



Comment-Response Document 2012-10

Transposition of Amendment 43 to Annex 2 of the Chicago Convention on remotely piloted aircraft systems (RPAS) into common rules of the air

CRD TO NPA 2012-10 – RMT.0148 (ATM.001(A)) – 18/11/2013

EXECUTIVE SUMMARY

This Comment-Response Document (CRD) contains a summary of the comments on NPA 2012-10 of 21 August 2012 and a summary of the subsequent 'focused consultation', undertaken by the Agency, and its conclusions thereto.

The scope of the NPA is to align the European rules of the air with Amendment 43 to ICAO Annex 2, devoted primarily to remotely piloted aircraft systems (RPAS). This task also implements Article 4(a) and 4(b) of Regulation (EC) No 551/2004 on the Single European Sky, as amended by Regulation (EC) No 1070/2009.

Based on 224 comments from 61 commentators and the 'focused consultation' the Agency concludes that:

- the vast majority supported that option 2A (i.e. publish as soon as possible common rules to transpose amendment 43 to ICAO Annex 2 into SERA) in the RIA, would be the way forward;
- stakeholders agreed that the scope of the Agency is not limited to international civil aviation;
- stakeholders also agreed that toys and model aircraft should not be covered by detailed common EU rules, but subject to a general obligation to minimise hazards to third parties;
- transposition should be limited to obtain the special authorisation to operate RPAS internationally;
- AMC/GM (not included in NPA 2012-10) can be provided on other aspects, including airworthiness, licensing of remote pilots and operations, for which specific EU common rules do not yet exist.

The Agency, based on the above conclusions, developed a new text of the proposed rules (much slimmer legally binding implementing rules and much larger AMC/GM). This new text represents a radical departure from the text proposed by NPA 2012-10. Consequently, the Agency does neither intend for the moment to adopt any Opinion, nor to publish the revised text in this CRD. On the contrary, the Agency intends to submit the resulting text of the proposed Opinion and Decision through a new NPA to give stakeholders, who are not directly involved in the focused consultation, a fair opportunity to comment.

**Reactions to this CRD should be submitted via the CRT by clicking the 'add a general reaction' button.
Please indicate clearly the applicable page and paragraph.**

Applicability		Process map	
Affected regulations:	Part-SERA (Standardised European Rules of the Air)	Concept Paper:	No
Affected stakeholders:	competent authorities; civil RPAS operators (commercial and non-commercial)	Rulemaking group:	No
Driver/origin:	Legal Requirements	RIA type:	Light (published in NPA 2012-10)
Reference:	Commission Regulation (EU) No 923/2012 of 26/09/2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010	Technical consultation during NPA drafting:	No
		Publication date of the 1 st NPA:	21 /08/2012
		Duration of consultation on NPA 2012-10:	3 months
		Review group:	No
		Focussed consultation:	Yes
		Publication of 2 nd NPA:	2014/Q1
		Duration consultation 2 nd NPA:	2 months
		Publication date of the Opinion (simultaneously with 2 nd CRD):	2015/Q1
		Publication date of the Decision:	2016/Q2

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1. Procedural information

1.1. The rule development procedure

The European Aviation Safety Agency (hereinafter referred to as the 'Agency') developed this Comment-Response Document (CRD) in line with Regulation (EC) No 216/2008¹ (hereinafter referred to as the 'Basic Regulation') and the Rulemaking Procedure².

This rulemaking activity is included in the Agency's Rulemaking Programme for 2011-14, under RMT.0148 (ATM.001(a)). The scope and timescale of the task were defined in the related Terms of Reference Issue 2, of 29 September 2010.

The purpose of the Notice of Proposed Amendment (NPA) 2012-10 was to envisage amending Commission Implementing Regulation (EU) No 923/2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Regulations (EC) No 1035/2011, (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010.

The draft Regulation has been developed by the Agency. All interested parties were consulted through NPA 2012-10³, which was published on 21 August 2012. 224 comments were received from 61 interested parties, including industry, national aviation authorities and civil RPAS operators.

Due to the significant number of comments and their content, the Agency decided to implement a subsequent 'focused consultation' based on:

- bilateral interviews of a dozen of civil RPAS operators, carried out in Paris in December 2012, in parallel to a public event;
- informal meeting with key commentators in Köln on 05-06 March 2013;
- involvement of said key commentators to revise text of the draft rules.

This new text of the draft Opinion (amendment to Commission Regulation (EU) No 923/2012), and the draft Decision (associated AMC and GM) represents a radical departure from the text proposed by NPA 2012-10. Consequently, the Agency does neither intend for the moment to adopt any Opinion or Decision, nor to publish the resulting text in this CRD.

On the contrary, the Agency intends to submit the resulting text of the proposed Opinion and Decision through a new NPA, to give stakeholders not directly involved in the focused consultation, a fair opportunity to comment, according to Article 7(5) of the rulemaking procedure.

The text of this CRD has been developed by the Agency.

The process map on the title page contains the major milestones of this rulemaking activity.

¹ Regulation (EC) No 216/2008 of the European Parliament and the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC (OJ L 79, 19.3.2008, p. 1), as last amended by Commission Regulation (EU) No 6/2013 of 8 January 2013 (OJ L 4, 9.1.2013, p. 34).

² The Agency is bound to follow a structured rulemaking process as required by Article 52(1) of the Basic Regulation. Such process has been adopted by the Agency's Management Board and is referred to as the 'Rulemaking Procedure'. See Management Board Decision concerning the procedure to be applied by the Agency for the issuing of Opinions, Certification Specifications and Guidance Material (Rulemaking Procedure), EASA MB Decision No 01-2012 of 13 March 2012.

³ <http://www.easa.europa.eu/rulemaking/docs/npa/2012/NPA%202012-10.pdf>

1.2. The structure of this CRD and related documents

This CRD provides a summary of the received comments and the conclusions reached by the Agency on each segment of NPA 2012-10.

The resulting rule text, stemming from the focused consultation, is not provided in this CRD.

Since a new NPA procedure will be initiated, it is not necessary to publish in this CRD individual replies to the 224 comments received on NPA 2012-10. This CRD in fact proposes to interrupt the procedure initiated with NPA 2012-10 and instead to publish a second NPA on the subject, incorporating the input from comments from stakeholders and discussion with them as result of the consultation initiated with the NPA2012-10.

1.3. The next steps in the procedure

Stakeholders are invited to provide reactions to this CRD regarding the proposed way forward (i.e. a new NPA on the subject).

Such reactions should be received by the Agency not later than **18 December 2013** and should be submitted using the automated **Comment-Response Tool (CRT)** available at <http://hub.easa.europa.eu/crt>⁴.

The new NPA on transposition of amendment 43 to Annex 2 to the Chicago Convention (ICAO) into the Standard European Rules of the Air (SERA) containing the proposed changes to Regulation (EU) No 923/2012 and associated Acceptable Means of Compliance and Guidance Material (AMC/GM), will be published in no less than one month after the publication of this CRD.

⁴ In case of technical problems, please contact the CRT webmaster (crt@easa.europa.eu).

2. Summary of comments and responses

2.1. Statistics

NPA 2012-10 has received 224 individual comments by 61 commentators. The figures below show the distribution and statistics of comments and type of commentators:

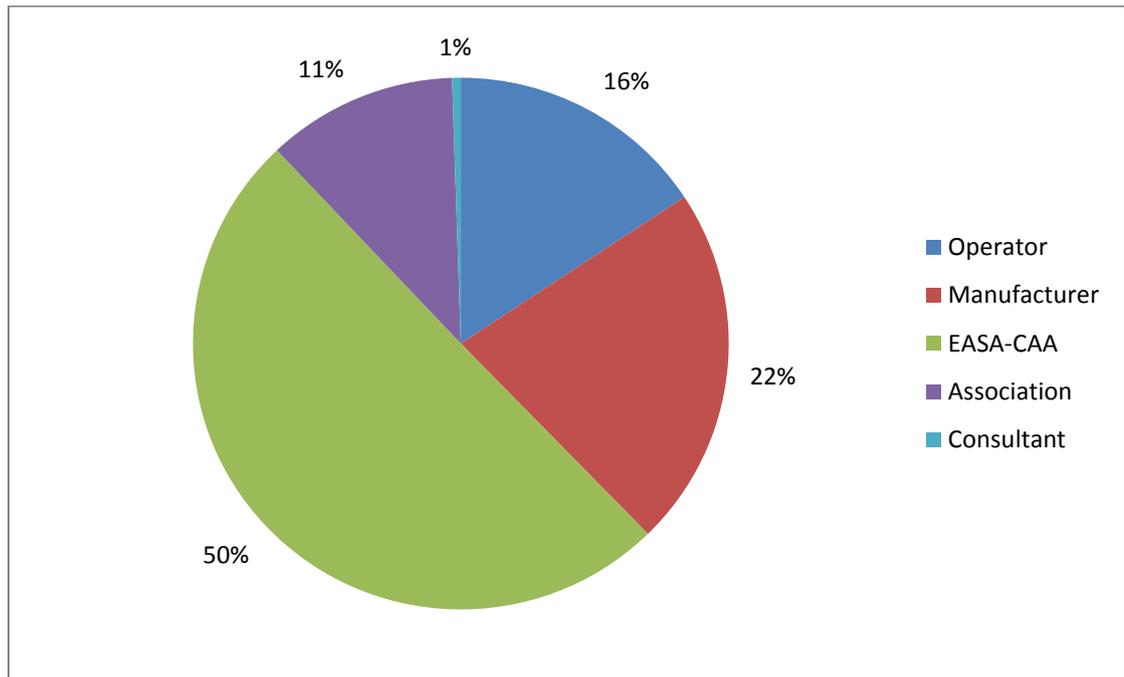


Figure 1: Distribution of comments per type of commentator

50 % of the comments came from competent authorities and 38 % from RPAS industry (manufacturers and operators).

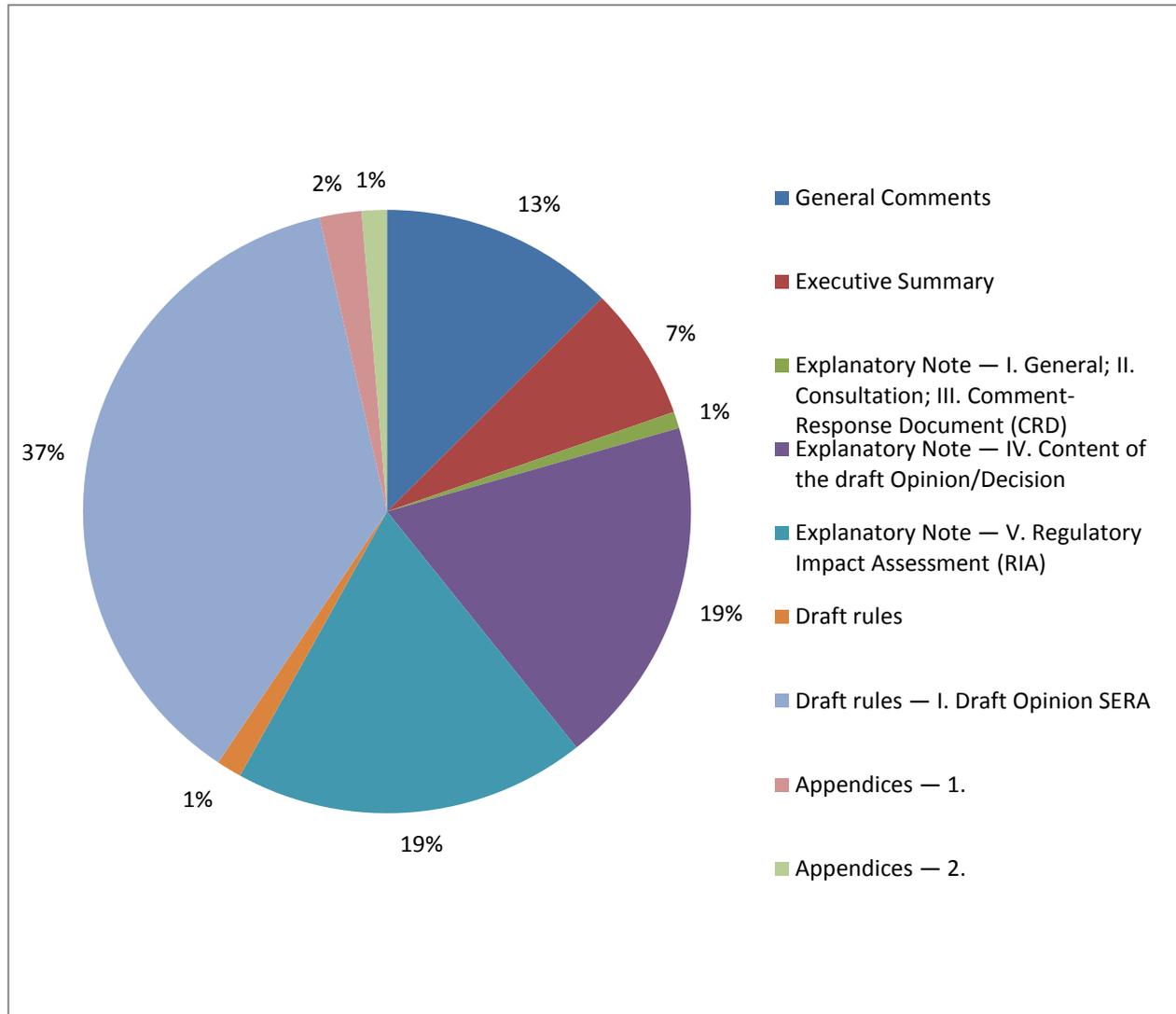


Figure 2: Statistics per type of commentators

37 % of the received comments concerned the proposed amendments to Part-SERA but additionally 19 % were on the explanation of its content which makes a total of 56 % of the comments on the proposed implementing rules. In addition, 19 % of the comments addressed the RIA and 13 % of the comments were of general nature.

Although individual replies to comments are not published in this CRD, the Agency nevertheless analysed the comments one by one and concluded, considering the content of the final text that will be proposed in a 2nd NPA, that potentially 55 comments could be considered accepted and 58 comments partially accepted (in total 50.4 %). 84 (37.5 %) comments could be considered noted since they were proposing no changes to the text of the rules. In the end only 27 (12 %) of the comments would not have been accepted by the Agency, as shown in the table below:

Potential disposition	Total Comments	
	No.	%
Accepted	55	24.5
Partially accepted	58	25.9
Noted	84	37.5
Not Accepted	27	12.1
TOTAL	224	100

All the accepted or partially accepted comments, and some of the 'noted' as well, have influenced the 'focused consultation' and the resulting text of the draft rules, which will be proposed through a second NPA on the same subject.

A summary on the conclusions reached on each segment of NPA 2012-10 is presented in the paragraphs below.

2.2. Conclusions on general comments on NPA 2012-10

28 general comments have been received on NPA 2012-10.

A few of them requested to suspend this rulemaking task, until the process to routinely revise SERA is set up by the European Commission (EC) and supported by the Member States. The proposal cannot be accepted, since Article 2 of Regulation (EU) 216/2008 obliges the Agency, through the rulemaking procedure adopted by its Management Board, to take into account amendments to ICAO SARPs, even before this process is in place.

Several comments requested that the scope of the proposed rules be drastically limited to RPA of more than 150 kg operating mass only, and to commercial operations only. These comments cannot equally be accepted since:

- SERA, based also on Regulation (EC) No 551/2004, apply to any airspace user, whether its competent authority is the Agency or not (e.g. they apply as well to third country aircraft), regardless of its mass;
- the historical distinction in manned aviation between commercial and non-commercial aviation, stems from different levels of risks acceptable by paying passengers which want only to travel safely and persons that voluntarily fly including for recreation; in the case of RPAS there are no persons on board, while the risk for third parties (in the air or on the ground) is exactly the same whether the activity is commercial or not⁵.

However, most of these comments contained suggestions which the Agency will consider when drafting the new proposal for the second NPA, such as:

⁵ Model aircraft can be flown for recreational or sport purposes. But they are NOT considered RPAS by the Agency.

- Limiting the requirements in the rule to the issuance of the special authorisation to fly RPAS (without limit of operating mass) across national borders (in line with Article 8 of the Chicago Convention and Amendment 43 to ICAO Annex 2);
- Authorisations to fly inside the airspace under the sovereignty of an EU Member State issued on the basis of national rules, ensuring sufficient safety, but administratively proportionate to the risk and not so burdensome as those for cross-border operations;
- Airworthiness, pilot licensing, operations and operator aspects will be drafted at the level of AMCs in the absence of specific common rules for airworthiness and flight standards, in particular for RPA above 150 kg.

Some stakeholders requested to better clarify that toys (as defined by Directive 2009/48/EC) and model aircraft are out of scope of the proposed rules. These comments have been partially accepted since the historical distinction between flying toys and model aircraft on one side, versus 'real' aircraft on the other side, is becoming much narrower and sometimes blurred once RPAS are introduced. Furthermore, the Directive on toys only protects the users of the toys and not third parties in consequence of the user of such toys.

Therefore, for model aircraft a definition would be proposed in order to clearly establish the difference between RPAS and model aircraft. This definition is not linked to the mass, but to the fact that a model aircraft is exclusively used for recreational or sport purposes. It remains a model aircraft, even if equipped with sensors.

Both toys falling into the definition of aircraft and model aircraft would be subject to a general obligation of not causing harm to other airspace users and to apply the rules of the air as far as appropriate (e.g. stay out of airspace class A), but no detailed common rules at EU level would be proposed for them.

2.3. Conclusions on comments on the Executive Summary

16 comments have been received on the executive summary of NPA 2012-10, or in general on the Explanatory Note contained therein. Most of these comments could have been at least partially accepted.

The Agency now intends to propose in the mentioned 2nd NPA that also the supplement to SERA needs to be amended.

2.4. Conclusions on comments on the Explanatory Note – I. General; II. Consultation; III. Comment-Response Document (CRD)

Only two comments have been logged on pages 4 and 5 of NPA 2012-10.

They could have been partially accepted, but without adding anything substantially new to the conclusions already summarised in the paragraphs above.

2.5. Conclusions on comments on the Explanatory Note – IV. Content of the draft Opinion/Decision

42 comments have been logged on pages from 6 to 11 of NPA 2012-10.

Only four of them would have been rejected, namely:

- comments 52 and 86, stating that ICAO SARPs are not mandatory for the Agency (which is true), but ignoring Article 2.2 (d) of Basic Regulation;
- comment 54, which was factually wrong since amendment 43 to ICAO Annex 2 modified also par. 3.6.2.2 therein; and

- comment 192, not supported by any other commentator, proposing to impose on RPAS operators to file their application for special authorization 30 days before the flight and not only 7 as required by ICAO.

The comments potentially noted, accepted or partially accepted, confirmed the conclusions already reached in the conclusion of the general comments on NPA 2012-10 in paragraph 2.2 above. In addition to that section, the following suggestions will be taken into account by the Agency when developing the second NPA on the subject:

- Consider Notes 2 and 3 in Appendix 4 to ICAO Annex 2 and hence do not insert rules for airworthiness and flight standards in Regulation (EU) 923/2012;
- Remove the term 'specialized operations' as the proposed rules would apply to all RPAS;
- Lower the legal status of the detailed requirements to request authorisations (i.e. at the level of AMC and not at the level of implementing rule, so allowing alternative means of compliance);
- Limit the scope of the detailed requirements for authorisation to only when flying into, within, or out of the airspace of a Member State other than the State of registry or the State of the operator (until when detailed common rules would be available for remote pilots, airworthiness and operators);
- Requirement for detect and avoid to flight beyond VLOS in non-segregated airspace given as guidance material to the competent authorities to issue authorisations;
- Impose on model aircraft and toys the unique requirement of 'minimising' hazards for third parties, as it is common practice today in the EU MS;
- Introduce amendments in the supplement to SERA, to reflect the resulting differences with the ICAO standards.

2.6. Conclusion on comments on the content of Part V of the Explanatory Note (Regulatory Impact Assessment)

42 comments have been logged on the RIA contained from page 12 to 28 in NPA 2012-10.

A few of them would have been accepted, not only because they are shared by the Agency, but also because they would have had a minimal impact on the text of the proposed rules. However, with respect to the conclusions already presented above for the previous segments of the NPA, no additional issues emerged from such comments,

Nine comments would have been rejected, namely:

- comments 196 and 197 raised from the same single commentator, advocating detailed common rules at EU level for model aircraft; several other commentators had in fact expressed the totally opposite position;
- comment 151 arguing that the absence of common or harmonized rules is not detrimental to the internal EU market, which contrast the conclusions of the 'Panel Process' organised by the EC in 2011/12;
- a minority view expressed only by two stakeholders, through comments 97 and 152 that option 0 (i.e. 'do nothing') should be the preferred one;
- a minority view expressed only by two stakeholders (ref. comments 110, 112 and 161) that, having preferred option 2 (i.e. cover all 'professional' RPAS operations, commercial and non-commercial), its implementation should, however, be postponed to 2018 (i.e. option 2B). The justification was that amendment 43 to ICAO Annex 2 applies to EU Member States even without an EC Regulation on the matter. The Agency observes that, even if the justification is true, in the ICAO context there are no legal remedies to enforce implementation, contrary to the infringement procedures possible in the EU;
- comment 105 requesting to restrict the RIA to only the safety perspective, which contrasts Article 2 of Basic Regulation and the common practice of the Agency in the totality of its RIAs.

The comments summarised above do not invalidate that option 2A (i.e. commercial air transport and aerial work, commercial or not, in the scope of the rules) is the preferred one.

Consequently, since it is not necessary to change the preferred option, the RIA will not be reissued in the 2nd NPA on the subject.

2.7. Conclusions on comments on the front page of draft rules

Three comments have been logged on the front page (i.e. page 29) of the rules proposed through NPA 2012-10. Two comments would have been noted and one comment partially accepted. The latter, however, addresses the content of the draft Opinion, and not the front page. The third comment embeds several comments that add one significant modification to what has been presented in the paragraphs above. This comment, however, suggests that all RPAS should minimise hazards to third parties and other traffic, regardless the type of operations, which is considered reasonable by the Agency.

2.8. Conclusions on comments on the text of the draft Opinion

84 comments have been logged on the detailed wording of the rules proposed through NPA 2012-10.

All of them have been considered during the focused consultation. As a result, the Agency intends to propose a new shorter text of the proposed Opinion (i.e. about 4 pages of amendment to the implementing rule text instead of 7) supported by draft Decision containing AMC/GM (about 10-15 pages).

These draft Opinion and draft Decision will be published in the second NPA on the subject to give all stakeholders a fair opportunity to comment.

The period of consultation would be two months, since the new NPA would already take into account not only the 224 comments received on NPA 2012-10, but also the results of the focused consultation.

2.9. Conclusions on comments on the text of amendment 43 to ICAO Annex 2

At beginning of Appendix C1 in NPA 2012-10 the Agency had clearly stated that:

THIS TEXT HAS BEEN ADOPTED BY THE ICAO COUNCIL IN MARCH 2012.

IT IS REPRODUCED HERE ONLY FOR INFORMATION PURPOSES.

STAKEHOLDERS DO NOT NEED TO COMMENT ON IT.

Nevertheless, a few stakeholders wished to address five comment to standards not only already adopted and published by ICAO, but also not in the responsibility of the Agency.

Obviously these comment have no effect on the detailed wording of the rules proposed by the Agency.

2.10. Conclusions on comments on the text of Standard European Rules of the Air (SERA)

Three comments of the same content have been received on the text of the SERA rules (now Regulation 923/2012), although the Agency had not invited to comment on the text already endorsed by the Single Sky Committee. That text, although finalised, had not yet been published in the Official Journal when NPA 2012-10 was published. It was therefore desirable to provide information to stakeholders but not proposing amendment to a text already agreed at the proper decision making level.

Also, these three comments have no effect on the proposed transposition of amendment 43 to ICAO Annex 2.

2.11. General conclusions on comments to NPA 2012-11

Based on the 224 comments received from 61 commentators and the considerations on them contained in present CRD, the Agency concludes that:

- the vast majority of the stakeholders supported that option 2A (i.e. publish as soon as possible common rules to transpose amendment 43 to ICAO Annex 2 into EU legislation, focusing on international flights and professional RPAS operations) preferred on the basis of the RIA, would be the way forward;
- in principle stakeholders acknowledged that the Agency covers operations into, within or out of the EU (including so called 'domestic' flights) and therefore caution should be exercised to maintain proportionality when transposing ICAO SARPs (i.e. avoid to impose too heavy requirements to flights which do not cross borders);
- stakeholders also agreed that toys and model aircraft should be out of scope of detailed common EU rules but subject to a general obligation to minimize hazards to third parties;
- the scope of transposition should be limited to common rules of the air and in particular to obtain the special authorisation to operate RPAS across the borders of the EU Member States;
- in the absence of common rules for airworthiness and flight standards for civil RPAS comprising an RPA with an operating mass greater than 150 kg, it would be better to publish related material in AMC/GM and not in legally binding implementing rules;
- below that mass threshold, outside the scope of the Basic Regulation, the rules would be established on a national basis, including the authorisation to fly within the airspace under the sovereignty of the State of Registry or State of Operator.

The Agency, thanking all commentators and all the experts which contributed to the focused consultation, intends to publish a second NPA on the same subject of transposing amendment 43 to ICAO Annex 2 into SERA.

This NPA would propose an Opinion to amend Commission Regulation (EU) No 923/2012 and a draft Decision containing associated AMC/GM.

The 2nd NPA would be open for consultation for two months, since stakeholders are already familiar with the matter, and the Opinion will be published simultaneously with the (future) CRD as made possible by the Rulemaking Procedure in force.

3. *Draft CS, AMC, GM*

This CRD proposes to interrupt the procedure initiated with NPA 2012-10 and instead to publish a second NPA on the subject.

This CRD consequently proposes neither draft Opinion nor draft Decision.

4. Individual comments

Since a second NPA is planned on the subject, no individual responses to the 224 comments received on NPA 2012-10 are provided in this CRD.

These 224 comments are, however, reproduced here below for information purposes.

4.1. IV. CRD table of received comments

(General Comments)	-
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comment

17

comment by: Réseau de Transport d'Electricité - Services et Travaux Héliportés

For two years RTE (Réseau de Transport d'Electricité) has used RPASs to inspect its high-voltage towers (several hundreds per year)
These inspections are performed by operators that meet a number of security requirements imposed by the French regulations.

