should be designed in a way that minimises the possible need for overlapping regulations while reducing the risk of loopholes. For instance, ICAO Annex 6 and national operational regulations are widely used to enforce requirements related to the use of airspace. All the operational regulations will therefore necessarily interface with each other on some issues. Consequently, all common issues should be addressed only once, and the part of the operational regulations developed for aircraft other than complex-motor-powered aircraft, used in non-commercial activities seems to be the most appropriate legal vehicle to do so.</p>
<p><b>2. Options</b></p>	<p><b><u>a. The options identified</u></b></p> <p><u>Option 0</u></p> <p>Do nothing – If no action is undertaken, the only applicable</p>

Headings	Sub Headings
	<p>regulations will be those included in the basic principles and essential requirements. There would be no implementing rule to further elaborate on essential requirements.</p> <p><u>Option 1</u> Only the Basic Regulation would be applicable to which acceptable means of compliance (AMC) would be added. Such AMC may be industry standards.</p> <p><u>Option 2</u> Light implementing rules and AMC are developed. Such AMC may be industry standards.</p> <p><b><u>b. The preferred option selected (if possible):</u></b> The preferred option is option 2.</p>
<p><b>3. Sectors concerned</b></p>	<p>As intimated by the objectives of the A-NPA, this part of the regulatory system for aircraft other than complex-motor-powered aircraft, used in non-commercial activities contains the core regulatory elements that will apply for <b><u>any flight with any aircraft</u></b> except those excluded from community competence.</p>
<p><b>4. Impacts</b></p>	<p><b><u>a. All impacts identified</u></b></p> <p><u>i. Safety</u> No European wide statistics are available as there are no common standards for recording data. However available studies coming from Member States and other countries were consulted and they are listed in Attachment E. Their review tends to show that the major fatalities risks for General Aviation are loss of control and control flight into terrain. Human performance and weather are contributing factors. The impact to non-involved third parties is known to be statistically insignificant. Furthermore, as maintaining the access to any class of airspace for all aircraft is an objective, the compliance with airspace requirements needs to be ensured in order to avoid the risks created by interactions between aircraft.</p> <p>The essential requirements address solutions that mitigate the risks, but not in detail. For instance the essential requirements do not list the equipment to be installed on an aircraft depending on the airspace.</p> <ul style="list-style-type: none"> <li>• <u>Option 0:</u></li> </ul>

Headings	Sub Headings
	<p>If this option is followed, the national implementing rules will no longer exist and no EU rules will replace the detailed provisions contained in the National Rules to mitigate the risks described above. Although other means such as training could compensate the risks linked to airmanship the absence of detailed equipment carriage and minimum fuel requirements may have a negative effect on safety.</p> <ul style="list-style-type: none"> <li>• <u>Option 1:</u> If this option is followed, the national implementing rules will no longer exist and non mandatory text would be adopted will replace the detailed provisions they contain to mitigate the risks described above. Detailed AMC that would address issues such as loss of control and controlled flight into terrain would have a positive impact on safety however their effect may be limited as they are not binding. Furthermore the interoperability issues linked to airspace would not be fully addressed.</li> <li>• <u>Option 2:</u> If this option is followed, the national implementing rules will no longer exist but will be replaced by EU mandatory text. This will provide the opportunity to mandate means to mitigate the above risks. This should improve safety and interoperability by providing minimum standards. Nonetheless when replacing the national requirements due attention should be taken towards proportionality (See the main body of the A-NPA for a description of the concept of proportionality).</li> </ul> <p>iv. <u>Economic</u> General Aviation represents a non negligible activity with direct and indirect benefits for the economy. There are approximately 300,000 private pilots and 80,000 aircraft (excluding Annex II aircraft) in Europe. However this only represents 25% of the General Aviation (GA) aircraft registered in the USA that has a comparable population and economy to Europe. Furthermore, in recent years, these numbers have been decreasing in the European General Aviation sectors whose operations are regulated in a stringent manner. It should be noted that the development of certain activities such as micro lights and gliders in some countries has been closely linked to the less stringent regulation of the activity.</p> <p>The main impact of operational regulations in this sector is in the cost of required equipment.</p>