The proposed regulation would remove these national rules but without proposing to the operators how to meet the new requirements (airworthiness certificates, licenses, operators certificates)

In the short term, there would be no more qualified operators and RTE would not be able to carry out its inspections any more.

In addition, an authorisation for each flight would be too burdensome and time consuming for the operator and the administration.

We think that this regulation is not appropriate to light RPAs.

The Agency should let the National Authorities make rules for RPAs below 150 kg.

comment

19

comment by: SNCF

Dear Sir or Madam,

To follow upon the reading NPA 2012-10 please find below our observations :

Our Presentation:

Our Company is the SNCF (French National Railway Company), Engineering management.

Our department is in charge of railway asset management, and infrastructure monitoring and inspection. Our field of activity deals specially with earth and engineering works, rock faces, and land surveying along the national network.

Our opinion on the amendment :

The globalization of the various *pilotless radio-controlled aircrafts (drones)* independently of their weight, and the grouping of the different kinds of missions executed by such devices does not seem to us relevant.

In point of fact, aircrafts of 2 kg, 25 kg, 150 kg or more do not represent the same danger during the various phases of their missions. The notion of risk must be linked to the weight of the aircraft.

Furthermore, the mechanical or electronical failure of the radio-controlled aircraft do not generate the same disorders as the mission concerns a rural or an urban zone.

The use of radio-controlled aircraft in visual flight mode or with an embarked first-person view does not impose the same constraints in order to respect the notion

of "see and avoid".

More generally, the use of a radio-controlled aircraft of moderate weight and in visual flight may not require a flying license for the remote control operator, and a flying certificate for the aircraft.

Madame, Monsieur,

Pour faire suite à la lecture NPA 2012-10 veuillez trouver ci-dessous nos observations :

Notre Présentation :

Notre Société est la SNCF (Société Nationale des Chemin de Français)

Notre service travaille pour la rénovation du patrimoine rocheux, en terre et ouvrage d'art ainsi que la réalisation de relevé topographique.

Notre avis sur l'amendement :

La globalisation des différents aéronefs télépilotés quel que soit leur poids et la globalisation des différents types de missions exécuté par un drone aéronefs télépilotés ne nous paraît pas pertinent.

En effet des engins de 2, 25, ou 150 kg ou plus ne représentent pas le même danger lors de leur mise en service.

Le dysfonctionnement de l'aéronef télépiloté, en zone rurale ou urbaine n'engendrent pas les mêmes désordres

L'utilisation d'aéronef télépiloté en vol à vue ou en immersion n'entraîne pas les mêmes contraintes pour respecter la notion de « voir et éviter »

Plus généralement, l'utilisation d'aéronef télépiloté d'un poids modéré en utilisation en vol à vue pourrait ne pas nécessiter que le télépilote ait une licence de pilot et un certificat de navigabilité pour l'aéronef.

comment

39

comment by: *Dronesys*

non applicable en l'état

comment

40

comment by: *Small UAV ans RPAS Manufacturer*

Texte Non applicable en l'Etat

Fabrice Fasquel

Vision du Ciel Industries

comment

41

comment by: *Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)*

Swedish Transport Agency (CAA) agrees to the proposal with the following comments and suggestions.

The Transport Agency is of the opinion that there is a need to clearly identify the conditions where it is reasonable that an aircraft may be considered as model aircraft, and thus exempted from regulation, not only by limiting the distance to VLOS for flying them but also to set a maximum weight for model aircraft (e.g. 25 kg) in a definition.

In Whereas (6) add "and flown within VLOS"

6) Although not expressly excluded from the wording of Annex 2 to the Chicago Convention, model aircraft, used for recreational or sports activities and flown within VLOS should be excluded from the requirements of this Regulation.

Therefore, the proposals are limited to RPAS operated in commercial air transport and specialised operations, as defined in Commission Regulation...

comment	45	comment by: GYR
	<p>1- In our understanding, certification of UAS under 150 kg is not in the EASA remit, but under national CAA auspices. Which is the legal justification of this text ?</p> <p>2- The recent French legislation from DGAC has been a success both for safety of citizens and for development of business for UAS under 150 kg UAS. Under a strict regulatory framework, industry and users start working together to develop this new market. Revising at short term the current regulation in France would be detrimental, and would seriously weaken French industry competitiveness in front of others (USA in particular, but also many others).</p> <p>3- Details comments to the text need more time. An extension of one month would be welcome</p>	
comment	68	comment by: ESTIA
	<ol style="list-style-type: none">1. In our understanding, certification of UAS under 150 kg is not in the EASA remit, but under national CAA auspices. Which is the legal justification of this text ?2. The recent French legislation from DGAC has been a success both for safety of citizens and for development of business for UAS under 150 kg UAS. Under a strict regulatory framework, industry and users start working together to develop this new market. Revising at short term the current regulation in France would be detrimental, and would seriously weaken French industry competitiveness in front of others (USA in particular, but also many others).3. Details comments to the text need more time. An extension of one month would be welcome	
comment	71	comment by: AeroFilmPhoto Services
	non applicable en l'état	
comment	72	comment by: Diamond Aircraft
	<p>Diamond Aircraft Industries response to the NPA 2012-10, draft opinion of the European Aviation Safety Agency for a Commission Regulation laying down the common rules of the air and operational provisions regarding services and procedures in air navigation – transposition of Amendment 43 to Annex 2 to the Chicago Convention on remotely piloted aircraft systems (RPASs) into common rules of the air.</p> <p><u>General comment:</u></p> <p>Observing the whole document you have to consider, that the intended regulations are far beyond the ICAO intentions and form a disproportionate administrative burden to operate any RPAS. The intention of the EASA drafted document should be to stay in line with the ICAO requirements but in the most economic manner but sad to say is not. EASA has to recognize the global competition in aviation. It is no contradiction to EASA's responsibility according to the "Basic Regulation" to develop requirements and regulations which support the European Aviation Industry by lowering the actual and the foreseen administrative burden. National aviation authorities must also be interested first to stabilize and later to lower their costs.</p> <p>A typical example:</p>	

ICAO Annex 2 Amendment 43 Appendix 4 chapter 3 – Request for authorisation states:

3.1 *The request for authorisation referred to in 1.2 above shall be made to the appropriate authorities of the State(s) in which the RPA will operate not less than seven days before the date of the intended **flight unless otherwise specified by the State.***

3.2 **Unless otherwise specified by the State(s)**, the request for authorisation shall include the following:...

EASA drafted:

3. Request for authorisation

3.1 *In order to obtain the authorisations specified in 1.1 and 1.2, the operator of an RPAS shall apply to the relevant competent authority in a form and manner established by it. The application shall be made no less than seven days before the date of the intended flight(s).*

3.2 *The application shall include **at least** the following:*

The intention of the ICAO document is not to add components for the authorisation procedure (but of course are not forbidden) but rather to reduce them and stay ICAO compliant anyway. EASA made themselves live easy by copy and paste the ICAO requirements without spending one moment of time to think how administration, how costs can be reduced. The "Basic Regulation" does not forbid EASA to think how to avoid wasting industry resources and to support public institutions to reach cost cutting targets.

Having taken note of this draft, you may fear the worst with regard to the necessary amendments of the Commission Regulations (EC) No 748/2012 (former 1702/2003), 2042/2003, 1178/2011 and the upcoming regulations covering air operations

comment 78

comment by: Civil Aviation Authority - Norway

1. Amendment 43 to Annex 2 of the Chicago Convention was specifically aimed at RPA conducting international flights, and the "new" Appendix 4 of Annex 2 is only intended to apply to RPA(S) in international operations. The rules for operating an RPA within a state's airspace will remain the responsibility of that state.

A new Annex 2 to Part-SERA is suggested in the NPA 2012-10 that attempts to introduce the ICAO Annex 2 standards from Amendment 43 to facilitate requesting and obtaining authorisation for both national and international RPAS operations.

The suggested new text in SERA could be understood to go beyond the intent of Annex 2 and could have unintended consequences.

The text of the NPA seems to be made applicable to all RPAS operations in Europe, also including operations within the boundaries of the European Union States. Even though ICAO rules may be adopted by various countries for national operations, such adoption should not be mandated in Europe.

Conclusion: Suggest a rewording or specification of the text to specify the intent.

2. There are no agreed procedures, requirements, or timelines established by ICAO or EASA for certificates of airworthiness, remote pilot licenses, operator licenses, as well as other regulatory guidance documents. NPA 2012-10 consequently refers to documents that currently don't exist.

This could mean that a European State could issue a certificate or a license based on national criteria not agreed on at a European level, and that the other European States would have to accept it. Consequently, a state would have to allow an RPAS, or pilot, or operator approved in another state to operate in their country, even though these certificates or licenses does not meet that states national requirements.

Conclusion: In view of the current absence of supporting ICAO and European airworthiness and licensing requirements, as well as appropriate guidance material, the proposed NPA seems to be premature.

3. The NPA 2012-10 refers to operations without any mention of the aircraft MTOM limit of 150kg divider between national and EASA regulatory responsibility.(Although a limit few understands, it's still there.) The text then applies to RPAS of all MTOW's. Discussions in ICAO and in other international groups, has not yet defined a lower MTOM or size limit for RPAS.

As a consequence, current nationally legal acceptable commercial operations taking place in Europe, would be illegal when the NPA text becomes valid.

The entering in force of NPA 2012-10 would make the objectives of the European Commission RPAS Roadmap (being prepared by the European RPAS Steering Group) impossible to achieve.

Conclusion: Suggest changing the text appropriately to include the current limit of 150kg, or include provisions for removing this limit.

4. NPA 2012-10 does not make a clear enough distinction between toy & model aircraft on one side, and RPAS on the other side. Toy aircraft are not even mentioned.

Throughout the text of the NPA the term "aircraft model" is used, instead of the term "model aircraft".

The definition of RPA indicated in the NPA could be construed to mean that it also covers toy and model aircraft, which is clearly not the case.

Conclusion: The definition of RPAS should be modified to read: "Remotely piloted aircraft (RPA)" means an unmanned aircraft which is piloted from a remote pilot station for the purpose of commercial air transport or specialized operations (SPO).

It would be helpful if the following comment was added as a comment: "Toy and model aircraft that are equipped with any special equipment or sensors, and that are used for Specialized Operations (SPO) become RPAS."

5. It seems unrealistic to expect the NPA to make the goals of the European Commission's RPAS Roadmap to be finalized by the European RPAS Steering Group before Christmas 2012. It would also be beneficial to make sure that the text of the new NPA is line with the European Commission's RPAS Roadmap, prior to its publication.
6. ICAO Amendment 43 to Annex 2 of the Chicago Convention contains many provisions for the States to apply and implement specific authorization variations on a national basis. The following is consequently often mentioned "... unless otherwise specified by the State." The NPA text should include such provisions.

comment

82

comment by: UK CAA

Page No: General**Comment:**

The SERA Part B Opinion (Opinion 05/2011 dated 14 Nov 2011) noted the requirement for 'a 'maintenance' process [to] be put in place to consider future safety needs, ICAO Annex 11 and Annex 3 amendments, or any amendment coming from a change within the EU operational environment'. The matter has been raised at successive meetings of the Single European Sky Committee but no decision on the way forward has been reached at these.

Now that SERA Parts A and B have been adopted by the Commission there is a need to put in place a process to deal with amendments to the legislation made necessary by changes to ICAO SARPs and material within the scope of the legislation. Although EASA have a process in place to make suggestions on how States should respond to ICAO material and help them respond, States still have rights and obligations to ICAO including the ability to make national differences. This raises the potential of different national approaches to ICAO material impacting on SERA and the need to have a way to resolve these, agree EU differences where needed and make appropriate changes to the SERA regulation.

Justification:

There is a requirement for a process to deal with amendments to the legislation and agreement on what this will be.

comment

83

comment by: UK CAA

Page No: General**Comment:**

The proposal does not appear to fully appreciate the size and complexity of any RPAS as the NPA does not discriminate between RPAS types other than by CAT or SPO. A 1 kg small unmanned aircraft cannot be put under the same conditions as a 1000 kg unmanned aircraft.

Reference is made to the applicability of Regulation (EC) No 216/2008 but this only applies to EASA aircraft - which rules out unmanned aircraft weighing less than 150 kg. Therefore there is a significant difference between the scope of SERA and the scope of the Basic regulation which is inadequately addressed in the NPA.

Justification:

Clarity, applicability and proportionality of the proposed regulation. There is a need for resolution of difference in scope between SERA and the Basic regulation

comment

122

comment by: Luca Valerio Falessi

ENAC is aware that the chosen regulatory approach has been replicated from Amendment 43 to ICAO Annex 2, but if ICAO standards are transferred without proper adaptation in the operational environment they would create serious problem, posing heavy constraints to the activity which is presently being done in each Member States.

In particular the chosen approach appears to be viable only for the big RPAS segment, while it creates almost un-manageable problems for the small RPAS segment, which will include the major part of RPAS operating as well as the major part of manufacturers. ENAC has already more than 50 applications for RPAS operation authorization.

Therefore ENAC believes that before introducing major constraints, EASA should offer solutions for the proper management of this very active aviation sector, acknowledging the level of resources that are available for safety oversight actions.

In particular the NPAS does not introduce any weight or complexity division between RPAS, they are all considered aircraft and subject to the conditions set in Appendix 2. This is not only in contrast with the proportionality principle, but leaves the State to regulate a market segment where the pressure is higher due to the quantity of manufacturers, preventing the formation of a EU market. ENAC welcomes the work of EASA in the RPAS, since they are a promising technology for the aviation business. Nevertheless the NPA cannot be accepted in the present form, because it fails to address the RPAS in an organic and proportional way

comment 132 comment by: *L'AVION JAUNE SYSTEMES*

Details comments to the text need more time. An extension of one month would be welcome

comment 133 comment by: *Ard'Drone*

Hello
UAVs for aerial shooting professional should be excluded from the text.
For this they should have the following characteristics:
Maximum take-off mass: 10 kg
Maximum altitude: 100 m
Maximum radius: 100 m (VFR)
These values may change depending on the area overflown (country, city, etc.)
You can also incorporate a notion of maximum power and size, for example 5 kW and a volume of 1 M3
Or, for this type of UAV, only nationales standards will apply.
Thank you to consider these comments as it challenges many companies specializing in a erial work
best regards

comment 134 comment by: *Athenium Films*

Hello
We work with UAVs for aerial shooting professional. Our activity should be excluded from the text.
For this they should have the following characteristics:
Maximum take-off mass: 10 kg
Maximum altitude: 100 m
Maximum radius: 100 m (VFR)
These values may change depending on the area overflown (country, city, etc.)
You can also incorporate a notion of maximum power and size, for example 5 kW and a volume of 1 M3
Or, for this type of UAV, only nationales standards will apply.
Thank you to consider these comments as it challenges many companies specializing in a erial work
best regards

comment 135 comment by: *sebulba*

I really think that UAVs dedicated to aerial photography/filming shouldn't be concerned by this text as far as they are lighter than 5kg.
They should be allowed to climb up to 100m and should stay in sight of the telepilot.
Thank you for you attention.

comment 153 comment by: *xamen technologies*
non applicable en l'état / Not applicable as is

comment 155 comment by: *Benoît REGORD*
Hello,
this document should not be applicable for small UAV under 10Kilos, used for photography and video.
Drive a plane has nothing to do with driving a small UAV.
Nowadays small UAVs are blocked to a certain height and horizontal distance thanks to their electronic brain.
The April 11th new french law has set a clever solution for this photo & video UAV business, and i think it should remain this way.
Being able to pilot an airplane does not mean that you are a qualified UAV pilot in no way.
Please, let the french law rule all national small UAV flight.
Best regards.

Benoît REGORD

comment 158 comment by: *Luftfahrt-Bundesamt*
The LBA has no comments on NPA 2012-10.

comment 159 comment by: *D3E Electronique - Herve WYSOCINSKI*
Non applicable en l'état

comment 166 comment by: *UVS International*
GENERAL COMMENTS
1) NPA 2012-10 proposes a new Annex 2 to Part-SERA that attempts to introduce the revised ICAO Annex 2 standards to facilitate requesting and obtaining the authorisation for both internal national RPAS operations and to fly internationally. However, Amendment 43 to Annex 2 of the Chicago Convention was specifically aimed at RPA conducting international flights. The 'new' Appendix 4 of Annex 2 is intended to apply to international operations only. The rules for operating a RPA within the airspace of a State will remain the responsibility of that State. The proposed SERA text goes beyond the intent of Annex 2 and may have unintended consequences.
Amendment 43 to Annex 2 of the Chicago Convention, which will apply to EASA as well as non-EASA regulated aircraft (requiring national regulations) was not intended to apply to RPAS operations within the borders of the signatory States. Nevertheless, the text of the NPA makes its provisions applicable to all RPAS operations in Europe, apparently including operations within the boundaries of the European Union States. Even though ICAO rules may be adopted by various countries for national operations, such adoption should not be mandated in Europe.
Conclusion: This principal cannot be considered acceptable.

2) NPA 2012-10 refers to certificates of airworthiness, remote pilot licences and operator licences, as well as other regulatory guidance documents, that currently do not exist, and for which there are no agreed procedures, or requirements, or timelines established by ICAO or EASA.

The implication could be that a European State could issue a certificate or a licence based on criteria not agreed on at a European level, and that the other European States would have to accept it (and allow the relevant approved RPAS, or pilot, or operator to operate in their country, even though such a certificate or licence does not meet their national requirements).

Conclusion: In view of the current absence of supporting ICAO and European airworthiness and licencing requirements, as well as appropriate guidance material, the proposed NPA seems to be premature.

3) NPA 2012-10 does not take into account the current legally existing (in the EU) separation bar of 150 kg, below which the regulation of RPAS currently is the responsibility of the national aviation authorities.

The NPA principally refers to operations (which are not yet the responsibility of EASA) without any mention of aircraft MTOM limits. The implication is that the text applies to RPAS of all sizes (from a few grammes and up several tonnes). It should be noted that ICAO has not yet defined a lower MTOM or size limit for RPAS.

As a consequence, currently legally acceptable commercial operations that are taking place in EU States, in compliance with existing national regulations, would have to be stopped (if the NPA text enters into force).

The entering in force of NPA 2012-10 would make the objectives of the European Commission RPAS Roadmap (being prepared by the European RPAS Steering Group) impossible to achieve.

Conclusion: In view of the aforementioned, the proposed NPA text does not seem acceptable.

4) NPA 2012-10 does not make a clear enough distinction between toy & model aircraft on one side, and RPAS on the other side. Toy aircraft are not even mentioned.

Throughout the text of the NPA the term "aircraft model" is used, instead of the term "model aircraft".

The definition of RPA indicated in the NPA could be construed to mean that it also covers toy and model aircraft, which is clearly not the case.

Conclusion: The definition of RPAS should be modified to read: "Remotely piloted aircraft (RPA)" means an unmanned aircraft which is piloted from a remote pilot station for the purpose of commercial air transport or specialized operations (SPO).

It would be helpful if the following comment was added as a comment: "Toy and model aircraft that are equipped with any special equipment or sensors, and that are used for Specialized Operations (SPO) become RPAS."

5) With a deadline for the receipt of comments on the NPA 2012-10 set at 15 October 2012, and with the European Commission's RPAS Roadmap to be finalized by the European RPAS Steering Group before Christmas 2012, it would appear impossible to make the Roadmap fall in line with the text of the NPA.

Additional General Remarks

a) ICAO Amendment 43 to Annex 2 of the Chicago Convention contains many provisions for the signatory States to apply and implement specific authorization variations on a national basis. Hence the following is often mentioned "... unless otherwise specified by the State." The NPA text does not give such leeway, and, consequently, is much more restrictive and too directive.

b) If NPA 2012-10 is not withdrawn, EU States may decide to develop their own national RPAS rules & regulations. This would be in direct opposition of the objective of the European Commission's RPAS Roadmap.

c) If a new NPA is published, it would be beneficial to the EU to make sure that

the text of the new NPA is line with the European Commission's RPAS Roadmap, prior to its publication.
d) A possible new NPA should only be published after the finalization of the European Commission's RPAS Roadmap.

comment 174

comment by: *UVS International*

From: UVS International
86 rue Michel Ange
75016 Paris
France
Tel.: 33-1-46.51.88.65
Fax: 33-1-46.51.05.22
www.uvs-international.org

To: EASA

Re: NPA 2012-10

Subj. Transposition of Amendment 43 to Annex 2 to the Chicago Convention on remotely piloted aircraft systems (RPASs) into common rules of the air

Objective: Comments to NPA 2012-10

Gentlemen,

The attached comments (both in MS-Word & PDF format) are submitted by UVS International (representing 256 corporate & institutional members), and also on behalf of the following national associations:

- ASSORPAS, Italy (representing 18 corporate members)
- BeUAS, Belgium (representing 22 corporate members)
- DARPAS, The Netherlands (representing 39 corporate members)
- UAS Norway, Norway (representing 31 corporate members)
- UAV-DACH, Germany (representing 31 corporate & 7 academic members)
- UVS France, France (representing 44 corporate & 3 academic members)

Consequently, the attached comments represent, in total, the view of **451 corporate, institutional & academic entities**.

Sincere regards,
Peter van Blyenburgh

comment 177

comment by: *Aerial photo and film*

My general comment is:

"For Unmanned aircraft of less than 150 kg the intermediate solution would be to make the provisions applicable to the only international flights of unmanned aircraft, leaving domestic flights of the aircraft under the responsibility of the State concerned."

Best regards
Patrick Benesse

comment 201

comment by: *CANSO Civil Air Navigation Services Organization*

BACKGROUND:

European Commission has adopted the IR on Standardized European Rules of the Air (SERA) applicable as of 04 December 2012, under the SES and the EASA BR framework. Objective of the SERA IR is, among others, to ensure harmonized implementation of ICAO Standards and Recommended Practices (SARPs) throughout the SES and, where deemed necessary, establish common European differences from ICAO. Further, the SES framework states its requirements "shall be without prejudice to the rights and duties of Member States under the 1944

Chicago Convention on International Civil Aviation" (SES Framework Regulation).

ICAO EVOLUTION:

Mechanism for evolution of ICAO SARPs is established in the Article 37 of the Chicago Convention. An amendment to a standard is, when adopted by the ICAO Council, distributed to the Member States for approval. If not disapproved by the majority of the States, an amendment becomes effective. In the period between the effective and the applicability date of an amendment, the Member States are required (as per Article 38) to notify differences, if any, to the ICAO Secretariat. The overall time span for the evolution process, from adoption, via States review and approval, via effectiveness and notification of differences to applicability normally takes around eight months (usually between March and November).

SERA MAINTENANCE MECHANISM:

In the preamble of the SERA IR, it is stated that "existing process for amending ICAO Standards and recommended practices within the framework of the Chicago Convention is not addressed by this Regulation". The challenge of ensuring the consistency between the evolution of ICAO SARPs and SERA is addressed only in the Article 6 where the Commission is obliged to establish a permanent process to respond to this challenge. However, no timeframe and no performance objectives are set for the establishment of such process. If there are any regulatory activities on establishment of this process, these are to this date not known to the public.

CONSEQUENCES OF MISSING MAINTENANCE MECHANISM:

With the adoption and applicability of SERA IR without a functional maintenance mechanism, Member States are brought into a position of not being able to conform with their obligations under Chicago Convention, Article 38. Namely, if ICAO adopts an amendment to a standard that had already been incorporated into SERA, a state cannot comply with a new ICAO amendment since it will be inconsistent with the corresponding SERA provision. In the same time, a state cannot declare a difference with ICAO, pursuant to Article 38 of the Chicago Convention, since only the commonly agreed differences, as defined in the Article 5 of the SERA and provided in the Supplement to the Annex to the SERA, can be notified to ICAO.

Safety relevance of this issue is critical in the context of the globally applicable procedures that involve both the ground-based and the airborne parties. In the current setting, the airspace users from outside Europe would be uncertain about the applicability of a standard / procedure at the moment when a procedure becomes globally applicable as promulgated by ICAO, not applicable in Europe as not yet transposed into SERA, and no difference is notified to ICAO, as not being recognized as commonly agreed difference.

POSITION:

CANSO invites European Commission to establish a mechanism that would ensure consistency between the evolution of ICAO SARPs and SERA IR provisions with utmost priority. Further, CANSO encourages the responsible entities to establish the maintenance mechanism upon the following principles:

- evolution of SERA IR shall be synchronised with the evolution of ICAO SARPs so that the Member States are not brought in a position of legal uncertainty and legal inconsistency, and that the global airspace users have no ambiguity about the applicability status of ICAO SARPs in Europe;
- assessment of applicability and inclusion of amended ICAO SARPs into SERA shall include the subject matter expertise of the air navigation service providers and shall support the considerations relevant for the local operational environment;
- the maintenance process shall allow for sufficient time for the public and broad consultations that would enable the industry stakeholders to support the decision making from their own field of expertise;
- deliberations of responsible entities following the public consultations shall be justified by their contribution to the primary objectives of the provision of air

navigation services – safety, regularity and efficiency of civil aviation. The responsible entities are encouraged to include CANSO in the development of the SERA maintenance mechanism, so that the ANSP expertise may contribute in establishing a safe and efficient process.

comment 215 comment by: EUROCOPTER
Eurocopter has reviewed the document and has no comment.

comment 227 comment by: French Civil Aviation Authority (DGAC)

Official comments from French civil aviation authority (DGAC)

General Comments

French Civil Aviation Authority (DGAC) fully supports the development of the promising innovative market of aerial services through the operation of RPAS. French DGAC also recognises the need for harmonized rules for the safe integration of RPAS into European airspace while providing a uniform protection to citizens, and supports the development of such rules for heavier RPAs used for commercial air transport (CAT).

The proposed EU amendment is presented as the alignment of the European common rules of the air (SERA) with Amendment 43 to Annex 2 to the Chicago Convention. However, whereas ICAO amendment 43 is intended to facilitate international air navigation of RPAS over high seas and Contracting States territories, the proposed EU regulation would address all types of RPAS engaged in domestic flight over EU Member States territory. In addition, the EU amendment renders the issuance of the authorisation required for a RPAS to operate over a Member State territory automatic as long as the applicable requirements are met, thereby annihilating the ICAO concept of special authorisation for unmanned aircraft.

France has disapproved Amendment 43 to ICAO Annex 2 of the Chicago Convention and will notify differences to ICAO when the amendment enters into force. France observed that the novelty of legal and standard issues introduced by RPAS required an in-depth analysis of standards previously developed for manned aircraft, and that an amendment of Annex 2 was premature given that the other annexes impacted by international air navigation of RPAS were not yet amended.

French DGAC thus strongly opposes the introduction of the proposed amendment for the alignment of the European common rules of the air (SERA) with Amendment 43 to Annex 2 to the Chicago Convention. The main reasons for this disapproval are outlined below.

1. Loss of state sovereignty regarding pilotless aircraft operations

ICAO Chicago convention article 8 states that “no aircraft capable of being flown without a pilot shall be flown without a pilot over the territory of a contracting State without special authorization by that State” and this sovereignty is recalled in ICAO Amendment 43 to Annex 2 (§1.1 and 1.2 of appendix 4). However the proposed EU regulation goes beyond ICAO amendment 43 as it no longer allows a Member State to deny access to its airspace for the operation of RPAs since

according to the proposed article 4.2, the authorities will be obliged to issue the authorisation to any RPAS operator compliant with the applicable requirement.

State sovereignty over RPAS operation is a sensitive issue, as it involves personal liberties and civil rights as well as defence issues. The development of RPAS operations has prompted concerns from civil liberties groups, who fear that the unmanned aircraft will result in more forms of surveillance.

In this context, **France opposes any regulation that would impact its sovereignty over its airspace and in particular that would annihilate article 8 of the Chicago convention.**

2. EU regulation does not apply to light RPAS (less than 150kg)

Regulation (EC) N° 216/2008 of the European Parliament and of the Council is not applicable to unmanned aircraft with an operating mass of no more than 150 kg (article 4).

As for Regulation (EC) N° 551/2004, it gives competence to the Commission for establishing a common airspace regulatory framework, among which the rules of the air. But it does not cover aspects related to airworthiness, licence or operations.

This implies that the Commission/EASA is not competent for setting up an airworthiness/licence/operations regulatory framework for light RPAS with an operating mass of no more than 150kg.

In addition, compliance with Annex IV to regulation (EC) N° 216/2008 (essential requirements for air operations), first established for manned aircraft operations, required by the proposed EU regulation is inappropriate and in some cases irrelevant for RPAS operations.

The scope of the proposed EU amendment is thus not compliant with EU regulation (EC) 216/2008 amended by Regulation (EC) 1108/2009.

3. EU regulation/harmonization on very small / small RPAS is premature with respect to market development

As indicated in the Commission Staff working document SWD(2012) 259 final "Towards a European strategy for the development of civil applications of Remotely Piloted Aircraft Systems (RPAS)" of 4 September, 2012 and recalled in the Regulatory Impact Analysis, the manufacturing and operation of RPAS for civil applications is a developing activity with great potential and is already involving a large number of SMEs in the very small / small RPAS segment. The emerging market for civil applications of RPAS is not yet mature, and regulation should thus support its growth and development.

An important part of today RPAS operations in France concern civil applications, and in particular special operations (SPO). While France recognises the need for EU regulation in line with ICAO standards regarding CAT operations of larger RPAS, it considers inappropriate to include specialised operations for very small / small RPAS in the same stringent regulatory framework as it will impair considerably the development of the market.

France has recently adopted a regulatory framework for the design and operation of light RPAS (less than 150kg) operating at low altitude (typically for SPO) that

supports the development of civil applications of light RPAS and the associated market. This regulatory framework, established through a thorough consultation of stakeholders is today well accepted by RPAS operators and manufacturers and the market is developing along its line.

The European Commission and EASA have conducted stakeholder consultation, in particular through workshops. French stakeholders who were then in favour of regulation for RPAS operations have confirmed their satisfaction over the current French regulation for very small / small RPAS and have indicated the proposed EU regulation would introduce unnecessary burden that will have a very negative impact on the development of the market.

Introducing the proposed EU amendment will considerably limit if not halt the development of UAS flourishing activities, and in particular the emerging market of civil applications for very small / small UAS operated for SPO.

Conclusion

France nevertheless recognises the need for an EU regulatory framework for RPAS in line with ICAO standards for larger RPAS (more than 150kg) engaged in international air navigation, the intended scope of ICAO amendment 43 to Annex 2, and regrets that Option 1 of the Regulatory Impact Assessment (regulation for commercial RPAS) was not retained.

France strongly advocates to keep supporting the development of RPAS through national regulatory frameworks and to use those existing frameworks to build regulatory experience on RPAS operations. Gathering national experiences from all Member States progressively will help converging in due time towards harmonized requirements in the scope of EASA competences.

Setting stringent harmonized requirements applicable to very small / small RPAS today for the sake of harmonization would not be consistent with the subsidiarity principle. It would neither be justified by market, nor by important safety concerns, and overall would be counterproductive for the expansion of this young and fragile industry sector.

comment 230

comment by: VEYE CASSIDIAN

I give you here after my main comment relative to the text in object :
This text NPA-2012-10 is not applicable as far as the pilotes licences for RPAs are not clearly defined. Same remark with a certificat of airworthiness and immatriculation conditions.

Best regards

Bernadette Veye dit Chareton

Head of Airworthiness France

CASSIDIAN

CBRQ1

comment 9

comment by: MICOULEAU

Hello
 UAVs for aerial shooting professional should be excluded from the text.
 For this they should have the following characteristics:
 Maximum take-off mass: 10 kg
 Maximum altitude: 100 m
 Maximum radius: 100 m (VFR)
 These values may change depending on the area overflown (country, city, etc.)
 You can also incorporate a notion of maximum power and size, for example 5 kW
 and a volume of 1 M3
 Or, for this type of UAV, only nationales standards will apply.
 Thank you to consider these comments as it challenges many companies
 spécializing in a rial work
 best regards

comment

11

comment by: *flyprod*

Hello
 UAVs for aerial shooting photo and video professional should be excluded from the text.
 I'm French.
 For this they should have the following characteristics:
 Maximum take-off mass: 10 kg
 Maximum altitude: 150 m
 Maximum radius: 100 m (VFR)
 These values may change depending on the area overflown (country, city, etc.)
 You can also incorporate a notion of maximum power and size, for example 5 kW
 and a volume of 1 M3
 Or, for this type of UAV, only nationales standards will apply.
 Thank you to consider these comments as it challenges many companies
 spécializing in a rial work
 best regards

comment

13

comment by: *patrick*

Hello
 UAVs for aerial shooting professional should be excluded from the text.
 For this they should have the following characteristics:
 Maximum take-off mass: 10 kg
 Maximum altitude: 100 m
 Maximum radius: 100 m (VFR)
 These values may change depending on the area overflown (country, city, etc.)
 You can also incorporate a notion of maximum power and size, for example 5 kW
 and a volume of 1 M3
 Or, for this type of UAV, only nationales standards will apply.
 Thank you to consider these comments as it challenges many companies
 spécializing in a rial work
 best regards

comment

51

comment by: *NATS National Air Traffic Services Limited*

General comments:
 1. There is no discrimination between RPAS types except statements about CAT or SPO. A 1 kg small unmanned aircraft cannot be put under the same conditions as

a 1000 kg unmanned aircraft. Reference is made to the applicability of Regulation (EC) No 216/2008 but this only applies to EASA aircraft - which rules out unmanned aircraft weighing less than 150 kg. Therefore when SERA new Appendix 2 refers to 'RPAS', there is an applicability issue here as there is a significant difference between the scope of SERA and the scope of the Basic regulation.

2. The NPA does not introduce any harmonised rules of the air but instead it is seeking harmonised authorisation requirements – these are not rules of the air, they will not in themselves contribute to the safety of RPAS operations and therefore their inclusion in SERA is questionable. ICAO Annex 2 has a different applicability to the 'actors' in the SERA legislation and therefore there should be a review as to the necessity of incorporating the whole of the Appendix on RPAS operations, as contained within Amendment 43 to Annex 2, within SERA.

comment 79 comment by: Civil Aviation Authority - Norway

Page 1/146 - Cover Page

Current text: Transposition of Amendment 43 to Annex 2 to the Chicago Convention on remotely piloted aircraft systems (RPASs) into common rules of the air

Suggested modification: Transposition of Amendment 43 to Annex 2 to the Chicago Convention on remotely piloted aircraft systems (RPAS) into common rules of the air

Comment: The acronyms RPA & RPAS are invariant (identical in singular & plural).

comment 131 comment by: Delair-Tech SAS

Attachment [#1](#)

comment 136 comment by: UAV-DACH_NT

General Comment:

UAV-DACH recommends a more distinctive differentiation for inclusion of RPAS <150 kg. Especially, very small RPAS operating in VLOS could be over-regulated, without significant increase of the safety level.

comment 149 comment by: UAV-DACH_NT

UAV-DACH General Comment against NPA2012-10:

UAV DACH partially supports the position of EASA NPA 2012-10. Areas which need further clarification will be addressed in corresponding comments (136-147) raised by UAV-DACH e.V. against NPA 2012-10 via the formal routes (CRT-Tool).

Since the current Position of ICAO to the subject has not been harmonized and settled in all details, the current status of NPA2012-10 is considered as a proposal for further discussion and elaboration.

UAV DACH considers the comments by UVS International as valid inputs.

comment 154 comment by: xamen technologies

We created a company, committed funds to shape us to the French legislation. This one is very binding. An uav to make of the broadcast or fight against the fires must be able to be 10 kg to take the sensors necessary for its mission. For this mission useless to ask for a professional pilot's licence. The theoretical license has to be enough. Besides we are going to create jobs. But if the planned text was applied our company would close its doors a few weeks having been born. It is serious ? Meet the actors of the TPE and the SME(the SMALL AND MEDIUM-SIZED ENTERPRISE) French to take up an acceptable project economically and technically. Of course the safety(security) has to remain the key word, but our companies are responsible and the risk bound to an aircraft of - of 10 kg is reduced from the moment when it arranges all the security systems. A parachute is possible to install on a machine of this weight. Impossible on a 4 kg machine which has to make of the broadcast. Cameras professionals are heavy.

comment 181

comment by: *magellium*

This NPA will have long term implications for RPAS industry in terms of safety but also in terms of economic impact. Therefore, even if the Agency considers this NPA necessary and urgent it needs more time to be completely commented. An extension of one month to add, if necessary, more comments would be welcomed.

comment 203

comment by: *René Meier, Europe Air Sports*

Europe Air Sports, representing European National Aero-Clubs and Air Sports Organizations in Regulatory Matters with European Authorities and Institutions, thanks the Agency for the preparation of NPA 2012-10.

Our organisation welcomes the initiative, but wishes to make clear from the start of this process that it will oppose against any substantial decrease in airspace today available to the Sports and Recreational Aviation Community in all member states.

Secondly, our organisation will not accept new provisions as regards requirements for installation of additional equipment on board of the categories of aircraft we operate, foremost according to VFR in VMC.

Thirdly, we request from the new airspace users adaption to the rules and regulations in place today for legacy partners in airspace: We do not wish to change what has been in place for decades, particularly we insist on a regulation that requires full implementation of all provisions put in place for all airspace classes, strict adherence to all requirements dealing with communications, recognition, separation, collision avoidance, the RPAS operations taking place in airspace A, or F, or G.

comment 207

comment by: *EUROCONTROL*

GENERAL COMMENTS

1) NPA 2012-10 proposes a new Appendix 2 to Part-SERA that attempts to introduce the revised ICAO Annex 2 standards to facilitate requesting and obtaining the authorisation for both internal national RPAS operations and to fly internationally. However, Amendment 43 to Annex 2 of the Chicago Convention was specifically aimed at RPA conducting international flights. The 'new' Appendix 4 of ICAO Annex 2 is intended to apply to international operations only. The rules for operating a RPA within the airspace of a State will remain the responsibility of that State.

The proposed SERA text goes beyond the intent of ICAO Annex 2 and may have

unintended consequences.

Amendment 43 to Annex 2 of the Chicago Convention, which will apply to EASA as well as non-EASA regulated aircraft (requiring national regulations) was not intended to apply to RPAS operations within the borders of the signatory States. Nevertheless, the text of the NPA makes its provisions applicable to all RPAS operations in Europe, apparently including operations within the boundaries of the European Union States. Even though ICAO rules may be adopted by various countries for national operations, such adoption should not be mandated in Europe.

2) NPA 2012-10 refers to certificates of airworthiness, remote pilot licences and operator licences, as well as other regulatory guidance documents, that currently do not exist, and for which there are no agreed procedures, or requirements, or timelines established by ICAO or EASA.

The implication could be that a European State could issue a certificate or a licence based on criteria not agreed on at a European level, and that the other European States would have to accept it (and allow the relevant approved RPAS, or pilot, or operator to operate in their country, even though such a certificate or licence does not meet their national requirements).

3) NPA 2012-10 does not take into account the current legally existing (in the EU) separation bar of 150 kg, below which the regulation of RPAS currently is the responsibility of the national aviation authorities.

The NPA principally refers to operations (which are not yet the responsibility of EASA) without any mention of aircraft MTOM limits. The implication is that the text applies to RPAS of all sizes (from a few grammes and up several tonnes). It should be noted that ICAO has not yet defined a lower MTOM or size limit for RPAS.

As a consequence, currently legally acceptable commercial operations that are taking place in EU States, in compliance with existing national regulations, would have to be stopped (if the NPA text enters into force).

The entering in force of NPA 2012-10 would make the objectives of the European Commission RPAS Roadmap (being prepared by the European RPAS Steering Group) impossible to achieve.

4) NPA 2012-10 does not make a clear enough distinction between toy & model aircraft on one side, and RPAS on the other side. Toy aircraft are not even mentioned.

Throughout the text of the NPA the term "aircraft model" is used, instead of the term "model aircraft".

The definition of RPA indicated in the NPA could be construed to mean that it also covers toy and model aircraft, which is clearly not the case.

5) With a deadline for the receipt of comments on the NPA 2012-10 set at 15 October 2012, and with the European Commission's RPAS Roadmap to be finalized by the European RPAS Steering Group before Christmas 2012, it would appear impossible to make the Roadmap fall in line with the text of the NPA.

Additionally, the commenting period is very short considering that the preparation of the ICAO amendments was already known in 2011 and the State Letter published 10th April 2012.

comment 214

comment by: EUROCONTROL

Final comments

a) ICAO Amendment 43 to Annex 2 of the Chicago Convention contains many provisions for the signatory States to apply and implement specific authorization variations on a national basis. Hence the following is often mentioned "... unless otherwise specified by the State." The NPA text does not give such leeway, and, consequently, is much more restrictive and too directive. This is likely to create a

difference against the ICAO provisions.

b) If NPA 2012-10 is not modified, EU States may continue to develop their own national RPAS rules & regulations. This is would be in direct opposition of the objective of the European Commission's RPAS Roadmap.

c) If a new NPA is published, it would be beneficial to the EU to make sure that the text of the new NPA is line with the European Commission's RPAS Roadmap, prior to its publication.

d) A possible new NPA should only be published after the finalization of the European Commission's RPAS Roadmap.

e) References to ICAO Annexes are removed, but not always clearly replaced by references to EU regulatory material or other.

f) This NPA would certainly create some differences with ICAO. In SERA, the differences are described in the "Supplement". The amendment to the Supplement to SERA indicating the differences between the ICAO text and the future potential SERA text coming from this NPA is missing.

comment

219

comment by: *SecuDrones*

SecuDrones sells in France micro (<2 kg) and mini (<10 kg) rotary wing (quad and hexa rotors) RPAS from our partner AirRobot GmbH.

«Detect and avoid systems»: what does it means exactly ? The text considers mainly quite big RPAS in its deliberations without taking into account the kind of systems we use. As a matter of fact these quite big RPAS can possibly place onboard very heavy radars and other devices, which can never be placed on micro / mini RPAS less than 2 kg or less than 10 kg (which is well below the limit of 150 kg, that they may consider carrying such devices). Thus not applicable.

A «certificate of airworthiness» on our micro / mini RPAS would be a too strong requirement, especially if one considers that the autonomy of our electric vehicles VTOL does not cover a long distance ... and they are mostly expected to operate at an altitude <30 m, excluding airports normally (because embedded optics would not distinguish details in mostly cases if higher altitude). Thus not applicable.

«remote pilot(s) licence(s)»: what does it means exactly ? Is it a special licence for a pilot using a specific kind of RPAS as ours ? Our RPAS are designed in order to be "piloted" by every kind of normal human (just Up/Down, turn 360°, turn Left/Right, go Backward/Front) without any aircraft pilot skills, or aeromodels skills. Thus not applicable.

comment

224

comment by: *Royal Danish Aeroclub*

Royal Danish Aeroclub are representing ten thousand air space users varying from aero modelists, parachutists, glider pilots, power pilots and hang- and paragliders in Denmark, we would like to comment the proposal in general terms.

It is very important, that RPAS and UAV/UAS operates after normal Visual Flight Rules (VFR) and "see" or "sense" the normal traffic. It is not acceptable or safe for the normal operations if RPAS, UAS and UAV are operated without applying the normal visual flight rules.

The normal VFR-rules should be applied to RPAS in VFR-regulated air space.

The Royal Danish Aeroclub do comment on each individual paragraph.

comment

228

comment by: *Aero-Club of Switzerland*

The Aero-Club of Switzerland with its 23'000 members, active in all fields of Sports and Recreational Aviation, except hang-gliding, fully supports the position of Europe Air Sports which is posted separately.
Many thanks for taking note, kind regards,
René Meier

A. Explanatory Note – I. General; II. Consultation; III. Comment-Response Document (CRD)

p. 4-5

comment 168

comment by: UVS International

PROPOSED TEXT MODIFICATIONS

Regarding: Cover page + Explanatory Notes

Page 1/146 - Cover Page

Current text: Transposition of Amendment 43 to Annex 2 to the Chicago Convention on remotely piloted aircraft systems (RPASs) into common rules of the air

Proposed modification: Transposition of Amendment 43 to Annex 2 to the Chicago Convention on remotely piloted aircraft systems (RPAS) into common rules of the air

Comment: *The acronyms RPA & RPAS are invariant (identical in singular & plural).*

Page 7/146 - Point 128

Current text: RPASs

Proposed modification: RPAS

Comment: *The acronyms RPA & RPAS are invariant (identical in singular & plural).*

Page 8/146 – Point 28

Current text: Model aircraft are however excluded. Model aircraft cannot be used for CAT and do not carry on board any special equipment or sensor. If they do they become RPAS and are therefore no longer models, but are subject to the proposed rules.

Comment: *The existence of both toy and model aircraft should be recognized and it would probably be helpful if a clear distinction between the two could be made. Consequently, it could be of interest to establish a legal definition for both. Toy and model aircraft are currently, in some circumstances, already equipped (by the manufacturer, or by the owner) with various types of imaging sensors, which are only used for recreational purposes. As video and still cameras are getting smaller and cheaper, and as the uploading of videos to YouTube and the uploading of photos to Facebook is considered by many as & "personal social statement" and becoming simpler every day, and as the installation of imagery sensors increases the possible applications of (and the fun with) toy and model aircraft, an increase in the installation of imagery sensors in toy and model aircraft can be expected.*

The commercially highly successful AR.Drone2.0, produced by Parrot SA, France can be equipped with a 1280x720 pixel HD forward- and/or downward-pointing video camera, as a standard accessory. The obtained video(s) or photo(s) can be stored on the associated iPhone/iPad/Adroid pilot station, or on a memory stick, and can be shared via internet and can be respectively be uploaded to YouTube and Facebook.

If a toy or model aircraft equipped with imaging sensors is used for purposes other than recreational purposes, it should be considered an RPAS, and consequently should be subject to the proposed rules.

Proposed modification: Toy and model aircraft are however excluded. Toy and

model aircraft cannot be used for CAT. However, toy and model aircraft that are equipped with any special equipment or sensors and that are used for SPO, become RPAS, but and are subject to the proposed rules. If they do, they become RPAS and are therefore no longer models, but are subject to the proposed rules.

Page 12/146 – General - first paragraph

Current text: RPASs

Proposed modification: RPAS

Comment: *The acronyms RPA & RPAS are invariant (identical in singular & plural).*

comment 208

comment by: EUROCONTROL

Executive summary

Hence, the present NPA includes five major aspects:

- the certification of the remotely piloted aircraft system (RPAS), including the airworthiness of the remotely piloted aircraft (RPA);
- the certification of RPAS operators involved in commercial air transport and/or specialised operations (SPO);
- the licensing of remote pilots;
- ...

...

Before then — and in the absence of more detailed common rules, or beyond the scope of Regulation (EC) No 216/2008 — EU Member States should nevertheless apply the SERA within the scope of Regulation (EC) No 551/2004 and implement as well Amendment 43 to ICAO Annex 2 for the aspects not regulated through the rules proposed by this NPA (e.g. licensing of remote pilots).

There is an apparent contradiction between the highlighted statements above

A. Explanatory Note – IV. Content of the draft Opinion/Decision

p. 6-11

comment 4

comment by: Indra / Daniel Cobo-Vuilleumier

§ 28.

The first differentiation between model aircraft and RPAS should be its intended use:

- Model aircraft are for recreational and sport/competition purposes only.
- RPAS are for any other purpose than recreational or sport/competition (whether commercial or not)

Besides, a model aircraft does not lose its condition as a model aircraft in case of carrying sensors (e.g. cameras). In fact, a more and more popular form of model flying is FPV (First Person View), where the RC pilot uses an on-board camera a wireless video system and a TV/video goggles to pilot the model.

comment 14

comment by: Réseau de Transport d'Electricité - Services et Travaux Hélicoptés

Legal basis

§21 : In its Article 4 and Annex 2 it is stated that the Basic Regulation doesn't apply to unmanned aircrafts with an operating mass below 150 kg. Thus, for these aircrafts, the regulation on matters such as Airworthiness, Personnel and Operations is and should remain a national concern.

General operating rules

§42 : In Paragraph 1.1 from appendix 4 to ICAO annex 2, the authorisation is required only for RPAS engaged in international air navigation. §42 doesn't explain why for EU Member States it is necessary to extend this requirement to the flights planned in the airspace of a single State. The operator certificate mentioned in paragraph 2.2 from appendix 4 to ICAO annex 2 and in paragraph 3.2 of the proposed appendix 2 should be sufficient.

§58 : It is said that the EU legislation is directly addressed to citizens. This regulation should therefore explain to citizens how to obtain a certificate of airworthiness, an operator certificate or a pilote license. It's not the case here.

comment

21

comment by: *BCAA*

In point 28 on page 8 : we agree that model aircraft are excluded from the requirements of this Regulation. However, we wonder how to deal with toys. We insist on having toys also excluded from the requirements of this Regulation, because the limit between toys and model aircraft is becoming smaller. It can't be the goal that children come to the CAA to get permission to fly their toys in the garden or the public park.

We would like to insist that these toys may not transport cameras because then, they are no longer treated as toys for privacy reasons, but have to be treated like professional RPAS.

comment

43

comment by: *AESA*

On Item IV, Content of the draft Opinion / Decision, paragraph 28, the distinction between model aircraft and RPAS is made on carrying sensors or not. However, it is becoming increasingly frequent for model aircraft to have cameras installed, so their pilots can enjoy the full sensation of flight (known as "first person view"). Therefore, it is considered more appropriate to discriminate based on the intended uses (recreational and competition for the models) vs. other purposes (commercial, research, etc) for the RPAS.

comment

52

comment by: *NATS National Air Traffic Services Limited*

Reference text 24: It is NATS understanding that ICAO SARPS are not International law and there are no legal obligations around them. The Recital seems to be implying that Amendment 43 is necessary to subsume within EU law because of its mandatory origin.

comment

53

comment by: *NATS National Air Traffic Services Limited*

Reference text 27: No definition of 'specialised operations', either in Annex 2 or proposed for SERA Article 2. EASA seem to be creating a new category of user so without formally defining which users fall in this category, the legislation runs the risk of being misinterpreted or misapplied.

The incorporation of a definition is considered necessary given reference to the term in proposed Recital 6 and that, if the NPA text is adopted, SERA may be amended prior to the introduction of the impending Commission Regulation covering air operations.

This is the first reference to SPO but this comment applies to all subsequent appearances of SPO.

- comment 54 comment by: *NATS National Air Traffic Services Limited*
- Reference text 38: It is not clear whether the NPA is proposing to introduce the change to SERA 8020 in *anticipation* of a change to the equivalent Chapter 3.6.2.2 in Annex 2. Amendment 43 to Annex 2 does not include an amendment to 3.6.2.2. so it is unclear why this change is being proposed.
- comment 55 comment by: *NATS National Air Traffic Services Limited*
- Reference text 45: The transposition of Amendment 43 to Annex 2 1.3 includes a change from 'ATS Authority' to 'ATS provider'. The intention of Annex 2 may be interpreted as ICAO's historical reference to the State authority where particular reference to flight over the High Seas needs to be addressed. The NPA change results in a new requirement to co-ordinate the flight with the ATS provider in the High Seas airspace concerned. Where the High Seas airspace is Class G, there is no current requirement for an aircraft to notify the ATS provider of its presence or to seek a service so NATS would like to see further justification for requiring contact between the RPAS operator/pilot and the ATS provider.
- comment 58 comment by: *NATS National Air Traffic Services Limited*
- Reference text 42: It is not clear why authorisation from the competent authority is required for *all* RPAS flights, whereas Amendment 43 to Annex 2 1.1 & 1.2 only stipulates this for flights that cross International boundaries.
- comment 60 comment by: *NATS National Air Traffic Services Limited*
- Reference text 59: This section refers to Appendix 2 Section 4, which is entitled Procedures for Authorisation.
- comment 61 comment by: *NATS National Air Traffic Services Limited*
- Reference text 56: There is confusion here. NPA Appendix 2 3.3 is concerned with the language of certificates, which has a reference to Amendment 43 Annex 2 3.3/3.4. I suspect that the NPA text is referring to Appendix 2 para 4.3, not 3.3. This is confirmed by NPA Para 61 Page 11, where the issue of language is highlighted but is cross referenced with Appendix 2 4.3, which is not about language but about the validity of authorisations.
- comment 62 comment by: *NATS National Air Traffic Services Limited*
- Reference text 58: States do not have to implement ICAO SARPS. Differences are allowed.
- comment 69 comment by: *Indra / Daniel Cobo-Vuilleumier*
- Legal Basis** (for the proposed regulation):
 There seems to be an inconsistency in this basis, because the Basic Regulation excludes from its scope a number of aircraft – among them unmanned aircraft with operative mass not greater than 150 kg– , whereas Reg. 551/2004 ("organisation and use of the airspace in the single European sky") applies to all aircraft. But it is the Basic Regulation which is prevalent as it establishes the "common rules in the field of civil aviation", including

"Air operations" (art.8).