Headings	Sub Headings
	<ul style="list-style-type: none"> <li>• <u>Option 0:</u> From the standpoint of the aircraft owner or operator, the absence of implementing rules will allow the choice of personal mitigating measures that could be less costly.</li> <li>• <u>Option 1:</u> Following the AMC may increase costs but this will be done on a voluntary basis. As these texts are non-binding, the insurance cost may still increase unless the non mandatory requirements are followed.</li> <li>• <u>Option 2:</u> This option is likely to be the most costly though insurance cost could be reduced due to minimum requirements being enforced and full interoperability would be ensured.</li> </ul> <p>Option 1 is the one that has the highest potential to increase GA activity.</p> <p><u>iii. Environmental</u> The environmental impact will be directly linked to the variation of the activity resulting from these new rules. This task however does not address this dimension that will be treated separately.</p> <p><u>iv. Social</u> An active General Aviation generates jobs directly (e.g. flight instructors, mechanics) and indirectly (aerodromes activity). Also an active General Aviation attracts young people to aviation. This impact will be directly linked to the variation of the activity resulting from these new rules. Option 1 is the one that has the highest potential to increase GA activity and therefore to have the highest social benefits.</p> <p><u>v. Other aviation requirements outside EASA scope</u> None</p> <p><u>vi. Foreign comparable regulatory requirements</u> United States has recently modified its regulatory regime to simplify the operation of certain aircraft through the light sport aircraft rule.</p> <p><b><u>b. Equity and Fairness issues</u></b> If option 2 is chosen due attention should be taken towards</p>

Headings	Sub Headings
	<p>proportionality. The other two options (in particular option 0) would allow for local interpretations that could lead to unfair treatment.</p>
<p><b>5. Summary and Final Assessment</b></p>	<p><b><u>a. Comparison of the positive and negative impacts for each option evaluated:</u></b></p> <p>Although option 1 has the highest potential for GA development, Option 2 is preferred, despite it might create higher costs, because it seems to allow for proper level of safety to be guaranteed across Europe in a standardised manner. Option 2 is also the one that departs less from present regulatory principles. Option 0 would leave too much flexibility</p> <p><b><u>b. A summary of who would be affected by these impacts and issues of equity and fairness:</u></b></p> <p>Any flight with any aircraft will be affected. Options 0 and 1 would introduces equity and fairness issues as they would allow for local interpretations that could lead to unfair treatment.</p> <p><b><u>c. Final assessment and recommendation of a preferred option:</u></b></p> <p>After due consideration the rulemaking group believes that option 2 is to be preferred.</p>

**Attachment D**  
**Regulatory Impact Assessment for Flight Crew Licensing**

**Task Nr. MDM.032**

**Title: Aircraft other than Complex-Motor-Powered Aircraft, used in Non-commercial activities – Flight crew licensing**

Headings	Sub Headings
<p><b>1. Purpose and Intended Effect</b></p>	<p><b><u>a. Issue which the A-NPA is intended to address:</u></b></p> <p>The issue is to define the best manner of regulating the licensing of pilots of aircraft other than complex-motor-powered aircraft, used in non-commercial activities.</p> <p><b><u>b. Scale of the issue (quantified if possible):</u></b></p> <p>There are around 300,000 such pilots in EASA Member States. In addition, this could concern in the future other pilots of aircraft that are today excluded from the scope of Community competence, by reason of Annex II of Regulation (EC) 1592/2002.</p> <p><b><u>c. Brief statement of A-NPA objectives:</u></b></p> <p>The aim of this task is to develop a concept of suitable regulations for the licensing of pilots of aircraft other than complex-motor-powered aircraft, used in non-commercial activities.</p>
<p><b>2. Options</b></p>	<p><b><u>a. The options identified</u></b></p> <p><u>Option 0</u></p> <p>Do nothing – If no action is undertaken, the only applicable regulations will be those included in the basic principles and essential requirements of Regulation (EC) 1592/2002. There would be no implementing rule to further elaborate on essential requirements.</p> <p><u>Option 1</u></p> <p>Creation of an implementing rule defining the European private pilot license (hereafter called RPPL) issued by assessment bodies. This licence would be built around a basic common license to which ratings for different categories of aircraft (aeroplanes, gliders, helicopters, balloons ...), operations (IFR, night, aerobatics, glider towing ...) and specific authorisations (e.g. authorisation to perform pilot-owner maintenance) would</p>