Therefore, while the Basic Regulation is not amended to include all RPAS, the proposed regulation of this NPA should only be mandatory for RPAS with RPA weighing more than 150 kg, although it could also be recommended for those weighing less (national aviation authorities should create rules for RPA<150kg which are compatible with the proposed regulation of this NPA)

comment 74

comment by: CAA-NL

Para 21

This paragraph states that for the proposed rule there exists a dual legal basis in the Basic Regulation [Regulation (EC) No 216/2008] and the 'airspace Regulation' [Regulation (EC) No 551/2004]. From there it concludes that it is applicable to all civil RPAS regardless of the MTOM. As long that this is related to the rules of the air we can accept this. However in the actual rules some operational requirements are made generic applicable in a way we cannot accept as they oppose some legal principles. This in a similar way as they apply on aircraft used for state operations, where the BR and its IR's cannot be used directly under European responsibility, or historic aircraft being used for Commercial Air Transport under an EU-OPS AOC, Part M is not applicable and may not be used, derogations on EU-OPS must be applied for. Further detailed comment will be given on Appendix 2.2.

comment 75

comment by: CAA-NL

Para 28

The text suggests a different definition of a model aircraft as the definition used in the European context of the in EUROCAE Report ER-004, Volume 4. For convenience sake, that definition is quoted here: 'A non-human-carrying device capable of sustained flight in the atmosphere and intended to be used exclusively for recreational or competition activity'. Please align the text to concur with the EUROCAE definition.

comment 80

comment by: Civil Aviation Authority - Norway

Page 7/146 - Point 128

Current text: RPASs

Proposed modification: RPAS

Comment: The acronyms RPA & RPAS are invariant (identical in singular & plural).

comment 85

comment by: UK CAA

Page No: 6 and 32

Paragraph No: 13 and 15

Comment:

The NPA claims that transposition of Annex 2 Amendment 43 is urgent. Whilst there is value in introducing harmonised rules, this should only be done when regulatory material is of an appropriate level of maturity. This is not the case with the RPAS provisions of ICAO Annex 2 Amendment 43, a fact that is acknowledged in the notes to the new Appendix 4 Section 2 ('Certificates and licensing') contained within Amendment 43.

The proposed addition of the new Appendix 2 to the Rules of the Air should not be adopted and the text of SERA.3138 should be amended accordingly.

Justification:

The proposed RPAS text is unsupported by appropriate airworthiness and licensing requirements. Implementation in advance of those supporting provisions will result in incomplete and inadequate regulation that will have significant, disproportionate and unintentional impacts upon all RPAS operations. In addition, the proposed RPAS text does not achieve an appropriate degree of harmonisation, given that its application is dependent upon national requirements.

A better timed and holistic approach to the development of RPAS legislation will prevent incomplete and inadequate requirements being put into law. RPAS-related rules of the air, airworthiness and licensing issues need to be fully addressed and regulatory requirements developed and introduced as a single package.

Proposed Text:

Changes to currently adopted SERA text need to be limited to the following:

SERA.3138 Remotely piloted aircraft

A remotely piloted aircraft shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the provisions as have been adopted under the Chicago Convention and the Basic regulation.

SERA.8020 Adherence to Flight Plan

Amend as proposed in the NPA

comment

86

comment by: UK CAA

Page No: 7**Paragraph No: 24****Comment:**

ICAO SARPS are not international law and there are no legal obligations associated with them. The recital implies that it is essential to subsume Amendment 43 within EU law as a matter of urgency because of a perceived mandatory origin.

Justification:

Clarity and appropriateness of NPA rationale.

comment

87

comment by: UK CAA

Page No: 7**Paragraph No: 27****Comment:**

There is no definition of 'specialised operations' in either ICAO Annex 2 or SERA Article 2. EASA seem to be creating a new category of user so without formally defining which users fall in this category, the applicability of the proposed legislation runs the risk of being misinterpreted or misapplied. This is the first of several references to SPO and this comment applies to all subsequent mentions of the term.

The incorporation of a definition is considered necessary given reference to the term in proposed Recital 6 and that, if the NPA text is adopted, SERA may be amended prior to the introduction of the impending Commission Regulation covering air operations.

Justification:

Clarity and completeness of regulation.

Proposed Text:

Add the agreed definition of 'specialised operations' as incorporated into Part-SPO.

comment

88

comment by: UK CAA

Page No: 9 and 32

Paragraph No: 40 and 3, draft SERA.3138, Appendix 2

Comment:

The NPA states that new proposed Appendix 2 transposes in particular the ICAO Standards to facilitate requesting and obtaining the authorisation for **domestic** RPAS missions and also for the special authorisation to fly internationally. However, Amendment 43 to ICAO Annex 2 specifically refers to remotely piloted aircraft systems engaged in **international air navigation**. The 'new' Appendix 4 applies only to international operations of an RPA, i.e. to operations where the RPA is being operated in a contracting State other than its State of registry. The operation of an RPA within the boundaries of its State of registry remains under the purview of the respective competent authority. The meaning and purpose of ICAO Annex 2 Amendment 43 has therefore been significantly changed by the proposed SERA text and risks the introduction of unintended consequences. Given the current lack of supporting ICAO and European airworthiness and licensing requirements plus appropriate guidance material, the proposal appears to be premature. Implementation in advance of those supporting provisions will result in incomplete or inadequate regulation that will have significant, disproportionate and unintentional impacts upon all RPAS operations envisaged and beyond those under the influence of Regulation (EC) No 216/2008.

The amendment will apply to non-EASA aircraft as well as EASA aircraft and will thus require national procedures as well as EASA ones (although the former may follow the latter once the latter have been issued). However, as the current EASA timeline for development of EASA procedures and standards is 2015, would national derogations until this date be required?

SERA development has, to date, acknowledged that emerging ICAO provisions – notably in the case of communications failure – will impact upon, and cause change to, the SERA regulation. SERA.8035(b) states that the '*Member States shall comply with the appropriate provisions on communication failures as have been adopted under the Chicago Convention. The Commission shall propose common European procedures by 31 December 2015 at latest, for implementation of the said ICAO provisions in Union law*'.
Pending development of supporting RPAS regulatory material, a similar provision for RPAS operations is advocated as the most appropriate way of responding to the Annex 2 change.

The proposed addition of the new Appendix 2 to the Rules of the Air should not be adopted and the proposed text of SERA.3138 should be amended accordingly.

The proposed addition of the new Appendix 2 to the Rules of the Air should not be adopted and the proposed text of SERA.3138 should be amended accordingly.

Justification:

The proposed change to SERA with RPAS text extends the applicability of the source ICAO text beyond what was intended and is unsupported by appropriate harmonised airworthiness and licensing requirements. Implementation in advance of those supporting provisions will result in incomplete or inadequate regulation that will have significant, disproportionate and unintentional impacts upon all RPAS operations both within the scope of Regulation (EC) No 216/2008 and beyond.

Proposed Text:

SERA.3138 Remotely piloted aircraft

A remotely piloted aircraft shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the provisions as have been adopted under the Chicago Convention and the Basic regulation.

comment 89

comment by: UK CAA

Page No: 9 and 32

Paragraph No: 41(b), draft SERA.3138, Appendix 2

Comment:

See also comment against paragraph 40, draft SERA.3138 and Appendix 2
This paragraph acknowledges that common rules regarding RPAS approvals, RPAS pilot licensing and the certification of RPAS operators are not yet available, yet Appendix 2 to the proposed SERA text includes references to such requirements. If these are to be established at individual State level, the stated objective of regulatory harmonisation is not being achieved. Whilst the objective of harmonised regulation of RPAS is acknowledged, the preferred route should be one of developing and implementing RPAS regulatory material in a harmonised manner. Introduction of the proposed SERA text in isolation will result in this holistic approach not being achieved, and with incomplete and inadequate regulation being put into law. For now, Member States should be obliged to do nothing more than to follow the requirements of the Chicago Convention, rather than introducing the text as proposed.

Justification:

The proposed RPAS text extends the applicability of the source ICAO text but is unsupported by airworthiness and licensing requirements. Implementation in advance of those supporting provisions will result in incomplete or inadequate regulation that will have significant, disproportionate and unintentional impacts upon all RPAS operations. A holistic approach to the development of RPAS legislation will prevent incomplete and inadequate regulation being put into law. Such an approach is more appropriate, less confusing, and arguably more cost-effective.

Proposed Text:

SERA.3138 Remotely piloted aircraft

A remotely piloted aircraft shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the provisions as have been adopted under the Chicago Convention and the Basic regulation.

comment 90

comment by: UK CAA

Page No: 9-10 and 32

Paragraph No: 42, 44, draft SERA.3138, Appendix 2

Comment:

It is not clear why authorisation from the competent authority is required for *all* RPAS flights, as Amendment 43 to ICAO Annex 2 only stipulates this for flights that cross international boundaries.

This paragraph indicates that what is being harmonised does not in itself constitute operating rules or 'rules of the air', rather a set of authorisation requirements that in themselves assume that supporting provisions concerning approvals and licensing are already (or will be) in place at national level. The NPA acknowledges that once common rules will be available for airworthiness, remote pilot licensing and certification of RPAS operators, a further amendment to SERA might be proposed. Such an approach is time consuming and costly – to both regulatory authorities and to RPAS operators and can be avoided by not introducing the proposed text at this time, and instead developing RPAS regulatory material in a harmonised/holistic manner.

Justification: The approach proposed by NPA 2012-10 is both time consuming and costly – to both regulatory authorities and to RPAS operators and can be avoided by not introducing the proposed text at this time.

Proposed Text:

SERA.3138 Remotely piloted aircraft

A remotely piloted aircraft shall be operated in such a manner as to minimize

hazards to persons, property or other aircraft and in accordance with the provisions as have been adopted under the Chicago Convention and the Basic regulation.

comment

91

comment by: UK CAA

Page No: 10
Paragraph No: 45
Comment:

The transposition of Amendment 43 to ICAO Annex 2 1.3 includes a change from 'ATS Authority' to 'ATS provider'. This introduces a new requirement to co-ordinate the flight with the ATS provider in the High Seas airspace concerned. Where the High Seas airspace is Class G, there is no current requirement for an aircraft to notify the ATS provider of its presence or to seek a service so the UK CAA request further justification for requiring contact between the RPAS operator/pilot and the ATS provider.

Justification:

Clarity of intent of the proposed regulation required.

comment

92

comment by: UK CAA

Page No: 10, 34
Paragraph No: 53(f), Appendix 2 para 2.1(6)
Comment:

The requirement for 'detect and avoid' for operations other than VLOS suggests that aircraft not meeting this requirement will not be permitted to undertake operations in segregated airspace. If Appendix 2 were to be incorporated into SERA, revised text is required to avoid misunderstanding and/or unintended consequences.

Justification:

Clarification is necessary to prevent misunderstanding and/or unintended consequences.

Proposed Text:

If Appendix 2 were to be incorporated into SERA as proposed, revised text is required as follows:

'In the case of operations which are not VLOS, or are operated in segregated airspace, all the involved RPAS are equipped with a suitable detect and avoid system'.

comment

93

comment by: UK CAA

Page No: 10 and others
Paragraph No: 54 and others
Comment:

Observation only: we note some errors in referring to Appendix 2 and Appendix 4 – proposed Appendix 2 is occasionally referred to as Appendix 4 therefore a thorough proof read of the eventual CRD and Opinion is essential to ensure the errors are not repeated in these later documents.

Justification:

Correctness of references in text.

comment

94

comment by: UK CAA

Page No: 11

Paragraph No: 56**Comment:**

There is confusion here. NPA Appendix 2 para 3.3 is concerned with the language of certificates, which has a reference to Amendment 43 Annex 2 paras 3.3/3.4. Is the NPA text referring to Appendix 2 para 4.3, rather than para 3.3? This appears to be confirmed by NPA Para 61 Page 11, where the issue of language is highlighted but is cross-referenced with Appendix 2 para 4.3 (which is not about language but about the validity of authorisations).

Justification:

Clarification.

comment

95

comment by: UK CAA

Page No: 11**Paragraph No:** 57**Comment:**

Observation: paragraph 57 states that 'Unlimited duration of the authorisation is not proposed since it is not deemed appropriate until common rules on the certification of the RPAS operator are **not** promulgated'. Should this read '...until common rules on the certification of the RPAS operator **are** promulgated'?

Justification:

Clarification.

comment

96

comment by: UK CAA

Page No: 11,12 and 32**Paragraph No:** 58, Regulatory Impact Assessment, draft SERA.3138,**Comment:**

The statement concerning the Notes to ICAO Annex 2 Amendment 43 are noted, however the significance of these Notes in putting ICAO Annex 2 Amendment 43 into context appears to have been missed, not least in the NPA. Note 2 in particular (*'Certification and licensing standards are not yet developed. Thus, in the meantime, any certification and licensing need not be automatically deemed to comply with the SARPs of the related Annexes, including Annexes 1, 6 and 8, until such time as the related RPAS SARPs are developed.'*) strongly indicates the need for supporting provisions and guidance to be developed in advance of incorporating ICAO Annex 2 Amendment 43 into European law. Note that Note 3 states that *'Article 8 of the Chicago Convention assures each contracting State of the absolute sovereignty over the authorisation for RPA operation over its territory'*.

The proposed addition of the new Appendix 2 to the Rules of the Air should not be adopted and the proposed text of SERA.3138 should be amended accordingly.

Justification:

The proposed RPAS text extends the applicability of the source ICAO text but is unsupported by air operations, airworthiness and licensing requirements. Implementation in advance of those supporting provisions will result in incomplete or inadequate regulation that will have significant, disproportionate and unintentional impacts upon all RPAS operations. A holistic approach to the development of RPAS legislation will prevent incomplete and inadequate regulation being put into law. Pending development of airworthiness, licensing and any other regulatory requirements it is considered more appropriate for SERA.3138 to require Member States to operate RPAS in accordance with the provisions of the Chicago Convention, following the precedent followed by the SSC-adopted loss of communications procedures at SERA.8035(b).

Proposed Text:

SERA.3138 Remotely piloted aircraft

A remotely piloted aircraft shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the provisions as have been adopted under the Chicago Convention and the Basic regulation.

comment 137

comment by: UAV-DACH_NT

UAV-DACH comment against page 7, Para. 27.:

Definition of specialised operations should be provided: Are model aircraft with payload also included? Please consider that a model aircraft could become commercial as soon as a payload (e.g. camera) is installed. An applicable definition of "commercial air transport" is mandatory in the first place. Legal aspects between European countries need thorough harmonisation.

comment 148

comment by: Cumulofilmus / Pascal LEGRAND

I am a french operator of UAV RPASs for film and photography.

I would like to point out that, since April 11 2012, we have got a new law emanating from the French Airspace Regulation DGAC for RPASs below 25kg that could serve as a very interesting guideline for your NPA proposals :

On page 9, it is quite evident that you thought principally in terms of general airspace (in which collisions may happen). In France, we are allowed to fly below 500 feet in spaces that are far from cities and far from people, and this without having to ask each time an autorisation. Why ?

- First, because location is far from immediate danger or casualties involving people

- Second, because we have to be qualified pilots for UAVs below 25kg

- Third because there is a precise list of obligations for our UAVs, such as a constrained flying volume (that is included in the aircraft firmware). This means there is NO POSSIBILITY to fly over the 500ft limit + NOT FURTHER than 100 meters away from the pilot.

This implies that if you try to go further, the UAV automatically launches a landing process or returns to its take-off position.

Autorisations are mandatory for operations in cities, or near groups of people (for UAV less than 4kg).

Derogations exist, if the people are clearly briefed about security procedures around the UAV, and in case of emergency landing : for exemple during a commercial film with actors. Specific insurance contracts are mandatory.

This existing French law is well calibrated for local operations, as such UAVs aren't built to fly over borders, they are conceived to be light aircrafts, they include many security protocols, they are operated by qualified pilots.

Thanks for taking this in consideration.

comment 180

comment by: magellium

As mentioned page 12, in 2002, the EU legislator decided that unmanned aircraft

systems (UAS) only above 150 kg fell into its remit. Therefore, what is the legal justification to extend the proposed legislation to all civil remotely piloted aircraft systems (RPAS) regardless of the maximum take-off mass.

comment 187

comment by: CAA CZ

Page 7 par. 27, page 8 par. 36 and page 32 – SERA.3148

For recreational private manned flight there is no alleviation in terms of rules of the air application, compared to a manned SPO flight. So the text means a discriminatory and serious limitation of the ICAO Annex 2 scope which would finally reduce the level of RPA safety in EU. The scope should be left as it is in the original ICAO Annex 2 – which covers not only RPA involved in CAT and SPO, but also RPA operated for scientific/research reasons and all private RPA. There is also no legal reason for having recreational private RPA (model aircraft) excluded from the RPA scope. In this context it shall be clearly understood that an RPA operation implies exactly identical risks for third parties in the air or on the ground, whether it is commercial aerial work, specialised operation or recreational operation of the same-size RPA.

However it is not proportionate to apply ICAO Annex 2 Appendix 4 certification requirements to model aircraft. As a good compromise from aviation safety regulatory point of view there comes our strong suggestion that also a **model aircraft shall be operated in such a manner as to minimize hazards to persons, property or other aircraft**. There are good examples in UK law and USA guidance (prohibition of uncoordinated flight in controlled airspace, above congested areas and in the vicinity of aerodromes). Nationally we do not have such safety regulation in the law but there are documented recent examples of airliner aircraft being endangered by near-miss with model aircraft. So a need for safety regulation of model aircraft in controlled airspace, above people and close to aerodromes is paramount.

We cannot see any good reason to exclude model aircraft from SERA.3138 1st part.

comment 188

comment by: CAA CZ

Page 8 par. 28.

Strict disagreement. Today there is no common EU limitation (and as far as we know no national limitation as well) of sensor equipment of model aircraft. Cameras are very common equipment of model aircraft (and also other equipment not necessary for the flight). The only limitation can be found in the FAI Sporting code Model aircraft definition: „no on-board device that allows it to be flown automatically to a selected location“. This would make a good distinction but it is very complicated to oversee and prove as the devices are usually only in the form of software code.

It is urgently necessary to define model aircraft at EU level, so that they can be told from private used RPA („a farmer sprays his own field“). Up to now such an activity could well be understood as a leisure flight for own purpose.

The EU model aircraft definition should include at least the technological limitation from FAI or even more limitations so that there is a well defined distinction between professional RPA and model aircraft.

comment 189

comment by: CAA CZ

Page 9 par. 43.

Not only cross-border flight but also RPA operation in another State (e.g.

transported there by a vehicle). SERA App2, 1.2 is correct.

comment 190

comment by: CAA CZ

Page 10 par. 53 d) and SERA App2 2.1 (4)

The flexibility from the ICAO Annex 2 text „in accordance with national regulations“ is not maintained. Through this flexible provision, special alleviations are applied in the Czech republic. Full certification for CAT and SPO RPA of small size would mean a heavy burden for the operators. Compared to their historical classification as model aircraft which meant no requirements at all that is a change too steep. This may mean more illegal operations, thus less controlled safety in the end.

comment 191

comment by: Studio Pietinen

Page 8, recital 28.

1. The distinction between model airplanes and RPA is not reflecting today's aeromodelling. Remotely control model aircraft contain more and more interactive electronics for enhanced flying safety. Similarly, small RPA:s are in fact model aircraft designed for specific purposes, for example aerial photography. This specific purpose should not automatically relegate them to the category of RPA:s, if they are inherently smaller and are flown only visually at altitudes of max 150 meters.

comment 192

comment by: CAA CZ

Page 11 par. 59 and SERA App2 3.1

7 days is not enough, 30 is applied in the Czech republic. The original ICAO text includes more flexibility.

comment 205

comment by: NATS National Air Traffic Services Limited

Reference Recital (3) Paragraph 24 -

This paragraph over-simplifies the position as it does not mention the possibility for States to file differences under the Chicago Convention. NATS fully acknowledges that for SERA-related standards any such differences will be agreed at EU level.

comment 209

comment by: EUROCONTROL

Explanatory note

Para 6: "The text of this NPA, due to the simplicity of the task (mainly copying and pasting ICAO standards)" has been developed...

The text proposed in the NPA is adapting and rewriting the original ICAO text in many occurrences, which is likely to lead to different interpretations and possibly to differences with ICAO.

IV. Content of the draft Opinion/Decision

Amendments to articles of Commission Regulation (EU) No .../... laying down the common rules of the air and operational provisions regarding services and procedures in air navigation

comment 216

comment by: The Finnish Aeronautical Association

A.	Explanatory	Note
I. General Recitals	<p>"28. Model aircraft are however excluded. Model aircraft cannot be used for CAT and do not carry on board any special equipment or sensor. If they do they become RPAS and are therefore no longer models, but are subject to the proposed rules."</p> <p>ICAO already differentiate RPAS and model aircraft as in below: ICAO, Manual on Remotely Piloted Aircraft Systems (RPAS), First edition (draft v1.0)_02 April 2012, Page 55 7. CHAPTER 7: PERSONNEL LICENSING 7.1.1.1 Scope</p> <p>"This chapter, and the guidelines prescribed do not apply to hobbyists and amateur model aircraft users when operating systems for sport and recreation. Those users must comply with national legislation regarding Model aircraft operations."</p> <p>Modern model aircraft are provided with different kinds of sensors and equipment. The lawmaker's intention here probably isn't to include the multitude of model aircraft within the range of this law.</p> <p>The amount of sensors and equipment is going up because of lower prices, and many of them directly increase safety. With their help it is possible to gather and distribute information to the model aircraft pilot. You can relay data to the ground and program an alarm in the sensor of the aircraft if certain limits are exceeded. These include among others the distance and height of the model plane as well as data about the decreased capacity of the batteries or for ex. vibration, which can tell you about a problem etc.</p> <p>As many of these sensors and equipment increase directly model flying safety, The Finnish Aeronautical Association proposes to withdraw this paragraph, or following above mentioned ICAO's description.</p>	

comment

220

comment by: SecuDrones

SecuDrones sells in France micro (<2 kg) and mini (<10 kg) rotary wing (quad and hexa rotors) RPAS from our partner AirRobot GmbH.

«Detect and avoid systems»: what does it mean exactly? The text considers mainly quite big RPAS in its deliberations without taking into account the kind of systems we use. As a matter of fact these quite big RPAS can possibly place onboard very heavy radars and other devices, which can never be placed on micro / mini RPAS less than 2 kg or less than 10 kg (which is well below the limit of 150 kg, that they may consider carrying such devices). Thus not applicable.

A «certificate of airworthiness» on our micro / mini RPAS would be a too strong requirement, especially if one considers that the autonomy of our electric vehicles VTOL does not cover a long distance ... and they are mostly expected to operate at an altitude <30 m, excluding airports normally (because embedded optics would not distinguish details in mostly cases if higher altitude). Thus not applicable.

«remote pilot(s) licence(s)»: what does it mean exactly? Is it a special licence for a pilot using a specific kind of RPAS as ours? Our RPAS are designed in order to be "piloted" by every kind of normal human (just Up/Down, turn 360°, turn Left/Right, go Backward/Front) without any aircraft pilot skills, or aeromodel skills. Thus not applicable.

comment	226	comment by: <i>French Civil Aviation Authority (DGAC)</i>
	<p>Legal basis</p> <p>According to Article 4 of Regulation (EC) 216/2008, substantive requirements (airworthiness, pilots, air operations,...) do not apply to RPAS with operating mass less of 150kg.</p> <p>The scope of EU regulation (EC) N° 551/2004 is organisation and use of airspace. Regulation about airworthiness, licence and operations is thus outside of the scope of Regulation (EC) N°551/2004.</p> <p>Therefore applicability of the proposed amendment to RPAS with operational weight of less than 150kg is not legally acceptable.</p>	

A. Explanatory Note – V. Regulatory Impact Assessment	p. 12-28
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comment	5	comment by: <i>Indra / Daniel Cobo-Vuilleumier</i>
	<p>Typo in column "1 (Commercial RPAS)" of the table in page 18: Replace "sale" by "same"</p>	
comment	8	comment by: <i>Indra / Daniel Cobo-Vuilleumier</i>
	<p>Page 17: Traditionally, General Aviation includes "Flight Training / Instructional" operations. Is this type of operation omitted or could it be included as a SPO? (currently not included in SPO.GEN.005 Scope (a), but (b) says "Any other activity falling under the definition of 'specialised operations' shall be regulated by this Part."). In any case, this type of operation should be considered to permit RPAS operations for flight crew licensing and training.</p>	
comment	15	comment by: <i>Réseau de Transport d'Electricité - Services et Travaux Hélicoptés</i>
	<p>The RIA forgets to mention that in some Member States, national regulations allow RPAs to fly in non segregated airspace.</p> <p>In France, for VLOS operations with light RPAs, at low altitude and in non controlled airspace, the authorisation is given for unlimited duration. Such flexibility helps RPA's industry to develop and the ordering parties may sign contracts with operators that observe safety rules.</p> <p>The proposed regulation is more stringent and would probably put a brake to the developpement of these operators. Finally it will only remain "outlaws".</p> <p>The ordering parties that will not want to contract with outlaws, will have to go back to more conventional means but also more dangerous (e.g : work at height, approach of live conductors, ...)</p>	
comment	22	comment by: <i>BCAA</i>
	<p>page 24 point 5 b : we fully agree and support the choice of option 2 to include in the scope of SERA both the commercial air transport and specialized RPAS</p>	

	operations.	
comment	23	comment by: <i>BCAA</i>
	page 28 point 8 b : we fully agree and support the option 2A to publish this NPA in 2012 aiming at the subsequent Opinion in 2013.	
comment	44	comment by: <i>AESA</i>
	Option 2 should include training of RPA pilots.	
comment	63	comment by: <i>NATS National Air Traffic Services Limited</i>
	The NPA suggests that the NPA's purpose is to encourage market growth as well as harmonise rules? It is arguable that the lack of 'appropriate legislation' is not a constraint upon RPAS growth but the real issue is the integration of RPAS operations with other aircraft. It is not clear how the NPA achieves this.	
comment	64	comment by: <i>NATS National Air Traffic Services Limited</i>
	Reference text 1.2: There does not seem to be a recognition that ATS providers will be affected by the rules in the Regulation if prior co-ordination is needed between the RPAS and the ATS provider for every flight.	
comment	81	comment by: <i>Civil Aviation Authority - Norway</i>
	<p>Page 12/146 – General - first paragraph</p> <p>Current text: RPASs</p> <p>Proposed modification: <u>RPAS</u></p> <p><i>Comment: The acronyms RPA & RPAS are invariant (identical in singular & plural).</i></p> <p>Page 12/146 – Point 1 Regulatory Impact Assessment - Issue analysis and risk assessment – General – sub-point a – Third paragraph</p> <p>Current text: However, since these machines are more or less sophisticated models, with increasing performances and more sophisticated payloads, the purchase and operation becomes affordable even for civil physical persons or civil small or medium-sized enterprises (SMEs). Should commercial and corporate RPAS operations proliferate without common rules of the air, and beyond the areas normally used by aircraft models, this would potentially pose risks to third parties on the ground (especially in metropolitan areas) and to other airspace users, which could be involved in a mid-air collision (MAC). The impact of small metallic RPA (2–5 kg) with an aircraft could be catastrophic, if we consider that even a strike with a (non-metallic) bird of sufficient dimensions can be catastrophic.</p> <p>Proposed modification: However, since these machines are more or less sophisticated models <u>aircraft</u>, with increasing performances and more sophisticated payloads, the purchase and operation becomes affordable even for civil physical persons or civil small or medium-sized enterprises (SMEs). Should commercial and corporate RPAS operations proliferate without common rules of the air, and beyond the areas normally used by <u>model</u> aircraft models, this would potentially pose risks to third parties on the ground (especially in metropolitan areas) and to other airspace users, which could be involved in a mid-air collision (MAC). The impact of small metallic RPA (2–5 kg) with an</p>	

aircraft could be catastrophic, ~~if we consider~~ when considering that even a strike with a (non-metallic) bird of sufficient dimensions can be catastrophic.

Page 12/146 – Point 1 Regulatory Impact Assessment - Issue analysis and risk assessment – General – sub-point a – Forth paragraph

Current text: Already in 2002 the EU legislator, when establishing the Agency, decided that indeed UAS (although only above 150 kg) fell into its remit.

Proposed modification: Already in 2002 the EU legislator, when establishing the Agency, decided that indeed RPAS (then designated UAS) (although only above 150 kg) fell into its remit.

Page 12/146 – Point 1 Regulatory Impact Assessment - Issue analysis and risk assessment – General – sub-point a – Fifth paragraph

Current text: In 2007 ICAO has initiated the development of international standards for these new types of aircraft and in 2012 adopted Amendment 43 to Annex 2 to the Chicago Convention.

Proposed modification: In 2007 ICAO ~~has~~ initiated the development of international standards for these new types of aircraft and in 2012 adopted Amendment 43 to Annex 2 to the Chicago Convention.

Page 13/146 – Scale of Issue first & third paragraph

Current text: RPASs

Proposed modification: RPAS

Comment: The acronyms RPA & RPAS are invariant (identical in singular & plural).

Page 17/146 Identification of options for the scope of the common rules of the air for RPAS

Current text:

0 Do nothing.

No common rules of the air at all on RPAS for the time being.

Transposition of Amendment 43 to ICAO Annex 2 remains exclusive national responsibility.

1 Scope covering only commercial RPAS operators.

Commercial RPAS operators subject to common rules of the air.

Aircraft models and non-commercial (i.e. corporate or private) specialised RPAS operations (SPO) outside the scope of the common rules of the air.

2 Scope covering all CAT and SPO RPAS operations.

Commercial, corporate and private RPAS CAT and SPO operations subject to common rules of the air.

Aircraft models outside the scope of the common rules of the air.

3 Scope covering all operations with no pilot on board.

CAT, SPO and model aircraft subject to the same common rules of the air.

Proposed modification:

0 Do nothing.

No common rules of the air at all ~~on~~ relative to RPAS for the time being.

Transposition of Amendment 43 to ICAO Annex 2 remains exclusive national responsibility.

1 Scope covering only commercial RPAS operators.

Commercial RPAS operators are subject to common rules of the air.

~~Aircraft models Toy and model aircraft~~ and non-commercial (i.e. corporate or private) specialized RPAS operations (SPO) fall outside the scope of the common rules of the air.

2 Scope covering all CAT and SPO RPAS operations.

Commercial, corporate and private RPAS CAT and SPO operations are subject to common rules of the air.

~~Aircraft models Toy and model aircraft~~ fall outside the scope of the common rules of the air.

3 Scope covering all operations using aircraft with no pilot on board.

CAT, SPO, toy and model aircraft subject to the same common rules of the air.

Page 18/146 Impacts – sub-point i. Safety
Current text:

1. Do nothing

Progressive deterioration of safety due to increasing number of civil RPAS and related applications without clear common legal framework (e.g. models carrying special equipment and executing SPO missions, but still considered models).
No uniform safety across EU-27 in relation to aircraft, registered anywhere and wishing to operate in the EU airspace.
The same in relation to EU RPAS operators wishing to fly over the high seas.

2. Commercial RPAS

Greatest part of RPAS operations covered, but not corporate operations which present exactly the same safety risks for third parties in the air and on the ground.

2 CAT and SPO

All professional RPAS operations covered, including corporate, and subject to common rules of the air.

However, not yet common rules on airworthiness, OPS and licensing of remote pilots.

3 CAT, SPO, toy and model aircraft

As 2.

No significant additional safety benefit, since experience gained so far demonstrates that model activity is not a real safety concern.

Proposed modification:

1. Do nothing

Progressive deterioration of safety due to the increasing number of civil RPAS and related applications without a clear common legal framework (e.g. toy and model aircraft ~~models~~ carrying special equipment and executing SPO missions, but still considered toys and model aircraft ~~models~~).

No uniform safety across the EU-27 in relation to aircraft, registered anywhere and wishing to operate in the EU airspace.

The same applies ~~in relation~~ to EU RPAS operators wishing to fly over the high seas.

2. Commercial RPAS

Greatest part of RPAS operations covered, but not corporate operations which present exactly the same safety risks for third parties in the air and on the ground.

2 CAT and SPO

All professional RPAS operations are covered, including corporate, and subject to common rules of the air.

However, ~~not yet~~ common rules on airworthiness, OPS operations and the licencing of remote pilots does not yet exist.

3 CAT, SPO, toy and model aircraft

As 2.

No significant additional safety benefit, since the experience gained ~~so far~~ up to today demonstrates that toy and model aircraft activity is not a real safety

concern.

Page 19/146 Impacts – sub-point ii Social
Current text :

1. Do nothing

More difficult to create new jobs and to recognise the figure of remote pilots.

1 Commercial RPAS

Basis for development of the civil RPAS market (manufacture, operations and information acquisition and exploitation), as well as promotion of high-quality jobs, including licensing of remote pilots.

2 CAT & SPO

As 1.

3 CAT,SPO,

toy and model aircraft

As 1.

Proposed modification:

0 Do nothing

More difficult to create new jobs and to recognise the quantity of remote pilots and RPAS operators

.

1 Commercial RPAS

The basis for the development of the civil RPAS market (manufacture, operations and information acquisition and exploitation), as well as for the promotion and creation of high-quality jobs, including the licencing of remote pilots and RPAS operators

.

2 CAT & SPO

As 2.

3 CAT,SPO,

toy and model aircraft

As 2.

Page 20/146 Impacts – sub-point iii. Economic

Current text:

3 CAT, SPO and models

New Administrative burden on the community of operators of aircraft models, as well as additional workload for the competent authorities.

Proposed modification:

3 CAT, SPO and

toy and model aircraft

New

administrative burden on the toy and model aircraft community ~~of operators of aircraft models~~

, as well as additional workload for the competent authorities.

Page 21/146 Impacts – sub-point iv. Environmental impact

Current text:

3 CAT, SPO and models

Reduction of fuel brunt and noise generated by models, whose activities would become more regulated and therefore more difficult.

Proposed modification:

3 CAT, SPO
toy and model aircraft
 Reduction of fuel
burned and noise generated by toy and model aircraft; the activities of the toy and model aircraft communities would become more regulated, and therefore more difficult.

comment 97

comment by: UK CAA

Page No: 12 and 32**Paragraph No:** Regulatory Impact Assessment**Comment:**

The Regulatory Impact Assessment claims that the proposed legislative change is intended to address safety risks presented by the proliferation of commercial and corporate RPAS posed to third parties on the ground and to other airspace users by means of common rules of the air. The proposals do not provide common rules of the air; rather they merely offer common authorisation requirements. As these requirements are not currently supported by appropriate airworthiness and licensing requirements, and that they will also apply to domestic RPAS operations (the purpose of the original ICAO Annex 2 Amendment 43 text being to address international operations), the proposals are incomplete (this is acknowledged in the body of the NPA), and disproportionate.

The proposed addition of the new Appendix 2 to the Rules of the Air should not be adopted and the proposed text of SERA.3138 should be amended accordingly.

Justification:

It is considered more appropriate for SERA.3138 to require Member States to operate RPAS in accordance with the provisions of the Chicago Convention, following the precedent followed by the SSC-adopted loss of communications procedures at SERA.8035(b).

Proposed Text:**SERA.3138 Remotely piloted aircraft**

A remotely piloted aircraft shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the provisions as have been adopted under the Chicago Convention and the Basic regulation.

comment 98

comment by: UK CAA

Page No: 12 and 32**Paragraph No:** Regulatory Impact Assessment**Comment:**

The comments concerning the FAA's regulatory development effort is noted, not least the objective of developing a plan 'which will result in a 5-year RPAS roadmap'; this suggests the need for an integrated, holistic RPAS regulatory development effort, and not piecemeal legislative change that NPA 2012-10 is advocating, with its attendant inadequacies and disproportionate impacts.

In addition, it is understood that the cited 30 September 2015 deadline is actually that for having necessary regulation in place rather than achieving 'safe integration of RPAS into national airspace'.

Justification:

NPA 2012-10 advocates a piecemeal approach to RPAS regulatory and legislative development. A holistic approach to EU RPAS regulatory and legislative development is strongly advocated; meanwhile SERA's amendment can be limited to obliging Member States to operate RPAS in accordance with the Chicago Convention, following the precedent set in SERA.8035(b).

Proposed Text:**SERA.3138 Remotely piloted aircraft**

A remotely piloted aircraft shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the provisions as have been adopted under the Chicago Convention and the Basic regulation.

comment 99

comment by: UK CAA

Page No: 13-15**Paragraph No:** Scale of the Issue**Comment:**

2011 world UAV forecast data is welcomed, however it is noted that the supporting text consists of numerous guarded assumptions regarding the growth in RPAS use. More importantly, we note the age of the forecasts for European RPAS market 2008-2020 (i.e. published in 2007) and question the currency and validity of this. It is not clear whether this data refers to 'large' RPAS (>150 kgs) or all RPAS; if it is the latter, then the NPA's proposals appear excessive for such a small population of aircraft, especially given the incompleteness of regulatory material already identified. If 2011 world UAV forecast data can be provided, can stakeholders also be provided with more recent European RPAS growth forecasts than that provided in the NPA, and for these to state clearly which RPAS are reflected in these?

Justification:

Currency and completeness of data.

comment 100

comment by: UK CAA

Page No: 15**Paragraph No:** Scale of the Issue**Comment:**

The NPA states that a study commissioned by the European Commission and published in 2007 estimated a huge potential for an increase of civil RPAS applications as soon as appropriate legislation is in place. Does this suggest that the NPA's purpose is to encourage market growth as well as harmonise rules? We contend that any lack of 'appropriate legislation' is not a constraint upon the growth of RPAS operations; the key issue is one of integrating RPAS operations with those of other aircraft – and this NPA does not facilitate that.

Justification:

Clarity of argument.

comment 101

comment by: UK CAA

Page No: 15**Paragraph No:** 1.2**Comment:**

There does not seem to be any recognition that ATS providers will be impacted upon by the proposed Regulation if prior co-ordination is needed between the RPAS operator and the ATS provider for every flight.

Justification:

Address an omission.

Proposed Text:

Add 4th bullet 'ATS Providers'

comment	102	comment by: UK CAA
	<p>Page No: 16 Paragraph No: 2 Comment: It is claimed that transposition of ICAO Annex 2 Amendment 43 'requires to define adequately' the scope of the common rules of the air for RPAS. It is argued that the proposed 'rules' are not rules of the air as such, rather they are supporting 'administrative' requirements that are themselves not supported by critical harmonised air operations, airworthiness and licensing provisions. National requirements still take precedent, therefore the objective of EU harmonisation is not met. Reference is made to the timing of the 'common rules' for RPAS, yet a target date for implementation does not appear to be included in the NPA. Justification: Clarity of regulation.</p>	
comment	103	comment by: UK CAA
	<p>Page No: 17 Paragraph No: 3 Comment: The term 'specialised RPAS operations' is introduced but not defined. A definition is requested. Justification: Definition required; clarity of regulation.</p>	
comment	104	comment by: UK CAA
	<p>Page No: 17/18 Paragraph No: 4(i) Comment: The options and associated assessments are noted. It is not clear how safety will deteriorate without a 'clear common legal framework' when EU states will apply ICAO Annex 2 Amendment 43 and (in the absence of common supporting regulations) appropriate national regulations. The statement implies that safe RPAS operations cannot be achieved (or that they are currently undertaken in an unsafe manner) without common rules. Safety will remain the prime concern of states and appropriate safety mechanisms will be applied pending the development of a comprehensive suite of common regulatory provisions covering RPAS. In the absence of common operating, airworthiness and licensing rules this NPA relies upon the application of national regulations to underpin a set of authorisation requirements that States are already required to follow as part of their obligations to ICAO. As a result the proposed regulatory change does not offer any meaningful harmonisation. Common rules can in due course serve to enhance safety, however current RPAS operations are not inherently unsafe, and the NPA in itself does not offer a meaningful level of harmonisation. Justification: Contentious safety argument and the need for clear and effective legislation.</p>	
comment	105	comment by: UK CAA
	<p>Page No: 21 Paragraph No: 4(iv)</p>	

Comment:

The assessment is an environmental issue, not a Rules of the Air issue, and the weighting afforded to it is questionable. If the principle issue is safety of operations, it is argued that the weighting here should be the same as 'Economic' (i.e. 1).

It should be noted that if the NPA proposals are adopted, the powerplants of the RPAS brought into regulatory scope will differ significantly, ranging from large, and potentially noisy turbine powered aircraft, to small aircraft powered by quiet electric motors. Is the assessment based upon every possible form of RPAS propulsion?

Justification:

Relevance and clarity of argument.

comment 106

comment by: UK CAA

Page No: 22**Paragraph No:** 4(v)**Comment:**

The proportionality assessments are welcome and the comments noted. With regards to the statement that 'Basic rules of the air could significantly differ from one state to another', the UK CAA would contend that, as SERA brings about harmonisation of these, the significant differences are already removed. As the NPA proposes common authorisation requirements, the 'rules of the air' assessment appears inappropriate. With regards to the assumption that differing rules of the air would 'not create a level playing field especially for SMEs', it is not clear how (or why) RPAS operators will apply the rules of the air differently based upon the nature and scale of their operations.

Justification:

Clarity of argument.

comment 107

comment by: UK CAA

Page No: 23**Paragraph No:** 4(vi)**Comment:**

If the case for introducing the proposed regulation is harmonisation, why are the assessments here only afforded a weighting of 1?

Justification:

Clarity and understanding of weighting rationale.

comment 108

comment by: UK CAA

Page No: 24**Paragraph No:** Option 2**Comment:**

Page 24 of the draft Opinion states that Option 2 (i.e. include only CAT and SPO) is presented as the preferred option. However, paragraph 1 (General operating rules) of Appendix 2 appears to apply to all RPAS operations. Which is correct?

Justification:

Clarity of proposed regulation.

comment 109

comment by: UK CAA

Page No: 25 and 32

Paragraph No: 6**Comment:**

The UK CAA welcomes acknowledgement within the NPA of ICAO's recognition of the need to fully develop supporting RPAS SARPs in ICAO Annexes 1, 6 and 8. The UK CAA would strongly prefer to see in due course the holistic development and implementation of EU provisions based upon the ICAO texts (including those contained within ICAO Annex 2 Amendment 43) - rather than piecemeal development of these - as advocated in the NPA.

Pending such development, it is considered more appropriate for Member States to be obliged to have RPAS operated in accordance with the provisions of the Chicago Convention rather than introduce incomplete regulation at this point. This follows the precedent set at SERA.8035 regarding common European communication failure procedures.

Justification:

More complete, appropriate and proportionate rule making.

Proposed Text:**SERA.3138 Remotely piloted aircraft**

A remotely piloted aircraft shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the provisions as have been adopted under the Chicago Convention and the Basic regulation.

comment

110

comment by: UK CAA

Page No: 25 and 32**Paragraph No: 6 (table)****Comment:**

Both options are noted, in particular the recognition in option 2A that 'Member States should apply their measures for remote pilot licensing and RPAS operations. The Agency is unable to issue separate type certificates for RPAS, RPA and RPS'. This is seen as further evidence that the proposed regulation will not achieve an appropriate - and meaningful - level of harmonisation, and that member States will have to continue to bear regulatory burdens (including the cost of implementing the regulatory changes proposed in this NPA).

The actions required under option 2B are noted, as is the anticipated timescale for these to be developed. In addition to developing airworthiness requirements, licensing issues will have to be resolved. The UK CAA understands that the necessary ICAO SARPs will be developed during the same timescale; it is therefore considered appropriate for European regulatory development to be based upon ICAO work. A suite of mature regulations can then be introduced concurrently. Pending this development, Member States should merely be obliged to follow provisions of the Chicago Convention.

Justification:

Better and more effective regulation.

Proposed Text:**SERA.3138 Remotely piloted aircraft**

A remotely piloted aircraft shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the provisions as have been adopted under the Chicago Convention and the Basic regulation.

comment

111

comment by: UK CAA

Page No: 28**Paragraph No: 8b**

Comment:

The UK CAA notes the Agency's preference for Option 2A, noting that the subsequent Opinion can be anticipated in 2013 (published simultaneously with the CRD). There appears to be no indication within the NPA as to when the Agency anticipates incorporation of the proposed changes into the SERA rule, other than references to 2013 on pages 26.

Justification:

Clarity of rulemaking - an indication as to when the Agency anticipates incorporation of the proposed changes into the SERA rule (and why that date has been identified) is requested.

comment 112

comment by: UK CAA

Page No: 28**Paragraph No:** 8b**Comment:**

The UK CAA does not support option 2A, preferring instead option 2B. The former seeks to introduce regulatory provisions that go beyond the scope and purpose of ICAO Annex 2 Amendment 43 and brings with it a set of requirements applicable to all RPAS, regardless of size or the nature of the operator. As such it is disproportionate.

The proposed measures do not seek to introduce any harmonised rules of the air; instead they are merely seeking harmonised authorisation requirements – these are not rules of the air and will not in themselves contribute to the safety of RPAS operations.

As a result, the proposals do not achieve an appropriate measure of harmonisation in safety critical areas, but they do impose additional regulatory burdens upon member States through a number of requirements contained within the proposed text. For example, paragraph 3.2 states that 'The application shall include [a] copy of certificate of registration' – when a State may not require certain RPAS to be registered. In the context of ICAO Annex 2 Amendment 43 this and other requirements are 'Unless otherwise specified by the State(s)'.

As the proposed text applies to all RPAS, regardless of RPAS MTOW and both EASA and national certification requirements, there is a risk of unintended consequence that can be avoided through more considered, holistic development of RPAS regulatory requirements than this NPA demonstrates.

Justification:

The need for better and appropriately proportionate regulation.

comment 150

comment by: Cumulofilmus / Pascal LEGRAND

Concerning

chart

0/1/2/3

It is evident that each member state should have its own legislation relative to its national airspace. Only crossborder flights should be impacted by this NAP.

For small UAV's that weight under 25kg or even below 13kg (by and large the most common UAVs that operates under the 500ft height limit) it is unnecessary to impose a law that is too heavy to respect (once again, the rules of the French DGAC are useful to consult for your information).

By overconstricting the operators of small commercial UAVs, you will set up a situation that will induce them to take greater risks and operate outside the law, shunning insurances.

- comment 151 comment by: *Cumulofilmus / Pascal LEGRAND*
- Who are you kidding with the Economic chart on page 20 ? You score -2 to the "Do nothing" option but that is the opposite of what will happen when you set up laws that are inapplicable in most cases for small structures. This looks like a deliberate attempt to give preeminence to industrials that will develop exploitation of RPASs.
- comment 152 comment by: *Cumulofilmus / Pascal LEGRAND*
- On page 24, the conclusions drawn from your assumptions charts challenge the legitimacy of state agencies such as the French DGAC that manage security aircraft rules and have already legislated on this subject after national consultations. Your "Do nothing" option works on the premise that there exists no national legislation on the subject, which is a misconception.
- comment 160 comment by: *Federal Office of Civil Aviation FOCA*
- The Swiss Federal Office of Civil Aviation (FOCA) supports option 2 as it is described on p. 17 of said NPA (scope covering all CAT and SPO RPAS operations) as it is in line with the Amendement 43 to ICAO Annex 2.
- comment 161 comment by: *Federal Office of Civil Aviation FOCA*
- Timeframe of adoption: FOCA is in favour of option 2B (adopt amendement to common rules of the air in a later timeframe when complete set of common rules for RPAS will be available (e.g 2018).
- comment 167 comment by: *C-ASTRAL*
- The "model" reference in the third paragraph starting with "However" is not correct and should be changed. These machines are not models, they are not designed as models, they have in many cases redundant flight control systems and are designed as aircraft systems. This definition somehow prejudices that these are models with autopilots, but that is not the case.
- The proposed text here should read:
- Since these machines have increasing performances and can carry sophisticated payloads, the purchase and operation....
- comment 170 comment by: *UVS International*
- Page 12/146 – Point 1 Regulatory Impact Assessment - Issue analysis and risk assessment – General – sub-point a – Third paragraph**
Current text: However, since these machines are more or less sophisticated models, with increasing performances and more sophisticated payloads, the purchase and operation becomes affordable even for civil physical persons or civil small or medium-sized enterprises (SMEs). Should commercial and corporate RPAS operations proliferate without common rules of the air, and beyond the areas normally used by aircraft models, this would potentially pose risks to third parties on the ground (especially in metropolitan areas) and to other airspace users, which could be involved in a mid-air collision (MAC). The impact of small metallic RPA (2–5 kg) with an aircraft could be catastrophic, if we consider that

even a strike with a (non-metallic) bird of sufficient dimensions can be catastrophic.

Proposed modification: However, since these machines are more or less sophisticated ~~models~~ aircraft, with increasing performances and more sophisticated payloads, the purchase and operation becomes affordable even for civil physical persons or ~~civil~~ small or medium-sized enterprises (SMEs). Should commercial and corporate RPAS operations proliferate without common rules of the air, and beyond the areas normally used by model aircraft ~~models~~, this would potentially pose risks to third parties on the ground (especially in metropolitan areas) and to other airspace users, which could be involved in a mid-air collision (MAC). The impact of small metallic RPA (2–5 kg) with an aircraft could be catastrophic, ~~if we consider~~ when considering that even a strike with a (non-metallic) bird of sufficient dimensions can be catastrophic.

Page 12/146 – Point 1 Regulatory Impact Assessment - Issue analysis and risk assessment – General – sub-point a – Forth paragraph

Current text: Already in 2002 the EU legislator, when establishing the Agency, decided that indeed UAS (although only above 150 kg) fell into its remit.

Proposed modification: Already in 2002 the EU legislator, when establishing the Agency, decided that indeed RPAS (then designated UAS) (although only above 150 kg) fell into its remit.

Page 12/146 – Point 1 Regulatory Impact Assessment - Issue analysis and risk assessment – General – sub-point a – Fifth paragraph

Current text: In 2007 ICAO has initiated the development of international standards for these new types of aircraft and in 2012 adopted Amendment 43 to Annex 2 to the Chicago Convention.

Proposed modification: In 2007 ICAO ~~has~~ initiated the development of international standards for these new types of aircraft and in 2012 adopted Amendment 43 to Annex 2 to the Chicago Convention.

Page 13/146 – Scale of Issue first & third paragraph

Current text: RPASs

Proposed modification: RPAS

Comment: *The acronyms RPA & RPAS are invariant (identical in singular & plural).*

Page 17/146 Identification of options for the scope of the common rules of the air for RPAS

Current text: 0 Do nothing.

No common rules of the air at all on RPAS for the time being.

Transposition of Amendment 43 to ICAO Annex 2 remains exclusive national responsibility.

1 Scope covering only commercial RPAS operators.

Commercial RPAS operators subject to common rules of the air.

Aircraft models and non-commercial (i.e. corporate or private) specialised RPAS operations (SPO) outside the scope of the common rules of the air.

2 Scope covering all CAT and SPO RPAS operations.

Commercial, corporate and private RPAS CAT and SPO operations subject to common rules of the air.

Aircraft models outside the scope of the common rules of the air.

3 Scope covering all operations with no pilot on board.

CAT, SPO and model aircraft subject to the same common rules of the air.

Proposed modification: 0 Do nothing.

No common rules of the air at all ~~on~~ relative to RPAS for the time being.

Transposition of Amendment 43 to ICAO Annex 2 remains exclusive national responsibility.

1 Scope covering only commercial RPAS operators.

Commercial RPAS operators are subject to common rules of the air.

~~Aircraft models~~ Toy and model aircraft and non-commercial (i.e. corporate or

private) specialised RPAS operations (SPO) fall outside the scope of the common rules of the air.

2 Scope covering all CAT and SPO RPAS operations.

Commercial, corporate and private RPAS CAT and SPO operations are subject to common rules of the air.

~~Aircraft models~~ Toy and model aircraft fall outside the scope of the common rules of the air.

3 Scope covering all operations using aircraft with no pilot on board.

CAT, SPO, toy and model aircraft subject to the same common rules of the air.

Page 18/146 Impacts – sub-point i. Safety

Current text: 0 Do nothing

Progressive deterioration of safety due to increasing number of civil RPAS and related applications without clear common legal framework (e.g. models carrying special equipment and executing SPO missions, but still considered models).

No uniform safety across EU-27 in relation to aircraft, registered anywhere and wishing to operate in the EU airspace.

The same in relation to EU RPAS operators wishing to fly over the high seas.

1 Commercial RPAS

Greatest part of RPAS operations covered, but not corporate operations which present exactly the same safety risks for third parties in the air and on the ground.

2 CAT and SPO

All professional RPAS operations covered, including corporate, and subject to common rules of the air.

However, not yet common rules on airworthiness, OPS and licensing of remote pilots.

3 CAT and SPO

As 2.

No significant additional safety benefit, since experience gained so far demonstrates that model activity is not a real safety concern.