Headings	Sub Headings
	<p>be attached.</p> <p>The licence would be founded on a stepwise approach and on competence based training covering the full scope of aircraft other than complex-motor-powered aircraft, including simplified Instrument Rating. There would of course be no restrictions on access to airspace and airports built into the licensing rule and medical requirements would be based for example on an assessment performed by the Doctor following a self-declaration by the pilot. Instructors would only need an RPPL with a relevant instructor rating.</p> <p>‘Commercial’ flying schools would have the possibility to train to RPPL.</p> <p>Finally a bridge with the standard FCL-PPL would be needed.</p> <p><b><u>b. The preferred option selected (if possible):</u></b></p> <p>The preferred option is option 1.</p>
<p><b>3. Sectors concerned</b></p>	<ul style="list-style-type: none"> <li>• Non commercial pilots, instructors, organisations engaged in non commercial use of aircraft, flight training organisations</li> <li>• Representative bodies</li> <li>• National authorities and potential assessment bodies.</li> </ul>
<p><b>4. Impacts</b></p>	<p><b><u>a. All impacts identified</u></b></p> <p><u>i. Safety</u></p> <p>No European wide statistics are available as there are no common standards for recording data. However available studies coming from Member States and other countries were consulted and they are listed in Appendix E. Their review tends to show that the major fatalities risks for General Aviation are loss of control and control flight into terrain. Human performance and weather are contributing factors. The impact to non-involved third parties is known to be statistically insignificant.</p> <p>The above accident causes are mainly linked to human error which cannot be dissociated from initial training, recurrent training and pilot currency.</p> <p>Incapacitation due to medical causes appears to be a marginal risk.</p> <ul style="list-style-type: none"> <li>• <u>Option 0:</u> This option is not a viable one as the basic regulation already envisages implementing rules for RPPL.</li> <li>• <u>Option 1:</u> The creation of the RPPL would probably not change the</li> </ul>

Headings	Sub Headings
	<p>level of safety because the National RPPL currently delivered in some Member States have not been shown to increase the accident rate. It may even improve the situation by allowing pilots to fly more, due to reduced costs and easier access aircraft, thus increasing motivation and improving competence.</p> <p>v. <u>Economic</u></p> <p>General Aviation represents a non negligible activity with direct and indirect benefits for the economy. There are approximately 300,000 private pilots and 80,000 aircraft (excluding Annex II aircraft) in Europe. However this only represents 25% of the General Aviation (GA) aircraft registered in the USA that has a comparable population and economy to Europe. Furthermore, in recent years, these numbers have been decreasing in the European General Aviation sectors whose operations are regulated in a stringent manner. It should be noted that the development of certain activities such as micro lights and gliders in some countries has been closely linked to the less stringent regulation of the activity.</p> <ul style="list-style-type: none"> <li>• <u>Option 0:</u> From the standpoint of the aircraft owner or operator, the absence of European wide implementing rules would allow the choice of personal mitigating measures that could be less costly. On the other hand, the direct compliance with essential requirements may lead insurance costs to increase as the risk may be perceived as increasing.</li> <li>• <u>Option 1:</u> A RPPL with a stepwise approach should reduce the cost to obtain a licence, and will increase the cost efficiency of the system. The setting-up of assessment bodies will generate costs. When assessment bodies are in place some national authorities may reduce the size of their licensing offices thus reducing their cost. If the costs of assessment bodies are too high, it is an option for National Authorities to undertake the task of issuing the RPPL. As there is likely to have several assessment bodies, a healthy competition will occur with its advantages and drawbacks. Existing commercial Flight training Organisations (FTO) may need to adapt to this new environment since implementing rules will contain provisions for approving FTO for RPPL.</li> </ul> <p>iii. <u>Environmental</u></p>