Proposed modification: 0 Do nothing

Progressive deterioration of safety due to the increasing number of civil RPAS and related applications without a clear common legal framework (e.g. toy and model aircraft models carrying special equipment and executing SPO missions, but still considered toys and model aircraft models).

No uniform safety across the EU-27 in relation to aircraft, registered anywhere and wishing to operate in the EU airspace.

The same applies in relation to EU RPAS operators wishing to fly over the high seas.

1 Commercial RPAS

Greatest part of RPAS operations covered, but not corporate operations which present exactly the same safety risks for third parties in the air and on the ground.

2 CAT and SPO

All professional RPAS operations are covered, including corporate, and subject to common rules of the air.

However, ~~not yet~~ common rules on airworthiness, ~~OPS operations~~ and the licencing of remote pilots does not yet exist.

3 CAT, SPO, toy and model aircraft

As 2.

No significant additional safety benefit, since the experience gained ~~so far up to today~~ demonstrates that toy and model aircraft activity is not a real safety concern.

Page 19/146 Impacts – sub-point ii Social

Current text: 0 Do nothing

More difficult to create new jobs and to recognise the figure of remote pilots.

1 Commercial RPAS

Basis for development of the civil RPAS market (manufacture, operations and information acquisition and exploitation), as well as promotion of high-quality jobs, including licensing of remote pilots.

2 CAT & SPO

As 1.

3 CAT,SPO, [toy and model aircraft](#)

As 1.

Proposed modification: 0 Do nothing

More difficult to create new jobs and to recognise the [quantity](#) of remote pilots [and RPAS operators](#).

1 Commercial RPAS

[The](#) basis for [the](#) development of the civil RPAS market (manufacture, operations and information acquisition and exploitation), as well as for [the](#) promotion [and creation](#) of high-quality jobs, including [the](#) licencing of remote pilots [and RPAS operators](#).

2 CAT & SPO

[As 2](#).

3 CAT,SPO, [toy and model aircraft](#)

[As 2](#).

Page 20/146 Impacts – sub-point iii. Economic

Current text: 3 CAT, SPO and models

New Administrative burden on the community of operators of aircraft models, as well as additional workload for the competent authorities.

Proposed modification: 3 CAT, SPO and [toy and model aircraft](#)

New [administrative](#) burden on the [toy and model aircraft](#) community ~~of operators of aircraft models~~, as well as additional workload for the competent authorities.

Page 21/146 Impacts – sub-point iv. Environmental impact

Current text: 3 CAT, SPO and models

Reduction of fuel brunt and noise generated by models, whose activities would become more regulated and therefore more difficult.

Proposed modification: 3 CAT, SPO, [toy and model aircraft](#)

Reduction of fuel [burned](#) and noise generated by toy and [model aircraft](#); [the](#) activities [of the toy and model aircraft communities](#) would become more regulated, and therefore more difficult.

Page 22/146 Impacts – sub-point v. Proportionality issues

Current text: 1 Commercial RPAS

2 Commercial operations, even long range, may in principle be at any altitude. It is proportionate to ensure adequate protection to society.

However, society will not be protected from corporate operations, which present identical risks as the commercial ones.

3 CAT, SPO and models

The vast majority of models have poorer performances of RPAS.

Furthermore they are operated in defined areas.

It would not be proportionate to impose to them the same common rules of the air as for the professional use of RPAS.

Proposed modification: 1 Commercial RPAS

3 Commercial operations, even long range, may in principle be at any altitude. It is proportionate to ensure adequate protection to society.

However, society will not be protected from corporate operations, which present [risks](#) identical [to](#) the commercial [operations](#).

3 CAT, SPO, [toy and model aircraft](#)

The vast majority of [toy and model aircraft](#) have [lower](#) performances [than](#) RPAS.

Furthermore they are operated in defined areas.

It would not be proportionate to impose [on](#) them the same common rules of the air as for [CAT and SPO RPAS operations](#).

Page 24/146 – Point 5

Current text: Conclusions and preferred option for the scope of the common rules of the air for RPAS – sub-point b. Final assessment and recommendation of a preferred option – Option 4

Proposed modification: Conclusions and preferred option for the scope of the common rules of the air for RPAS – sub-point b. Final assessment and recommendation of a preferred option – Option 3

Current text: Option 4 (i.e. include also aircraft models in the scope of the proposed common rules of the air) has a much lower score than 1 and 2; although it is safe, it is in fact disproportionate and imposes administrative burden on the community of aircraft model amateurs.

Proposed modification: Option 3 (including also toy and model aircraft in the scope of the proposed common rules of the air) has a much lower score than 1 and 2; although it is safe, it is in fact disproportionate and imposes **an additional** administrative burden on the toy and model aircraft community ~~of aircraft model amateurs~~.

Page 25/146 – Point 6 Identification of options for the timing for the common rules of the air for RPAS

Second paragraph

Current text: Even in the European case amending the common rules of the air will not complete the work since more specific common rules of the air (at least for civil UAS above 150 kg) are required in the domain of crew licensing, airworthiness and operations.

Proposed modification: Even ~~if Europe European case~~ amends the common rules of the air, this will not complete the work since more specific common rules of the air (at least for civil-UAS RPAS above 150 kg) are required in the domain of crew licensing, airworthiness and operations.

comment

193

comment by: CAA CZ

Page 17 Table 3, line 3.

The text seems to be inflexible and gives the reader a feeling that the only possibility is that all RPA would be subject to the same common rules. But they may be proportionate. Still it would be safer than a total exclusion of a group of aircraft.

comment

194

comment by: CAA CZ

Page 18 Table i. Safety, col. 3.

Disagreement. The statement comes out of a premise that model aircraft operations are already regulated out of congested areas, aerodromes and reduced to low altitudes. This is not the case in the Czech republic and it hampers the national regulatory efforts which would bring significant safety benefit, since our experience with absolutely unregulated small model aircraft shows a real safety concern.

comment

195

comment by: CAA CZ

Page 20 Table iii. Economic, col. 3.

No administrative burden and workload for authorities nor for operators would exist if model aircraft were included with a special article „**model aircraft shall be operated in such a manner as to minimize hazards to persons, property or other aircraft**“. Larger and faster model aircraft should be subject to a specific registry and permissions, namely personal licencing as they require higher piloting skills and are usually operated in vicinity of spectators during air

show

comment 196

comment by: CAA CZ

Page 22 Table v. Proportionality issues – col. 3

From our fieldwork oversight we have an opposite experience - a certain number of model aircraft have similar performance and equipment as RPAS. They are capable of BLOS flight, reaching high altitudes. And even a few of these operating unregulated in the airspace present non-acceptable risks to aviation.

On the other hand, recent legislative fragmentation in EU-27 complicates the cross-border operation of large models. Many States do not have "defined areas" and models may operate everywhere, which is not proportionate to CAT/SPO operators. Common regulations on "defined areas" and on operation of large models would be proportionate and beneficial also for models operators as their licences would be recognized in other MS when attending international air shows. It would also be proportionate to CAT and SPO RPAS operators flying in the same areas where models are operated.

comment 197

comment by: CAA CZ

Page 23 Table vi. Regulatory coordination and harmonisation – col. 3

Disagreement. It is not defined in the Chicago Convention or anywhere else that model aircraft are out of ICAO scope. This has been only stated by the Secretariat during UASSG meeting that it is too complicated to create common global basic rules and that States are responsible to establish it. Moreover, Art.8 mandates each State to insure that the flight of pilotless aircraft in regions open to civil aircraft shall be so controlled as to obviate danger to civil aircraft. We have experienced several near misses of passenger aircraft with model aircraft. Finally, there are hundreds of model aircraft between 20 and 150 kg MTOM and theoretically, a full-size Global Hawk may be operated for recreation and sport also - same as manned former military jets are operated today. It is only a question of the economic power of an individual. Therefore a mass or kinetic energy limit is beneficial.

European regulation 785/2004 (applicable for RPA) confirms that model aircraft are a subgroup of RPA. Otherwise the exemption for small model aircraft below 20 kg would not make any sense if model aircraft were not subset of RPA and of aircraft.

comment 199

comment by: Studio Pietinen

Page 12, Regulatory Impact assessment.

Flying weight. RPA aircraft or helicopters should be divided in different risk categories, depending on their respective flying weight. Obviously an, RPA with less than 5 kg flying weight presents a significantly lower collateral risk than an RPA of 100 kg.

comment 206

comment by: NATS National Air Traffic Services Limited

The Impact assessment (p15 para 1.2) appears to have been performed without full acknowledgement of all the actors who will potentially be affected. For example ATS providers will be affected by the rules in the Regulation if prior coordination is needed between the RPAS and the ATS provider for every flight. Have any calculations been performed for the potential impact on other actors?

comment	<p>217 comment by: <i>SecuDrones</i></p> <p>Replace « ...The impact of small metallic RPA (2–5 kg) with an aircraft could be catastrophic, if we consider that even a strike with a (non-metallic) bird of sufficient dimensions can be catastrophic. »</p> <p>by</p> <p>« ...The impact of small metallic RPA (2–5 kg) with an aircraft could be catastrophic, if we consider that even a strike with a (non-metallic) bird of sufficient dimensions can be catastrophic. However, the probability is almost equal to zero (that's of course not the case with birds) as a small RPA (2–5 kg) will mainly evolve at low altitude (< 150 m, and generally < 50 m), due to its onboard limited optics sensor, altitude where no aircraft shall be encountered. »</p>
comment	<p>218 comment by: <i>SecuDrones</i></p> <p>Replace « ...The impact of small metallic RPA (2–5 kg) with an aircraft could be catastrophic, if we consider that even a strike with a (non-metallic) bird of sufficient dimensions can be catastrophic. »</p> <p>by</p> <p>« ...The impact of small metallic RPA (2–5 kg) with an aircraft could be catastrophic, if we consider that even a strike with a (non-metallic) bird of sufficient dimensions can be catastrophic. However, the probability is almost equal to zero (that's of course not the case with birds) as a small RPA (2–5 kg) will mainly evolve at low altitude (< 150 m, and generally < 50 m), due to its onboard limited optics sensor, altitude where no aircraft shall be encountered. »</p>
comment	<p>225 comment by: <i>Kate Alhola</i></p> <p><i>V. Regulatory Impact Assessment</i></p> <p><i>1. Issue analysis and risk assessment</i></p> <p><i>V. Reg Safety risks. Risk mid-air collision of small metallic RPA (2-5kg) can be catastrophic.</i> Collision with building/property with small mostly plastic/foam material 2-5kg RPA flying less than 40km/h would have either minimal or no damage at all. Collision with human has less impact than bicycle because collision energy is fraction of bicycle going the same speed.</p> <p>There is no justification to apply same rules RPA's flying below minimum flight altitude allowed for aircraft and in many cases below top of trees and roofs of buildings when mid air collision with other aircraft is impossible.</p> <p>In case of small low altitude RPA's are used on urban area it is not aviation safety issue but more issue of work safety.</p> <p><i>Recitals</i></p> <p><i>27. Recital (6) clarifies that the proposed rules apply only to RPAS used for commercial air transport (CAT; e.g. of freight or mail) or for specialised operations (SPO) like e.g. aerial photography or any other operation requiring on-board sensors or other specialised equipment (i.e. necessary for the mission but not for the flight). In</i></p>

this

context it shall be clearly understood that a certain SPO operation implies exactly identical risks for third parties in the air or on the ground, whether it is commercial aerial work (e.g. a consortium of farmers contracting an RPAS operator to spray crops), 'corporate' (e.g. the consortium owns and operates directly the RPAS), or private (each farmer operates its RPAS to spray its field, which does not exclude a

This is good example of implied problem. For example spraying crops is done a lot of lower altitude than minimum 500ft flight altitude allowed to aircrafts. Aircrafts are allowed to go under this limit only for takeoff and landing and that requires permission of property owner. In case of crop dusting of other crop monitoring flights are done on area where midair collision with other aircraft is impossible by rules. Also impact to buildings or humans when flying over fields or forest is about impossible.

Missing experimental category

The other key issue is missing experimental RPA class. It would be impossible to develop RPA if there is requirement that it should be certified before flights. Now SPA rule basically requires certification of RPA that is under development. Requiring certified organization and management system for university project flying small plastic RPA with sensors would be unnecessary bureaucracy.

Sensors and camera

Today many of toy class RPA's have already camera and a lot of sensors. Just having camera or sensors can't be used to make it as SPO RPA or then big amount of toys become SPO

Proposals:

1-Altitude limit

Clearly exclude all RPA:s flying below certain maximum altitude. This maximum altitude could be for example under minimum altitude allowed for aircraft. Good examples are multicopters used as crane replacement in film making. They fly normally just maximum few meters altitude and typically carry a lightweight SLR or digital cinema camera to make the shot for the movie, documentary or TV. There are other similar ideas being studied like using multicopters lifting bricks and building a house.

2-Experimental class

There should be possibility to do research and development with non-certified RPA just the same way as it is possible with experimental manned aircraft. If experimental RPA is flown inside airspace where the other aircraft are flying, requirements should be RPA pilot's license and airworthiness but no need to certify either aircraft or organization.

3-Sensors and camera

There are sensors on most of RPA and even in toys, it cant be used criteria as SPO.

General comment:

The UAV/RPA is a rapidly developing industry sector. There is a lot of development happening also in universities and small companies. Requiring heavy organization and management certification process would definitely harm competitiveness of all European Union. For example, development of ultralight (microlight) aircrafts was very fast and Europe became leading manufacturer or UL aircraft because heavy certification was not needed. This industry would have died much before it became success if it was regulated heavily and extensively. Also in other areas in EU, manufacturer's declaration of conformance is used and no certification is needed. For example Electromagnetic interference EMI, manufacturer makes required tests and issues based on these declaration of conformance. Same method could be used on commercial RPA's. Manufacture does certain set of tests and makes record on test result and based on these issues declaration of airworthiness conformance.

B. Draft rules

p. 29

comment 73

comment by: *Diamond Aircraft*

Comment on details:

Article 1- Present wording:

'3. This Regulation shall also apply to the Competent Authorities of the Member States, aircraft operators, Air Navigation Service Providers and the relevant flight and ground personnel engaged in aircraft operations.'

Recommended new wording:

3. This Regulation shall also apply to the Competent Authorities of the Member States, **RPAS** operators, Air Navigation Service Providers and the relevant flight and ground personnel engaged in **RPAS operation**.

Justification: This part of the regulation covers the specifics of RPAS operation, not of any aircraft operation.

SERA.3138 Remotely piloted aircraft – present wording

A remotely piloted aircraft involved in commercial air transport or specialised operations shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the requirements contained in this Regulation and in particular those specified in Appendix 2.'

Recommended new wording:

A remotely piloted aircraft

~~involved in commercial air transport or specialised operations~~

shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the requirements contained in this Regulation and in particular those specified in Appendix 2.'

Justification:

The new wording is in line with the ICAO requirement. The rules of the air are the basics for the traffic management in aviation. It is not important who operates an aircraft, if the aircraft is used for privat, public or commercial purpose. Should there be any needs seen for commercial air transport or specialised operations, they have to be pointed out in the specific amended regulations as announced.

2. Requirements for RPAS operations – present wording

2.1 In order to obtain the authorisations in 1.1 and in 1.2, applicants shall demonstrate to the competent authority that:

- (1) they comply with all the applicable requirements of Annex IV to Regulation (EC) No 216/2008 and of this Regulation;
- (2) the operator holds a valid RPAS operator certificate and is capable of executing the intended operation in a safe manner;
- (3) the organisation and management of the RPAS operator are suitable and properly matched to the scale and scope of the operation;
- (4) all the RPA involved in the intended operation have a valid certificate of registration, a valid certificate of airworthiness and, if applicable, a valid radio station licence
- (5) all the RPAS involved in the intended operation are equipped with the communications, navigation and surveillance systems, with adequate performance for the specific airspace in which the flight is to operate, including command and control links (C2);
- (6) in the case of operations which are not VLOS, all the involved RPAS are equipped with a suitable detect and avoid system;
- (7) all the pilots involved in the intended operation hold a valid remote pilot(s) licence with appropriate ratings and endorsements;
- (8) the security of the command and control link is adequately ensured, as well as the physical security of the RPS;
- (9) the operator has adequate insurance coverage.

Recommended new wording:

2.1 In order to obtain the authorisations in 1.1 and in 1.2, applicants have to ~~shall demonstrate to the competent authority that:~~

~~(1)~~

they

comply with all the applicable requirements of Annex IV to Regulation (EC) No 216/2008 and of this Regulation and

~~(2) the operator holds a valid RPAS operator certificate and is capable of executing the intended operation in a safe manner;~~

~~(3) the organisation and management of the RPAS operator are suitable and properly matched to the scale and scope of the operation;~~

~~(4) all the RPA involved in the intended operation have a valid certificate of registration, a valid certificate of airworthiness and, if applicable, a valid radio station licence~~

~~(5)~~

make sure that

all the RPAS involved in the intended operation are equipped with the communications, navigation and surveillance systems, with adequate performance for the specific airspace in which the flight is to operate, including command and control links (C2);

~~(6) in the case of operations which are not VLOS, all the involved RPAS are equipped with a suitable detect and avoid system;~~

~~(7) all the pilots involved in the intended operation hold a valid remote pilot(s) licence with appropriate ratings and endorsements;~~

~~(8) the security of the command and control link is adequately ensured, as well as the physical security of the RPS;~~

~~(9) the operator has adequate insurance coverage.~~

Justification:

Add (1): If any applicant owns any authority approval he, she shall not be forced to pass through an equivalent procedure, named "Demonstration". It shall be the responsibility of any owner of any approval to make only use of it, if the compliance is given.

Add (2), (3),(4),(6),(7),(8): Should a legal need exist to define the requirements for RPAs operations – without an equivalent ICAO requirement existing – the SERA regulation shall be limited with the reference to the "Basic Regulation". The deleted requirements will be part of the technical or the operational certification procedure and shall be part of the amended implementing rules (EC) No 748/2012 (former 1702/2003), 2042/2003, 1178/2011 and the upcoming regulations covering air operations.

Add (5): This requirement shall be kept, because an operational approval might not cover all areas of operation.

3. Request for authorisation – present wording

3.1 In order to obtain the authorisations specified in 1.1 and 1.2, the operator of an RPA Sshall apply to the relevant competent authority in a form and manner established by it. The application shall be made no less than seven days before the date of the intended flight(s).

3.2 The application shall include at least the following:

- (a) name and contact information of the operator;
- (b) RPA characteristics (type of aircraft, maximum certified take-off mass, number of engines, wing span);
- (c) copy of certificate of registration;
- (d) aircraft identification to be used in radiotelephony, if applicable;
- (e) copy of the certificate of airworthiness;
- (f) copy of the RPAS operator certificate;
- (g) copy of the remote pilot(s) licence(s);
- (h) copy of the aircraft radio station licence, if applicable;
- (i) description of the intended operation (type of operation or purpose), flight rules, visual line-of-sight (VLOS) operation if applicable, date of intended flight(s), point of departure, destination, cruising speed(s), cruising level(s), route to be followed, duration/frequency of flight;
- (j) take-off and landing requirements;
- (k) RPA performance characteristics, including:
 - (1) operating speeds;
 - (2) typical and maximum climb rates;
 - (3) typical and maximum descent rates;
 - (4) typical and maximum turn rates;
 - (5) other relevant performance data (e.g. limitations regarding wind, icing, precipitation); and
 - (6) maximum aircraft endurance;
- (l) communications, navigation and surveillance capabilities:
 - 1) aeronautical safety communications frequencies and equipment, including:
 - (i) ATC communications, including any alternate means of communication;
 - (ii) command and control links (C2) including performance parameters and designated operational coverage area;
 - (iii) communications between remote pilot and RPA observer, if applicable;
 - (2) navigation equipment; and
 - (3) surveillance equipment;
- (m) detect and avoid capabilities;
- (n) emergency procedures, including:
 - (1) communications failure with ATC;

Justification: These requirements shall be transposed to the upcoming regulations covering air operations.

6. Coordination with air traffic services – present wording

6.1 Once the authorisations in 1.1 and 1.2 have been obtained, the RPAS operator shall complete notification and coordination with the relevant air traffic services in accordance with the requirements of this regulation. Flight plans shall be submitted in accordance with the provisions of Section 4 of this Annex.

6.2 In the event of a flight cancellation, the RPAS operator or the remote pilot shall notify all appropriate competent authorities and ANSPs as soon as possible.

Recommended new wording:

6.1 Once the authorisations in 1.1 and 1.2 have been obtained, the RPAS operator shall complete notification and coordination with the relevant air traffic services in accordance with the requirements of this regulation. Flight plans shall be submitted in accordance with the provisions of Section 4 of this Annex.

6.2 In the event of a flight cancellation, the RPAS operator or the remote pilot shall notify all appropriate

~~competent authorities and ANSPs as soon as possible~~

Justification: The daily operation shall not rely on additional approvals beside existing technical and operational approvals. A RPAS operator shall not be treated in a different manner like any other operator who has to comply with EU regulations.

comment 210

comment by: EUROCONTROL

Para 35: "All the wording for the proposed definitions listed above is identical to the ICAO expressions."

There are some differences in the transposed definitions ("Operator" not defined, "Remote pilot").

Para 39: "No other rules in SERA are affected by the present NPA. Equally Appendix 1 therein (i.e. Signals) is not affected"

The ICAO amendments in 2012 are wider than what is reflected in the present NPA. The Amendment 48 to ICAO Annex 11 (State Letter published 10th April 2012) will be applicable on the 15th November 2012. It will have an impact on SERA.9010 as indicated by EUROCONTROL in March 2012. It would have been a good opportunity to amend SERA accordingly.

Para 50: "Stakeholders are kindly invited to remember that nothing in the Chicago Convention obliges to transpose the ICAO Standards with exactly the same wording or the same structure of the regulatory material"

This statement is true, however, considering the coexistence of both ICAO and European regulatory material, using the same wording whenever possible would help avoiding misunderstandings, different interpretations or unintended consequences. This principle was applied earlier in the drafting of SERA

comment 229

comment by: N'guyen-van Francklin

Attachment [#2](#)

Hello

I'm a builder/opérateur of light UAV in France ,the light UAV don't clearly appears in the draft .since April 2012 in france the UAV are classified in different class with the weight (under 25 kg/4kg/2kg),how will you manage these lights UAV..? The French laws about UAV are new and still need to be adjusted but il ca be base for your draft too.

See more détails about ths french law with the link below and the attached file (table for flight scénarios and allowed UAVs)
http://www.legifrance.gouv.fr/affichTexte.do;jsessionid=CC8B12CA4275FE61BFB739D1017CB5DF.tpdjo12v_3?cidTexte=JORFTEXT000025834953&dateTexte=20121015

Best regards
 N'guyen-van Francklin

B. Draft rules — I. Draft Opinion SERA

p. 30-36

- comment 1 comment by: *Oliviero BARSANTI*
- Ref. definition `108c. "Remotely piloted aircraft (RPA)" means an unmanned aircraft which is piloted from a remote pilot station;'
- ICAO circular 328 pag. X definitions: "Remotely-piloted aircraft. An aircraft where the flying pilot is not on board the aircraft.
 Note.— This is a subcategory of unmanned aircraft.
 ...
 Unmanned aircraft. An aircraft which is intended to operate with no pilot on board. "
 UA/UAS is for UNMANNED Aircraft/UNMANNED Aircraft System.
 RPA is for Remotely Piloted Aircraft which should mean an aircraft that is piloted from a remote station. This aircraft can be also MANNED in terms of having persons on board but no pilot.
 I did not found any rule indicating that an aircraft with person on board cannot be piloted in a remotely manner.
 So, looking forward in the future (remotely piloted passenger aircraft) I would state:
 `108c. "Remotely piloted aircraft (RPA)" means an aircraft which is piloted from a remote pilot station;'
- Otherwise if there will be the need to state as in circular 328 that unmanned means just without pilot onboard, there'll be the need to add the definition and the note of Remotely-piloted aircraft as in circular 328:
 "Unmanned aircraft. An aircraft which is intended to operate with no pilot on board. "
- comment 3 comment by: *DFS Deutsche Flugsicherung GmbH*
- DFS agrees with the amendment to the common rules of the air (SERA) according to Amendment 43 to Annex 2 to the Chicago Convention on remotely piloted aircraft systems (RPASs) as proposed by NPA 2012-10.
- comment 6 comment by: *Indra / Daniel Cobo-Vuilleumier*
- Page 32:
 - Definition "55a": The C2 link can be multiple (more than one link, e.g. for redundancy). Suggestion: Remove the article "The" before "data link"
 - Definition "112a": "visual observation" --> Suggestion: add "(in visual line-of-sight)"
 - SERA.3138 "Remotely piloted aircraft" --> Suggestion:

Add "system" to "Remotely piloted aircraft" as it is the whole system which has to be operated in such a manner to minimize hazards (e.g. control station, ground data terminal and launch&recovery system can also pose some risks)

comment 7 comment by: *Indra / Daniel Cobo-Vuilleumier*

Page 36:
§ 5. Changes: In § 1.3 the term "Air Traffic Service Provider" (ATSP) was used.
Suggestion: use the same term.

comment 10 comment by: *Sapin-Lignières*

Hello,
The rules for UAV may not include light electrical UAV used for local activities like photographic, security, opérations over fire, opération over contaminated area, etc...
that kind of operation obey the following characteristics:
- the flight is under 150mts away from the pilot.
- the flight is under 100mts altitude
- the UAV is less than 10kg at take-off
- The take-off and landing are at the same place, in physical presence of the pilot.
- the owner or responsible of the area have given his autorisation for take-off, landing and flying over.
- the operation is covered by an insurance against personal or material damages.
This kind of flight scenario must be excluded or obey particular rules as it does not interferes with the common use of the air space.

A lot of small operators are concerned by restrictions and rules witch are evidently created for biggers UAV.
Thanks to consider.
Best regards

comment 12 comment by: *LFV Sweden*

LFV Sweden have no comments on the entire proposed amendment 2012-10 regarding RPA.

comment 16 comment by: *Réseau de Transport d'Electricité - Services et Travaux Hélicoptés*

Proposal :

Transpose the text of amendment 43 to annex 2 to the Chicago Convention without modifying its meaning and its scope :

- Keep the authorisations for international flight only.
- Transpose the Note 2 of the ICAO text : "any certification and licensing need not be automatically deemed to comply with the SARPs ..."

If necessary add new rules for RPAs above 150 kg.

comment 18 comment by: *SNCF*

Dear Sir or Madam,

To follow upon the reading NPA 2012-10 please find below our observations :

Our Presentation:

Our Company is the SNCF (French National Railway Company), Engineering management.