Headings	Sub Headings
	<p>The environmental impact will be directly linked to the variation of the activity resulting from these new rules. This task however does not address this dimension that will be treated separately.</p> <p><u>iv. Social</u></p> <p>The creation of the RPPL should increase the GA activities and thus create jobs directly (e.g. instructors) and indirectly (aerodrome activity). It should also attract more people to aviation. The introduction of Assessment Bodies will have general consequences on NAAs. Representative organisations could also see their role change. The quantitative impact will be directly linked to the variation of the activity resulting from these new rules.</p> <p><u>v. Other aviation requirements outside EASA scope</u></p> <p>No impact is foreseen.</p> <p><u>vi. Foreign comparable regulatory requirements</u></p> <p>United States has recently modified its regulatory regime to simplify the operation of certain aircraft through the light sport aircraft rule.</p> <p><b><u>b. Equity and Fairness issues</u></b></p> <p>None is foreseen.</p>
<p><b>5. Summary and Final Assessment</b></p>	<p><b><u>a. Comparison of the positive and negative impacts for each option evaluated:</u></b></p> <p>Option 0 is not viable as the draft basic regulation envisages the development of implementing rules for RPPL. Also it should be kept in mind that several Member States have introduced, in the recent years, a National (R)PPL. Option 1 will introduce a new regime of RPPL that should maintain the current level of safety due to the foreseen increased activity and stepwise approach bridging with the JAR-FCL PPL (Joint Aviation Authorities-Flight Crew licensing Private Pilot Licence). At the same time the RPPL should have a positive economic impact.</p> <p><b><u>b. A summary of who would be affected by these impacts and issues of equity and fairness:</u></b></p> <ul style="list-style-type: none"> <li>• Non commercial pilots, instructors, organisations engaged in non commercial use of aircraft</li> <li>• Flight training organisations</li> <li>• Representative bodies</li> </ul>

Headings	Sub Headings
	<ul style="list-style-type: none"><li>• National authorities and potential assessment bodies.</li><li>•</li></ul> <p><b><u>c. Final assessment and recommendation of a preferred option:</u></b></p> <p>After due consideration the rulemaking group believes that option 1 is to be preferred.</p>

**Attachment E**  
**Studies available to the group:**

**CAA-UK (See their web-site)**

CAP 667 review of GA fatal accidents 1985-1994  
Regulatory review of General Aviation.  
Aviation Safety Review 2005

**French Accident Investigation Board studies (See their web-site):**

Mid-air collisions study;  
Fuel starvation in General Aviation;  
Genesis of a Feedback System Based on Human Factors for the Prevention of  
Accidents in General Aviation;  
Glider accidents 1999-2001;  
The get-home-itis syndrome;  
Study GPS Events.  
Statistical elements for aviation safety in 2005