Our department is in charge of railway asset management, and infrastructure monitoring and inspection. Our field of activity deals specially with earth and engineering works, rock faces, and land surveying along the national network.

Our opinion on the amendment :

The globalization of the various *pilotless radio-controlled aircrafts (drones)* independently of their weight, and the grouping of the different kinds of missions executed by such devices does not seem to us relevant.

In point of fact, aircrafts of 2 kg, 25 kg, 150 kg or more do not represent the same danger during the various phases of their missions. The notion of risk must be linked to the weight of the aircraft.

Furthermore, the mechanical or electronical failure of the radio-controlled aircraft do not generate the same disorders as the mission concerns a rural or an urban zone.

The use of radio-controlled aircraft in visual flight mode or with an embarked first-person view does not impose the same constraints in order to respect the notion of "see and avoid".

More generally, the use of a radio-controlled aircraft of moderate weight and in visual flight may not require a flying license for the remote control operator, and a flying certificate for the aircraft.

Madame, Monsieur,

Pour faire suite à la lecture NPA 2012-10 veuillez trouver ci-dessous nos observations :

Notre Présentation :

Notre Société est la SNCF (Société Nationale des Chemin de Français)

Notre service travaille pour la rénovation du patrimoine rocheux, en terre et ouvrage d'art ainsi que la réalisation de relevé topographique.

Notre avis sur l'amendement :

La globalisation des différents aéronefs télépilotés quelques soit leur poids et la globalisation des différentes types de missions exécuté par un drone aéronefs télépilotés ne nous paraît pas pertinent.

En effet des engins de 2, 25, ou 150 kg ou plus ne représenta pas le même danger lors de leur mise en service.

Le disfonctionnement de l'aéronef télépiloté, en zone rurale ou urbaine n'engendrent pas les mêmes désordres

L'utilisation d'aéronef télépiloté en vol a vue ou en immersion n'entraîne pas les même contraire pour respecter la notion de « voir et éviter »

Plus généralement, l'utilisation d'aéronef télépiloté d'un poids modéré en utilisation en vol a vue pourrait ne pas nécessiter que le télépilote ait une licence de pilot et un certificat de navigabilité pour l'aéronef.

comment

24

comment by: BCAA

page 31 recital (6): in compliance with our comment made on page 8 point 28, we also want to add here in this recital that toys are excluded from the requirements of this Regulation.

comment

26

comment by: BCAA

page 33 point 2.1 (3) : very generic and unclear statement. What is suitable and what will match properly to the scale and scope of the operation ? This is very

undefined and opens the door for interpretation and discussion. This is not very objective and can lead to a difference in treatment of the operators according to the different interpretations of the different competent authorities. It is better to reformulate and to require a quality management system and/or a safety management system as required within the Single European Sky legislation. So, it is clear to everybody what is the minimum baseline to be there before getting the certificate.

comment 27 comment by: BCAA

page 37 point 2.1 (5) : this statement can end up in a too stringent or too complex result for the light RPAS flying at low altitude and for a short flight time. Please consider to split up the requirement according to the type of airspace (uncontrolled or controlled), the flight altitude, the type of operation and the type of flying area. We consider an exemption to this requirement for all these flights that are flown below the minimum height for manned aircraft, because these flights are physically separated from other traffic and thus, do not need an over-prescriptive legal framework.

comment 28 comment by: BCAA

page 34 point 2.1 (7) : please foresee a remote pilot(s) licence with appropriate ratings and endorsement with a system of classes / categories. Then it is clearer who needs what for the flights under consideration. If not enough precise, again, there is a risk for difference in interpretation and thus a fragmentation of the rules instead of a harmonization and striving for common rules.

comment 29 comment by: BCAA

page 34 point 3.2 (b) : please split this requirement into two parts :
b (1) RPA characteristics (type of aircraft, maximum certified take-off mass, number of engines, wing span) ;
b(2) remote pilot station characteristics (description of the remote pilot station, software version)

comment 30 comment by: BCAA

page 35 point 3.2 (n) : this list of emergency procedures is incomplete. We also use the following scenarios for the safety analysis :

- (4) loss of GNSS signal
- (5) loss of engine power
- (6) low battery voltage
- (7) fatal error of autopilot or other component
- (8) control failure due to failure of servo

comment 31 comment by: BCAA

page 35 point 3.2 (p) : electric powered RPAS examine if they can be excluded from this requirement. For the non-electric powered RPAS, we strongly recommend to describe the precise method to measure noise and to give precise numbers of what is allowed and what not. The result has to be a simplified and precise method, proportionate to the use and with a reasonable economic impact on the requestor for authorisation.

comment	33	comment by: <i>BCAA</i>
	page 35 point 3.2 (s) : add the reference to the existing EC Regulation 785/2004 of April 21 2004 on insurance requirements for air carriers and aircraft operators.	
comment	35	comment by: <i>BCAA</i>
	page 36 add a section 7 continuing airworthiness : require the proof of continuing airworthiness. <i>Note : details on how to organize this can be part of guidance material explaining useful elements like logbook, pre-flight check, in-flight check, post-flight check, etc.</i>	
comment	36	comment by: <i>BCAA</i>
	page 36 add a section 8 : flight plan. Require the introduction of a flight plan with a differentiation for controlled and uncontrolled airspace. Foresee an exemption for these flights that are below the minimum height of manned aircraft (no flight plan needed because physically separated from manned traffic). Foresee the replacement of flight plan by NOTAM in case of flight above the minimum height of manned aircraft but in uncontrolled airspace, if one flight only.	
comment	37	comment by: <i>University of Naples "Federico II"</i>
	Below 25 kg MTOM there should be neither certification of RPAS nor airworthiness of the RPA. Safety can in fact be ensured through RPAS operator certification and associated operational limitations.	
comment	38	comment by: <i>public research and technical institute</i>
	We use very small RPAs for environmental monitoring purposes or risk assessment. These RPA are built from commercial devices and weigh generally less than 5 kg. They are used in visual flight from the pilot. The demand for "valid certificate of registration and valid certificate of airworthiness" is not convenient for such small RPA. Also the proposal claim for a RPA pilot license. For such small RPA it seems difficult (each model are different and should need specific exams). In France rules asked to have at least the theoretical part of a valid aircraft pilot license, which could be enough for these local flights in visual conditions.	
comment	42	comment by: <i>Swedish Transport Agency, Civil Aviation Department (Transportstyrelsen, Luftfartsavdelningen)</i>
	Swedish Transport Agency (CAA) agrees to the proposal with the following comments and suggestions. The Transport Agency is of the opinion that there is a need to clearly identify the conditions where it is reasonable that an aircraft may be considered as model aircraft, and thus exempted from regulation, not only by limiting the distance to VLOS for flying them but also to set a maximum weight for model aircraft (e.g. 25 kg) in a definition. In Whereas (6) add "and flown within VLOS"	

6) Although not expressly excluded from the wording of Annex 2 to the Chicago Convention, model aircraft, used for recreational or sports activities and flown within VLOS should be excluded from the requirements of this Regulation. Therefore, the proposals are limited to RPAS operated in commercial air transport and specialised operations, as defined in Commission Regulation...

comment 46 comment by: AESA

Whereas clauses 8 and 9 seem to ignore that EASA Basic Regulation excludes from its scope (Art. 4.4) RPA below 150 kg. Reference should be made for them to Member States regulations.

comment 47 comment by: AESA

Appendix 2, 2.1.(1): add the text underlined at the end: they comply with all the applicable requirements of Annex IV to Regulation (EC) No 216/2008 and of this Regulation, or the relevant Member States regulations as appropriate.
 Appendix 2, 2.1.(2) to (8): add the text underlined at the end of each item: in accordance with EU or Member States regulations as appropriate.
 Reason: Art. 4.4 from the EASA Regulation excludes RPA below 150 kg. from its scope.

comment 48 comment by: AESA

Appendix 2, Item 3.1:
 Consideration should be given to the appropriateness of including explicit reference to a time delay to submit the application in the regulation itself.

comment 49 comment by: AESA

Appendix 2, Item 3.3:
 Reference to 4.2 should be to 3.2 (editorial).
 The last part should read: "...acceptable to the relevant competent authority(ies) of the Member State(s) concerned".
 Reason: a flight could use the airspace of a various Member States.

comment 50 comment by: AESA

Appendix 2, 6.2:
 Would it be more appropriate to refer to ATSP instead of ANSP?

comment 56 comment by: NATS National Air Traffic Services Limited

Reference text 1.3: The transposition of Amendment 43 to Annex 2 1.3 includes a change from 'ATS Authority' to 'ATS provider'. The intention of Annex 2 may be interpreted as ICAO's historical reference to the State authority where particular reference to flight over the High Seas needs to be addressed. The NPA change results in a new requirement to co-ordinate the flight with the ATS provider in the High Seas airspace concerned. Where the High Seas airspace is Class G, there is no current requirement for an aircraft to notify the ATS provider of its presence or to seek a service so NATS would like to see further justification for requiring contact between the RPAS operator/pilot and the ATS provider.

comment	57	comment by: <i>NATS National Air Traffic Services Limited</i>
	Reference text 1.1 and 1.2: It is not clear why authorisation from the competent authority is required for <i>all</i> RPAS flights, whereas Amendment 43 to Annex 2 1.1 & 1.2 only stipulates this for flights that cross International boundaries.	
comment	65	comment by: <i>NATS National Air Traffic Services Limited</i>
	Reference Section 6: It is not clear whether the requirements for prior co-ordination with the ATS provider contained in the SERA regulation, require this at all times, or just for flight over the high seas as in Appendix 2 1.3 only. Any clarification would need to be tested against the change to the ICAO text from 'ATS Authority' to EASA 'ATS Provider'.	
comment	66	comment by: <i>AIR MARINE</i>
	<p>1- 1- In our understanding, certification of UAS under 150 kg is not in the EASA remit, but under national CAA auspices. Which is the legal justification of this text ?</p> <p>2- 2- The recent French legislation from DGAC has been a success both for safety of citizens and for development of business for UAS under 150 kg UAS. Under a strict regulatory framework, industry and users start working together to develop this new market. Revising at short term the current regulation in France would be detrimental, and would seriously weaken French industry competitiveness in front of others (USA in particular, but also many others).</p> <p>3- 3- Details comments to the text need more time. An extension of one month would be welcome</p>	
comment	67	comment by: <i>Indra / Daniel Cobo-Vuilleumier</i>
	SERA.3138 (Remotely piloted aircraft) is referring to CAT and SPO, but where are included activities like training (e.g. activities of aviation training centres)? Are these to be considered as part of SPO? Currently (manned aviation) these are part of General Aviation operations	
comment	70	comment by: <i>Indra / Daniel Cobo-Vuilleumier</i>
	In accordance with the Basic Regulation (216/2008) the "Requirements for RPAS operations" can only be mandated to RPAS with RPA with operative mass greater than 150 kg. Furthermore, mandating these requirements for Light RPAS (RPA < 150 kg) without amending the Basic Regulation would create a conflict with current regulations being established in some European countries (which, for example are exempting some RPAS and for some limited operations an airworthiness certification or remote pilot licensing). At least there should be a statement in the proposed Regulation allowing the EU Member States not to comply with certain requirements or only partially (allow for exemptions under the EU MS criteria).	
comment	76	comment by: <i>CAA-NL</i>
	Page 33 of 146, Appendix 2.2.(1): Delete the words 'Annex IV to Regulation (EC) No 216/2008' in this point for the following reasons:	

- 1. Appendix IV to regulation (EC) is not applicable to RPAS with a MTOM \leq 150 kg; the operational requirements of these RPAS's are under the competences of the Member States.
- 2. With 2.2.(2) requiring a valid operating certificate will cover for RPAS with a MTOM > 150 kg an operating certificate based on appendix IV. This will be created in the future by the European legislator on a proposal from EASA. Until then National regulations will apply.
- 3. For RPAS with a MTOM < 150 kg the requirements for the operator certificate will be and stay a National competence of the Member State.
- 4. For RPAS operated by a third country operator European operational rules shall be based on article 9 of the BR, but only for RPAS with a MTOM > 150 kg.

comment 84

comment by: Civil Aviation Authority - Norway

Page 31/146 - Point (6)

Current text: Although not expressly excluded from the wording of Annex 2 to the Chicago Convention, model aircraft, used for recreational or sports activities should be excluded from the requirements of this Regulation. Therefore, the proposals are limited to RPAS operated in commercial air transport and specialized operations, as defined in Commission Regulation (EU) No .../... (covering air operations).

Proposed modification: Although not expressly excluded from the wording of Annex 2 to the Chicago Convention, toy and model aircraft, used for recreational or sports activities should be excluded from the requirements of this Regulation. Therefore, the proposals are limited to RPAS operated in commercial air transport and specialized operations, as defined in Commission Regulation (EU) No .../... (covering air operations).

Page 32/146 - Point 2. 108c

Current text: "Remotely piloted aircraft (RPA)" means an unmanned aircraft which is piloted from a remote pilot station;

Proposed modification: "Remotely piloted aircraft (RPA)" means an unmanned aircraft which is piloted from a remote pilot station for the purpose of commercial air transport and/or specialized operations;

Comment: This modification would make a clear distinction between RPA on one side, and toys and model aircraft on the other side.

The current text could be construed as meaning that RPA include toy and model aircraft.

Page 32/146 – Point 3 SERA.3138 Remotely piloted aircraft

Current text: A remotely piloted aircraft involved in commercial air transport or specialized operations shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the requirements contained in this Regulation and in particular those specified in Appendix 2.

Proposed modification: Remotely piloted aircraft involved in commercial air transport or specialized operations shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the provisions that have been adopted under the Chicago Convention.

Page 33/146 – Point 1 General operating rule – sub-point 1.3

Current text: The operator of an RPAS shall not operate an RPA over the high seas without prior coordination with the appropriate Air Traffic Service Provider (ATSP).

Proposed modification: The operator of an RPAS shall not operate an RPA over the high seas without prior

coordination with the appropriate Air Navigation Service Provider (ATSP).

Page 34/146 – Point 2 Requirements for RPAS operations – sub-point (5)

Current text: all the RPAS involved in the intended operation are equipped with the communications, navigation and surveillance systems, with adequate performance for the specific airspace in which the flight is to operate, including command and control links (C2);

Proposed modification: all the RPAS involved in the intended operation are equipped with the communications, navigation and ~~surveillance???~~ command and control systems, incorporating a flight parameter telemetry system, with adequate performance for the specific airspace in which the flight is to operate, including command and control links (C2);

Page 34/146 – Point 2 Requirements for RPAS operations – sub-point (7)

urrent text: all the pilots involved in the intended operation hold a valid remote pilot(s) license with appropriate ratings and endorsements;

Proposed modification: all the pilots involved in the intended operation hold a valid remote pilot(~~s~~) license with appropriate ratings and endorsements;

Page 34/146 – Point 3 Request for authorisation – sub-point 3.1

urrent text: In order to obtain the authorizations specified in 1.1 and 1.2, the operator of an RPAS shall apply to the relevant competent authority in a form and manner established by it. The application shall be made no less than seven days before the date of the intended flight(s).

roposed modification: In order to obtain the authorizations specified in 1.1 and 1.2, the operator of an RPAS shall apply to the relevant competent authority in a form and manner established by ~~it~~ the relevant competent authority. The application shall be made no less than seven days before the date of the intended flight(s).

Page 34/146 – Point 5 Changes – sub-point 4.1

urrent text: The RPAS operator shall obtain prior authorization by the relevant competent authorities for any changes to the content or scope of the initial authorizations.

roposed modification: The RPAS operator shall obtain prior authorization ~~by~~ from the relevant competent authorities for any changes to the content or scope of the initial authorizations.

comment 113

comment by: UK CAA

Page No: 30

Paragraph No: Draft Opinion Recital 2

Comment:

The SERA regulation as endorsed by the Single Sky Committee is also derived in part from ICAO Annexes 3 and 11.

Justification: Accuracy.

Proposed Text:

(2) Accordingly, the Commission adopted the Commission Implementing Regulation (EU) No .../... on common rules of the air and operational provisions

regarding services and procedures in air navigation. This Regulation implemented Standards and Recommended Practices contained in Annex 2, Annex 3 and Annex 11 to the Chicago Convention.

comment 114

comment by: UK CAA

Page No: 31 and 32**Paragraph No:** Draft Opinion Recital 6 and Article 2**Comment:**

Reference is made to the application of the proposals to 'specialised operations' but the term is not subsequently defined within SERA.

Justification:

The agreed definition of 'specialised operations' as incorporated into Part-SPO is required for completeness.

Proposed Text:

Add the agreed definition of 'specialised operations' as incorporated into Part-SPO.

comment 115

comment by: UK CAA

Page No: 31**Paragraph No:** Draft Opinion Recital 6**Comment:**

It is agreed that model aircraft, used for recreational or sports activities should be excluded from the requirements of this Regulation.

comment 116

comment by: UK CAA

Page No: 31**Paragraph No:** Draft Opinion Recital 8**Comment:**

This article acknowledges the lack of key supporting regulatory material by referring to future regulatory change. The UK CAA strongly advocates a change to proposed SERA.3138 'Remotely piloted aircraft' to read 'A remotely piloted aircraft shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the provisions as have been adopted under the Chicago Convention and the Basic regulation'. If adopted, this text would also facilitate amendment of Recital 8 such that it would become a statement of intent to develop appropriate airworthiness, licensing and air operations provisions governing RPAS operations. It is argued that the development of the latter would also obviate the need to incorporate into SERA the ICAO Annex 2 Amendment 43 authorisation requirements in the manner advocated by the NPA.

Justification:

The need for better and appropriate regulation.

comment 117

comment by: UK CAA

Page No: 32**Paragraph No:** 2**Comment:**

Proposed definition 108c ("Remotely piloted aircraft (RPA)") refers to 'unmanned aircraft', but this latter term is not defined. Definition is required.

Justification:

Completeness and clarity of regulation.

comment	118	comment by: UK CAA
	<p>Page No: 32 Paragraph No: 3 and 32 Comment: ICAO Annex 2 Amendment 43 acknowledges that supporting SARPs concerning the airworthiness, licensing and operation of RPAS has yet to be developed. Introduction of the regulation as featured in NPA 2012-10 is best timed to coincide with the development of these – and their introduction into EU regulatory material – in order to best achieve the stated harmonisation objectives in a proportionate, timely and cost-effective manner. Meanwhile, the scope of the amendment is best limited to requiring Member States to undertake RPAS operations in accordance with the provisions of the Chicago Convention. This is in keeping with the precedent set at SERA.8035(b) (as endorsed by the Single Sky Committee), which is worded such in recognition of current ICAO work to develop new communication failure procedures. Adoption of the text as proposed by the UK CAA will then obviate the need for most of the proposed changes to SERA Article 2, the amendment to SERA.3140, the move of extant Appendix 2 and the incorporation of proposed Appendix 2. In making this proposal UK CAA acknowledges that appropriate regulation pertaining to RPAS operations is likely to be incorporated at a later date, but will be appropriately supported by other, related regulatory material.</p> <p>Justification: The proposed change to draft SERA with RPAS text extends the applicability of the source ICAO text beyond what was intended and is unsupported by airworthiness and licensing requirements. Implementation in advance of those supporting provisions will result in incomplete or inadequate regulation that will have significant, disproportionate and unintentional impacts upon all RPAS operations both within the scope of Regulation (EC) No 216/2008 and beyond. A holistic approach to the development of RPAS legislation will prevent incomplete and inadequate regulation being put into law.</p> <p>Proposed Text: SERA.3138 Remotely piloted aircraft A remotely piloted aircraft shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the provisions as have been adopted under the Chicago Convention and the Basic regulation.</p>	
comment	119	comment by: UK CAA
	<p>Page No: 32 Paragraph No: 3 Comment: Reference is made in draft SERA.3138 to 'specialised operations' but the term is not defined within SERA and may need to be.</p> <p>Justification: The agreed definition of 'specialised operations' as incorporated into Part-SPO is required for completeness.</p> <p>Proposed Text: Add the agreed definition of 'specialised operations' as incorporated into Part-SPO.</p>	
comment	120	comment by: UK CAA
	<p>Page No: 32</p>	

Paragraph No: 5**Comment:**

The UK CAA acknowledges the need to introduce the change to SERA.8020 'Adherence to Flight Plan'.

Justification:

Appropriateness of regulatory change and transposition of ICAO requirements into SERA.

comment 121

comment by: UK CAA

Page No: 33**Paragraph No: Draft Opinion – SERA****Comment:**

If the proposed amendment is adopted, existing Appendixes 3, 4 and 5 will need to be renumbered. This is overlooked in the NPA, which refers only to renumbering the current Appendix 2 to Appendix 3.

Justification:

Correct page numbering.

Proposed Text:

Appendix 3 – Table of Cruising Levels to the Annex Rules of the Air is renumbered Appendix 4.

Appendix 4 – ATS Airspace Classes – Services Provided And Flight Requirements to the Annex Rules of the Air is renumbered Appendix 5.

Appendix 5 – Requirements Regarding Services in Air Navigation – Technical Specifications Related to Aircraft Observations and Reports by Voice Communications to the Annex Rules of the Air is renumbered Appendix 6.

comment 123

comment by: Luca Valerio Falessi

1.1. Appendix 2, chapter 2 on

The legal basis of the NPA (rif para IV.21 of the) is not consistent with the Basic Regulation (EC) 216/2008. In fact art 4.4 and 4.5 of the Basic Regulation, referring to its Annex II, does not permit EASA to regulate airworthiness, operations and pilots licensing for RPAS with mass below 150 kg.

Besides, even for aircrafts following within the EASA domain, most of the appendix 2 to the NPA bind EASA about requirements that shall be developed through amendments of the appropriate IRs such us Reg (EC) 748/2012, 2042/2003, 1178/2011 and the incoming OPS package.

On the basis of the above, ENAC strongly recommend to remove the appendix 2 from chapter 2 on.

1.1. Appendix 2, chapter 1

In the executive summary the NPA says "*The purpose of this Notice of Proposed Amendment (NPA) is to propose the alignment of the European common rules of the air (SERA) with Amendment 43 to Annex 2*".

Nevertheless ENAC notes that the proposed rule is not completely equivalent to the ICAO Standards and Recommended Practices adopted via Amendment 43 to Annex 2 to the Chicago Convention.

In particular, ICAO Annex 2, the amendment 43, appendix 4, para 1.1 - 1.2 states:

"1.1 A remotely piloted aircraft system (RPAS) engaged in international air navigation shall not be operated without appropriate authorisation from the State from which the take-off of the remotely piloted aircraft (RPA) is made", and

"1.2 An RPA shall not be operated across the territory of another State, without special authorisation issued by each State in which the flight is to operate. This authorisation may be in the form of agreements between the States involved".

The proposed NPA appendix 2, para 1.1, 1.2. changes the technical content of the ICAO Annex:

"1.1 The operator of a remotely piloted aircraft system (RPAS) shall only operate a remotely piloted aircraft (RPA) taking off from the territory of a Member State after receiving appropriate authorisation from the competent authority designated by that Member State" and

"1.2 The operator of an RPAS shall only operate an RPA in the airspace under the responsibility of a Member State after receiving an authorisation issued by the competent authority designated by that Member State".

As a result, the NPA requires an authorization even for flights planned in airspace of a single Member State. This approach would lead to a huge burden for the State Member. It should be noted that ENAC, for example, has already received roughly 50 applications (most of them for very small RPAs (below 20 kg) to be used at local level) and this is quite inconsistent with estimates reported in figure 2 concerning the European civil RPAs market.

As a consequence, we recommend to use the same wording of the above mentioned paragraph of the ICAO Annex 2, amendment 43

'SERA.3138 Remotely piloted aircraft

For the same justification expressed for the comments 2.1 and 2.2 above, ENAC strongly recommend to change the text of SERA into the following:

A remotely piloted aircraft involved in commercial air transport or specialised operations shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the requirements contained in this Regulation and in particular those specified in Appendix 2.'

As a matter of fact the general requirements for the circulation into the EU airspace shall be independent to the type of operations and this in line with the Reg (EC) 551/2004 as amendment by Reg (EC) 1070/2009 and referred to in the Basic Regulation.

comment

124

comment by: UK CAA

Page No: 33-36

Paragraph No: 7 (proposed new Appendix 2)

Comment:

The introduction of Appendix 2 is not necessary if the SERA.3138 text as proposed by the UK CAA is accepted as an interim change.

In addition, whereas page 24 of the draft Opinion states option 2 (i.e. include only CAT and SPO) is the preferred option, paragraph 1 (General operating rules) of Appendix 2 appears to apply to all RPAS operations.

Justification:

Unnecessary regulatory requirement if proposed alternative text is accepted. Clarification of text.

comment

125

comment by: UK CAA

Page No: 33

Paragraph No: 1.1, 1.2

Comment:

It is not clear why authorisation from the competent authority is required for *all* RPAS flights, whereas ICAO Annex 2 Amendment 43 only stipulates this for flights that cross international boundaries.

comment

126

comment by: UK CAA

Page No: 33**Paragraph No:** 1.3**Comment:**

The transposition of ICAO Annex 2 Amendment 43 includes a change from 'ATS Authority' to 'ATS provider'. The NPA change results in a new requirement to co-ordinate the flight with the ATS provider in the High Seas airspace concerned. Where the High Seas airspace is Class G, there is no current requirement for an aircraft to notify the ATS provider of its presence or to seek a service.

Justification:

Clarification on, and justification for, requiring contact between the RPAS operator/pilot and the ATS provider in such circumstances is requested.

comment 127

comment by: UK CAA

Page No: 33**Paragraph No:** 1.3**Comment:**

Constraints imposed on High Seas operations would be unacceptable to military and other State aircraft.

comment 128

comment by: UK CAA

Page No: 36**Paragraph No:** 6**Comment:**

It is not clear whether the requirements for prior co-ordination with the ATS provider contained in the SERA regulation would apply at all times, or merely for flight over the high seas as in ICAO Appendix 2 1.3 . Clarification is requested.