**IAOPA (See their web-site):**

Nall 2005 report  
Report on technology advanced aircraft

**NTSB (See their web-site):**

US General Aviation calendar year 2001

**Title:** A Study of Fatal General Aviation Accidents Involving Weather.

**NTSB Report Number:** AAS-, adopted on 7/1/1963

**NTIS Report Number:** PB63-000000

**Title:** Carburetor Ice in General Aviation.

**NTSB Report Number:** AAS-72-01, adopted on 1/19/1972

**NTIS Report Number:** PB-208463

**Title:** Emergency Landing Techniques in Small General Aviation Fixed Wing Aircraft.

**NTSB Report Number:** AAS-72-03, adopted on 4/5/1972

**NTIS Report Number:** PB-209836

**Title:** General Aviation Stall/Spin Accidents, 1967 - 1969.

**NTSB Report Number:** AAS-72-08, adopted on 9/13/1972

**NTIS Report Number:** PB-213614

**Title:** Accidents Involving Engine Failure/ Malfunction, U.S. General Aviation, 1965 - 1969.

**NTSB Report Number:** AAS-72-10, adopted on 11/29/1972

**NTIS Report Number:** PB-217115

**Title:** U.S. General Aviation Accidents Involving Fuel Starvation, 1970-1972.

**NTSB Report Number:** AAS-74-01, adopted on 4/11/1974

**NTIS Report Number:** PB-231853/AS

**Title:** Fatal, Weather Involved, General Aviation Accidents.

**NTSB Report Number:** AAS-74-02, adopted on 8/28/1974

**NTIS Report Number:** PB-237752/AS

**Title:** U.S. General Aviation Takeoff Accidents - The Role of Preflight Preparation.

**NTSB Report Number:** AAS-76-02, adopted on 3/10/1976

**NTIS Report Number:** PB-252203/AS

**Title:** Nonfatal, Weather Involved General Aviation Accidents.

**NTSB Report Number:** AAS-76-03, adopted on 5/27/1976

**NTIS Report Number:** PB-256591/AS

**Title:** General Aviation Accidents Involving Aerobatics, 1972 - 1974.

**NTSB Report Number:** AAS-76-04, adopted on 7/20/1976

**NTIS Report Number:** PB-257747/AS

**Title:** Single Engine, Fixed Wing General Aviation Accidents 1972 - 1976.

**NTSB Report Number:** AAS-79-01, adopted on 5/31/1979

**NTIS Report Number:** PB-297216

**Title:** Light Twin Engine Aircraft Accidents Following Engine Failures, 1972 - 1976.

**NTSB Report Number:** AAS-79-02, adopted on 12/13/1979

**NTIS Report Number:** PB80-177306

**Title:** Design Induced Landing Gear Retraction Accidents in Beechcraft Baron, Bonanza, and Other Light Aircraft.

**NTSB Report Number:** SR--80-01, adopted on 6/24/1980

**NTIS Report Number:** PB82-171596

**Title:** General Aviation Accidents: Postcrash Fires and How to Prevent or Control Them.

**NTSB Report Number:** AAS-80-02, adopted on 8/28/1980

**NTIS Report Number:** PB81-102071

**Title:** The Status of General Aviation Aircraft Crashworthiness.

**NTSB Report Number:** SR--80-02, adopted on 12/17/1980

**NTIS Report Number:** PB81-160798

**Title:** General Aviation Crashworthiness Project, Phase One.

**NTSB Report Number:** SR--83-01, adopted on 6/27/1983

**NTIS Report Number:** PB83-917004

**Title:** Ultralight Vehicle Accidents.

**NTSB Report Number:** SS--85-01, adopted on 2/7/1985

**NTIS Report Number:** PB85-917001

**Title:** General Aviation Crashworthiness Project Phase Two -- Impact Severity and Potential Injury Prevention in G.A. Accidents.

**NTSB Report Number:** SR--85-01, adopted on 3/15/1985

**NTIS Report Number:** PB85-917002

**Title:** General Aviation Crashworthiness Project Phase III -- Acceleration Loads and Velocity Changes of Survivable General Aviation Accidents.

**NTSB Report Number:** SR--85-02, adopted on 9/4/1985

**NTIS Report Number:** PB85-917016

**Title:** General Aviation Accidents Involving Visual Flight Rules Flight into Instrument Meteorological Conditions.

**NTSB Report Number:** SR--89-01, adopted on 2/8/1989

**NTIS Report Number:** PB89-917001

**Title:** Piper Aircraft Corporation PA-46 Malibu/Mirage Accidents/Incidents May 31, 1989 to March 17, 1991.

**NTSB Report Number:** SIR-92-03, adopted on 7/21/1992

**NTIS Report Number:** PB92-917007

**Title:** Alcohol and Other Drug Involvement In Fatal General Aviation Accidents, 1983 through 1988.

**NTSB Report Number:** SS--92-03, adopted on 10/14/1992

**NTIS Report Number:** PB92-917008

**Title:** Risk Factors Associated with Weather-Related General Aviation Accidents

**NTSB Report Number:** SS--05-01, adopted on 9/7/2005 [[Summary](#) | [PDF Document](#)]

**NTIS Report Number:** PB2005-917004

**Canadian Transport Safety Board studies (See their web-site):**

A Safety Study of Survivability in Seaplane Accidents – 1994;

A Safety Study of Piloting Skills, Abilities, and Knowledge in Seaplane Operations– 1993;

Report of a Safety Study on VFR Flight into Adverse Weather- Adopted 13 November 1990.

**Australian transport Safety Board Studies (See their web-site):**

Power loss related accidents involving twin-engine aircraft;

General Aviation Pilot Behaviours in the Face of Adverse Weather

**European Civil Aviation Conference:**

Compilation of statistic accidents in General Aviation for 2004 with a comparison with the years 2002 and 2003

**Compilation produced by rulemaking group members:**

Compilations were produced on Gliders and Balloons and are available at EASA