Justification:

Clarity of intent of the proposed regulation required.

comment 129

comment by: UK CAA

Page No: 36**Paragraph No:** 6.1**Comment:**

The requirement for flight plans to be submitted in accordance with the provisions of 'Section 4 of this Annex' may not always be acceptable to the military.

comment 130

comment by: CEO Fly-n-Sense

1. In our understanding, certification of UAS under 150 kg is not in the EASA remit, but under national CAA auspices. Which is the legal justification of this text ?
2. The recent French legislation from DGAC has been a success both for safety of citizens and for development of business for UAS under 150 kg UAS. Under a strict regulatory framework, industry and users start working together to develop this new market. Revising at short term the current regulation in France would be detrimental, and would seriously weaken French industry competitiveness in front of others (USA in particular, but also many others).
3. Details comments to the text need more time. An extension of one month would be welcome

comment	138	comment by: UAV-DACH_NT
	UAV-DACH Comment against Page 30, para. (5): This section excludes possible national regulations for those UAS which never will operate cross border by intention. This implies that all regulations of this document have to be applied for all of these pure national UAS. UAV-DACH recommends to consider the possibility of both options or to develop a regulative framework for those kind of national regulated UAS of a limited scale.	
comment	139	comment by: UAV-DACH_NT
	UAV-DACH Comment against Page 31, para. (6): Definition of specialised operations should be provided: Please explain how model aircraft with payload will be excluded from this regulation? There are model aircraft with payload, e. g. for first person view (FPV). This applies only to first person view, if there is a second person aside in function of a safety pilot. Page 8, Chapter 28 seems to exclude this from model aircraft category. Is this issue considered in any Commission Regulation /Draft? Please consider/refer this in this document.	
comment	140	comment by: UAV-DACH_NT
	UAV-DACH Comment against page 31, para. (8): As soon as additional regulation is developed the notionally harmless (low-risk-categorised) UAS should be defined and excluded ==> see also general comment against page 1.	
comment	141	comment by: UAV-DACH_NT
	UAV-DACH Comment against page 32, Para. 141a: "Unaided visual contact" should include glasses and contact lenses.	
comment	142	comment by: UAV-DACH_NT
	UAV-DACH Comment against page 33, section 2.1 (4): Please consider exceptions for very small RPAS operation in VLOS or experimental RPAS.	
comment	143	comment by: UAV-DACH_NT
	UAV-DACH Comment against page 34, section 3.1: It is assumed that the seven day lead time is applicable only to cross border operations. - Please clarify!	
comment	144	comment by: UAV-DACH_NT
	UAV-DACH Comment against page 34, section 3.2, (c), (e), (f): Please consider exceptions for very small RPAS operation in VLOS or experimental RPAS.	
comment	145	comment by: UAV-DACH_NT

UAV-DACH Comment against page 35, section 3.2(l)(i):
ATC communication is not generally applicable for small RPAS in VLOS flying in close vicinity to the ground. A more differentiated regulation should be provided.

comment 146

comment by: UAV-DACH_NT

UAV-DACH Comment against page 35, section (n), (1), (2):
According to this wording the loss link of communication or C2 failure mandates declaration of an emergency case. According to regulations in manned aviation, such events are considered and handled as "revisionary" or abnormal operation, which might have strong impact on all kind of flight planning, etc.. Proposed wording-alternative is: "Contingency Operation" instead of "Emergency operation".

comment 147

comment by: UAV-DACH_NT

UAV-DACH Comment against page 36, section 6.1:
Please consider exceptions for very small RPAS operation in VLOS.
Flight Plan should be mandatory only for those airspaces where ATC is provided.

comment 156

comment by: IFATCA

IFATCA is currently reviewing its position on RPAS/UAV/UAS and will not be able to come up with a revised policy prior to April 2013.
It is however important for IFATCA that all the States follow the tenets of ICAO Annex and SARP's. These need to be refreshed, but for the time being there should no difference be applied by any ICAO region (including Europe).
The main points can be summarized by:
- there is a requirement which has to be met for an independent full sense and avoid capabilities
- the integration has to be completely seamless for ATM and in particular for the ATCOs
- increased transparency in the approval/refusal process of the current art. 6 on page 36
For a better understanding and more background information please find below the current IFATCA policy:
ATC should not have to apply different rules or work with different criteria in order to handle Unmanned Aircraft (UA). From the air traffic controller's perspective, the provision of ATS to an UA must be transparent. This includes all stages of the flight from pre-notification to landing. There should be no difference in RTF, landline communications or transponder data procedures nor should the controller have to apply different rules or different criteria. All Unmanned Aircraft Systems (UAS) operations in non-segregated airspace must be in full compliance with ICAO requirements. Air Traffic Controllers must not be expected to handle an UA in a different way from any other aircraft for which they are providing service.
Two detailed comments:
Comment 1
§ 3.1.9 Remotely piloted aircraft

A remotely piloted aircraft involved in commercial air transport or specialised operations shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the requirements contained in this Regulation and in particular those specified in Appendix 2.'

This paragraph shall be improved to at least read that "Remotely piloted aircraft operations shall be restricted to segregated airspace unless carrying a detect and avoid system properly certified".

though it is mentioned in the new appendix 2 § 2.1. ff (in particular (4)), what is missing is the ultimate base line which should be as follows: What is important from an ATM perspective is that there is only a seamless integration of the UA. No special procedures, neither special requirement to ATM shall be the ultimate goal and this on a global level. This should be highlighted as the ultimate goal and not as a to be achieved target.

Comment 2

p. 36 § 6 Coordination with air traffic services

Whereas it is understood that the authorisation shall be granted by the competent authority (see art 1.1. and 1.2.), there is no mechanism to protect the Air Traffic Services (ATS) organisation or service provider. There is a need to establish a mechanism which permits all the actors (competent authority, Air traffic service organisation or service provider as well as the UA operator) to verify that all the needed requirements and certificates are in place. Simply notification and coordination is not guaranteeing any form of transparency, neither any request to fulfill the needed global regulatory requirement. Further an ATS organisation shall be able to oppose any notification and coordination, duly motivated, if the global requirements for UA are not met.

comment

157

comment by: *Fly-n-Sense Nicolas C.*

Some articles defined in this text cannot be applied to mini or micro UAVs whose main goal is to stay closer to the operator (less than 2 km) and whose flight plan will surely change during the flight in order to adapt to the current mission. It is the case of security flight for private companies, scientist flight for data acquisition, aerial photographs or movies, etc... the rules concerning the flight plans cannot be used for UAVs under 150 kg or must be applied for long range flights.

Concerning the Appendix 2 – Remotely Piloted Aircraft Systems

§1 – 1.1 & 1.2: Is it possible for an RPAS to operate more than one RPA at time? Actually some missions require to operate more than one system at time in order to ensure a continuous mission when the autonomy of the system is not compliant with the mission duration.

§2.1 - (4): Concerning the certificate of airworthiness, we wonder what regulation will be used. What are the requirements to be met for getting such a certificate?

Most of the UAVs under 150 kg are designed and built by small companies which propose affordable systems for civil applications. So it is important to keep in mind that these manufacturers are not able to spend a lot of money in certification processes.

(6): mini and micro UAVs (under 150 kg) have limited payload capacities (weight, space and power consumption). The altitude of flight of these systems is limited to 150 meters or 500 feet (operational limit which is compliant with most part of missions). So, they operate in different altitudes compared to standard aviation.

Only active "sense and avoid systems" can provide efficient results. These systems are heavy, consume a lot of power and represent a complete payload. If we want to carry them, we won't be able to carry another operational payload for the mission. So, it's appropriate for large systems such as UAV >150kg but unfit with micro UAVs.

(8): What standard will be used for data encryption requirements?
 §3 : The French regulation is suitable and appropriate for micro and mini UAVs. It defines rules which ensure the safety of people and property without the obligation of asking for an authorization request before each flight. Considering in the same way all the UAVs (<150 kg and >150kg) is not relevant for professional flight operation. Light systems present a low level of risk for the people mainly if we consider they are equipped with a system which limits the impact energy to 69J as imposed by French regulation.
 §3.1: To be a valid alternative to conventional aerial systems, UAV operators need high level of reactivity. If seven days, at least are needed to obtain a flight authorization, it'll certainly not match the services expectation and requirements. French regulation enables small systems to operate without specific additional authorization if the system deployed has already been approved by the national regulator.
 §3.2 - Which authority will be in charge to deliver RPAS operator certificate? Are the micro UAVs concerned by such a certificate when they are operated in VLOS?

comment 162

comment by: UK CAA

Page No: 33**Paragraph No:** Appendix 2 Para 1.3**Comment:**

The transposition of Amendment 43 to ICAO Annex 2 1.3 includes a change from 'ATS Authority' to 'ATS provider'. This introduces a new requirement to coordinate the flight with the ATS provider in the High Seas airspace concerned. Where the High Seas airspace is Class G, there is no current requirement for an aircraft to notify the ATS provider of its presence or to seek a service so NATS would like to see further justification for requiring contact between the RPAS operator/pilot and the ATS provider.

While it is accepted that an RPAS shall not be operated across the territory of another State without special authorisation issued by each State in which the flight is to operate, for military and/or State RPAS it would not be acceptable to mandate that an RPAS shall not be operated over the high seas without prior coordination with the appropriate ATS authority.

Justification:

Clarity of intent of the proposed regulation required.

comment 163

comment by: AIRBUS

For some RPAS systems, the "Pilot" will have a direct effect on flight controls. For some other systems (currently in operation or under development), the "Pilot" will only provide general orders and trajectory management inputs to the aircraft and will therefore not act directly on the flight controls to give tactical inputs. For this reason Airbus proposes to change the definition of:

- 108a "Remote pilot" to: "means a person executing duties essential to the operation of a remotely piloted aircraft and who manipulates the flight controls, as appropriate, during flight time, or who is managing the trajectory and/or the mission of the aircraft;"

- 108b "Remote pilot station" means the component of the remotely piloted aircraft system containing the equipment used to pilot the remotely piloted aircraft or to manage its trajectory and/or its mission;"

comment 165

comment by: AIRBUS

Item 67a: While it is understood that most of the definition of the NPA 2012-10 are copied from the ICAO Annex 2 amendment, the Agency should take the opportunity of this rulemaking proposal to change the wording from "detect and avoid" to "sense and avoid" that is a wording commonly understood by the RPAS community.

comment 169

comment by: C-ASTRAL

Paragraph 2.1, subsection (2) the operator holds a valid RPAS operator certificate and is capable of executing the intended operation in a safe manner.

Also, when other certificates are mentioned, the same questions apply.

Question: Certificate issued by whom? What authority? This is unclear as well as with all other certificates.

comment 171

comment by: UVS International

PROPOSED TEXT MODIFICATIONS

Regarding: Draft Rules

Page 31/146 - Point (6)

Current text: Although not expressly excluded from the wording of Annex 2 to the Chicago Convention, model aircraft, used for recreational or sports activities should be excluded from the requirements of this Regulation. Therefore, the proposals are limited to RPAS operated in commercial air transport and specialised operations, as defined in Commission Regulation (EU) No .../... (covering air operations).

Proposed modification: Although not expressly excluded from the wording of Annex 2 to the Chicago Convention, toy and model aircraft, used for recreational or sports activities should be excluded from the requirements of this Regulation. Therefore, the proposals are limited to RPAS operated in commercial air transport and specialized operations, as defined in Commission Regulation (EU) No .../... (covering air operations).

Page 32/146 - Point 2. 108c

Current text: "Remotely piloted aircraft (RPA)" means an unmanned aircraft which is piloted from a remote pilot station;

Proposed modification: "Remotely piloted aircraft (RPA)" means an unmanned aircraft which is piloted from a remote pilot station for the purpose of commercial air transport or specialized operations;

Comment: *This modification would make a clear distinction between RPA on one side, and toys and model aircraft on the other side.*

The current text could be construed as meaning that RPA include toy and model aircraft.

Page 32/146 – Point 3 SERA.3138 Remotely piloted aircraft

Current text: A remotely piloted aircraft involved in commercial air transport or specialized operations shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the requirements contained in this Regulation and in particular those specified in Appendix 2.

Proposed modification: Remotely piloted aircraft involved in commercial air transport or specialized operations shall be operated in such a manner as to minimize hazards to persons, property or other aircraft and in accordance with the provisions that have been adopted under the Chicago Convention.

Page 33/146 – Point 1 General operating rule – sub-point 1.3

Current text: The operator of an RPAS shall not operate an RPA over the high seas without prior coordination with the appropriate Air Traffic Service Provider

(ATSP).

Question: Should "Air Traffic Service Provider (ATSP)" not read "Air Navigation Service Provider"?

Page 34/146 – Point 2 Requirements for RPAS operations – sub-point (5)

Current text: all the RPAS involved in the intended operation are equipped with the communications, navigation and surveillance systems, with adequate performance for the specific airspace in which the flight is to operate, including command and control links (C2);

Proposed modification: all the RPAS involved in the intended operation are equipped with the communications, navigation and ~~surveillance???~~ command and control systems, incorporating a flight parameter telemetry system, with adequate performance for the specific airspace in which the flight is to operate, including command and control links (C2);

Page 34/146 – Point 2 Requirements for RPAS operations – sub-point (7)

Current text: all the pilots involved in the intended operation hold a valid remote pilot(s) licence with appropriate ratings and endorsements;

Proposed modification: all the pilots involved in the intended operation hold a valid remote pilot(~~s~~) licence with appropriate ratings and endorsements;

Page 34/146 – Point 3 Request for authorisation – sub-point 3.1

Current text: In order to obtain the authorisations specified in 1.1 and 1.2, the operator of an RPAS shall apply to the relevant competent authority in a form and manner established by it. The application shall be made no less than seven days before the date of the intended flight(s).

Proposed modification: In order to obtain the authorizations specified in 1.1 and 1.2, the operator of an RPAS shall apply to the relevant competent authority in a form and manner established by ~~it~~ the relevant competent authority. The application shall be made no less than seven days before the date of the intended flight(s).

Page 34/146 – Point 5 Changes – sub-point 4.1

Current text: The RPAS operator shall obtain prior authorisation by the relevant competent authorities for any changes to the content or scope of the initial authorisations.

Proposed modification: The RPAS operator shall obtain prior authorization ~~by~~ from the relevant competent authorities for any changes to the content or scope of the initial authorizations.

comment

172

comment by: C-ASTRAL

Section 2, subsection (8), there is no definition of the adequacy of the security of command and control link. This is a highly technical subject and it is not clear what is meant here.

subsection (9) same here, there is no definition of adequate insurance coverage.

comment

173

comment by: C-ASTRAL

3.2 subsections (c) and (e), how about airframes that do not have the certificates, i.e. the 99 % of the airframes currently in production. Airworthiness standards for RPAS are still not established therefore this rule cannot come into effect until that time when the standards are established and agreed upon and such certificates and registrations can be issued by competent authorities. There should be a provision for experimental aircraft here until such rules are in place.

comment

175

comment by: C-ASTRAL

Also, if the airframe has a certificate, it is undue burden on the operator to provide technical data that is already in the possession of the relevant authority, i.e. subsection (k). This data should not be provided at the time of application, since one would suppose there is a database which already contains this data. A civilian piloted aircraft also does not provide this data for filing a flight plan and this is an undue burden on the owner/operator of RPAS.

We can authoritatively claim that there is at this point in time no authority that could actually competently review the characteristics in subsections (k) and (l) so provisions have to be made as to how this is dealt with.

comment 176

comment by: C-ASTRAL

(p) the electric powered RPAS should be excluded from this subsection explicitly stating that.

proposed text:

document attesting noise certification that is consistent with the provisions of Article 6 of Regulation (EC) No 216/2008, if applicable, excluding electrically powered RPAS.

comment 178

comment by: C-ASTRAL

(q) WHAT ARE THE SECURITY STANDARDS AND SECURITY MEASURES? this is completely unclear and arbitrary and should go out if it is not CLEARLY explained and enumerated.

comment 179

comment by: C-ASTRAL

(s) What is the definition of adequate as far as insurance is concerned. It should not be more than the equivalent for the insurance for civil piloted aircraft with a similar MTOW, i.e. or a fraction of that. This has to be mandated, otherwise the insurance industry will just abuse RPAS operators with undue and extremely high premiums.

comment 182

comment by: magellium

general operating rules, states that "the operator of an RPAS shall only operate an RPA in the airspace under the responsibility of a Member State after receiving an authorisation issued by the competent authority designated by that Member State".

In our understanding, it means that the recent French legislation From DGAC (April 2012, the 11th) that allows, under a strict regulatory framework, the use of UAS under 150 kg will not be revisited due to this NPA procedure. Otherwise, industry and users who have worked together to develop this new market (UAS under 150 kg) on the basis of the DGAC regulation, will be seriously weakened if the current regulation in France is revised in a short term.

comment 183

comment by: C-ASTRAL

It is interesting to note, that there are no provisions such as density of the material more and less than 13g/cm³ in the RPAS rules, but there are of course in the UNMANNED BALOONS rules.

It would be very sensible to look into adding such provisions and exceptions in the RPAS regulations, to add flexibility and open market opportunities and innovation.

I.e. system with a density equivalent to the UNMANNED FREE BALOONS LIGHT CATEGORY, with a mass of less than 4kg and a density of less than 13g/cm³ for a total MTOW of 2kg, or more than 13g/cm³ for a total MTOW of 4 kg should be considered LIGHT RPAS and subject to special rules!

This is extremely important because the miniaturisation of RPAS and systems will be an ongoing process and undue burden on operators will be imposed if light or superlight RPAS are subject to the same rules as heavier aircraft. Since there are already common rules for UNMANNED BALOONS, very similar equivalent rules (with a much larger safety margins, since RPAS are actually piloted and controlled) could and should be established for small, less than 4kg MTOW RPAS.

Up to 6kg MTOW RPAS should be considered medium and subject to rules similar to MEDIUM UNMANNED BALOONS...

This of course goes against the general consensus, but we do believe that there is a distinguished difference when we talk about light vs. heavier RPAS and aircraft.

comment 184

comment by: C-ASTRAL

THIS IS A GENERAL COMMENT ON RPAS RULES AND IMPLEMENTATION BY C-ASTRAL:

RPAS intended for use in controlled zones and on airways should be equipped with systems that make the unmanned airplanes equal in communication capabilities to manned airplanes.

Autopilot in the RPAS is equal to the pilot in the manned airplane. The person that is present in the ground control station, the RPAS operator, even now in the dawn of the unmanned technology is only an observer of the flight and is the system that oversees that nothing goes wrong. So this makes the control logic in the RPAS reverse with regard to the airplanes flown by pilots – main flying mode is autopilot, backup mode is RPAS operator in the ground control station. This means that in the highly regulated air traffic of today the autopilot is able to replace the pilot completely.

In our opinion the most elegant implementation of »aerial work RPAS« or SPO category as in EASA NPA 2012-10 (aerial photography, terrain surveying, law enforcement surveillance flights, SAR, firefighting, crop dusting etc.) are flights limited to below 1000 ft AGL (better yet, make the lowest altitude in G-class 1200 ft because instruments on RPAS are accurate enough to hold altitude accurately), mass limited to 20 kg and speed of 90 kts and unlimited weather conditions, because many times the RPAS in this category operate out of VLOS area and with this, we would achieve a safe separation of »aerial work RPAS« from the G-class airspace. RPAS observer is unnecessary because the operator is both.

Every RPAS intended for aerial work must be equipped with a failsafe that minimizes kinetic damage to the ground objects in the event of a system failure.

Every RPAS intended for »CAT« should be equipped with equipment that makes them equal in navigation and communication capabilities to the manned aerial

vehicles.

Every operator of »aerial work RPAS« should obtain a certificate from the company that produces the specified RPAS that the person is taught and able to operate that specific vehicle and ground control station in a safe manner up to altitude of 1000 ft AGL which is a domain of RC models and since RC models are not included, »aerial work RPAS« which are basically flying screwdrivers and hammers, should not be included too.

But on the other hand, every operator of »CAT RPAS« that fly in controlled airspaces should obtain an »RPAS operator licence« from a certified flight school and is of permanent nature. The course should be appropriately tailored to the nature of RPAS. Medical requirements for the »RPAS operator licence« should be at most Class 2 Medical Requirements as defined by JAR-FCL 3 because the operating conditions are much less stressful and there is less sensory overload with regard to the real airplane cockpit.

comment 198

comment by: CAA CZ

Page 31 SERA recital 6

Disagreement. Unsafe limitation of Annex 2, complicating national regulatory efforts to apply operational limitations to model aircraft. Disproportionate for SPO small RPAS operators who with similar-sized RPA would be more restricted than unregulated operators of model aircraft acquiring aerial imagery for private use. There are no known limitations of aerial imagery for private use with model aircraft and in practical life it is very complicated to distinct them from commercial aerial work. If there are common operational limitations for all commercial, corporate and recreational RPA in terms of flight above congested areas, height, vicinity of airport, then there would be a level playing field. There is no need for common certification of model aircraft, but it is Chicago Convention obligation to States (or regions) to insure that no pilotless aircraft (irrelevant if operated commercially or for pleasure) endangers civil manned aircraft.

comment 211

comment by: EUROCONTROL

I. Draft Opinion – SERA

Recitals

(2) "Accordingly, the Commission adopted the Commission Implementing Regulation (EU) No.../... on common rules of the air and operational provisions regarding services and procedures in air navigation. This Regulation implemented Standards and Recommended Practices contained in Annex 2 to the Chicago Convention."

The adopted part of SERA also included provisions contained in ICAO Annexes 3 and 11.

(4) "Article 8 of the Chicago Convention recognises the sovereignty of each contracting State over the authorisation of remote piloted aircraft (RPA) operation over its territory."

The exact similarity between "remote piloted aircraft" (EASA NPA) and "aircraft capable of being flown without a pilot" (ICAO Article 8 of the Chicago Convention) may be a subject for discussion. More accurate description might improve the correctness of this recital (e.g. indicating that it is considered that RPAS are a specific case which belongs to the category of "aircraft capable of being flown without a pilot").

comment	212	comment by: EUROCONTROL
	<p>Definitions</p> <p>-55a. "Command and control link (C2)". The data link between the remotely piloted aircraft and the remote pilot's station for the purposes of managing the flight;'</p> <p>In order to be consistent with the other definitions and with the EU drafting principles, this definition should read: 55a. "Command and control link (C2)" means the data link between the remotely piloted aircraft and the remote pilot's station for the purposes of managing the flight;'</p> <p>-The definition of "Operator" has not been kept. If "Operator" is defined in other EU regulations, it would be useful for the reader to know where to find it and to know if it is the same definition than the ICAO definition.</p> <p>-108a. "Remote pilot" means a person executing duties essential to the operation of a remotely piloted aircraft and who manipulates the flight controls, as appropriate, during flight time;'</p> <p>The ICAO definition included the terms "charged by the operator". This link between the remote pilot and the operator does not appear in the proposed definition. In the case of the definition of the "RPA observer" (112a), this link has been kept.</p> <p>SERA.3138</p> <p>The notions of "in commercial air transport" and "specialised operations" have been added to the ICAO provisions and may be considered to form differences as ICAO does not specify any type of operations. "Specialised operations" are not defined.</p>	
comment	221	comment by: SecuDrones
	<p>Replace «...</p> <p>3. all the RPA involved in the intended operation have a valid certificate of registration, a valid certificate of airworthiness and, if applicable, a valid radio station licence;»</p> <p>by</p> <p>« ...all the RPA involved in the intended operation have, if applicable, a valid certificate of registration, a valid certificate of airworthiness and a valid radio station licence;»</p> <p>As already stated for small RPAS like ours it makes no sense to have a certificate of airworthiness and a valid radio licence</p>	
comment	222	comment by: SecuDrones
	<p>Again for small RPAS</p> <p>Replace by</p> <p>...</p> <p>(5) all the RPAS involved in the intended operation are equipped, if applicable, with the communications, navigation and surveillance systems, with adequate performance for the specific airspace in which the flight is to operate, including command and control links (C2);</p> <p>(6) in the case of operations which are not VLOS, all the involved RPAS, if applicable, are equipped with a suitable detect and avoid system;</p> <p>(7) all the pilots involved in the intended operation hold, if applicable, a valid remote pilot(s) licence with appropriate ratings and endorsements;</p> <p>...</p> <p>3.2 The application shall include at least the following:</p>	

(a) name and contact information of the operator;
 (b) RPA characteristics (type of aircraft, maximum certified take-off mass, number of engines, wing span);
 (c) copy of certificate of registration;
 (d) aircraft identification to be used in radiotelephony, if applicable;
 (e) copy of the certificate of airworthiness, if applicable;
 (f) copy of the RPAS operator certificate, if applicable;
 (g) copy of the remote pilot(s) licence(s), if applicable;
 (h) copy of the aircraft radio station licence, if applicable;
 (i) description of the intended operation (type of operation or purpose), flight rules, visual line-of-sight (VLOS) operation if applicable, date of intended flight(s), point of departure, destination, cruising speed(s), cruising level(s), route to be followed, duration/frequency of flight;
 ...

comment

223

comment by: *SecuDrones*

Again for small RPAS (<25 kg)
 (1) aeronautical safety communications frequencies and equipment, including:
 (i) ATC communications, including any alternate means of communication, if applicable;
 (ii) command and control links (C2) including performance parameters and designated operational coverage area;
 (iii) communications between remote pilot and RPA observer, if applicable;
 (2) navigation equipment; and
 (3) surveillance equipment;
 (m) detect and avoid capabilities, if applicable;
 (n) emergency procedures, including:
 (1) communications failure with ATC if applicable;
 (2) C2 failure; and
 (3) remote pilot/RPA observer communications failure, if applicable;

C. Appendices — 1. TEXT OF AMENDMENT 43 TO THE INTERNATIONAL STANDARDS RULES OF THE AIR (ANNEX 2 TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION) [TEXT NOT FOR COMMENTING]

p. 37-41

comment

164

comment by: *Federal Office of Civil Aviation FOCA*

Appendix 2, 3.1 (Request for authorisation): The requirement for the competent authority to issue an authorisation to operate a RPA in the airspace will presumably cause a heavy administrative burden for the competent authority, considering that all operation is subject to authorisation. According to 3.1 the application of an RPAS operator shall be made no less than seven days before the date of the intended flight. Depending on the number of authorisations to issue in the future FOCA considers that the foreseen time frame might not be sufficiently long.

comment

200

comment by: *Studio Pietinen*

RPA airworthiness.

The certification of airworthiness of such yet not mass produced, still in rapid development phase, makes little sense and is impracticable. Rather one should certify the most commonly used flight control components by their reliability. This puts the focus on the manufacturers of these units rather than the individual operators. Furthermore, each RPA intended for commercial use, should feature at least one emergency safety improving device, such as a parachute.

comment 202

comment by: *Studio Pietinen*

Operator licencing.

Again, the difference between RPA:s and light advanced models is one of a clear overlap. As yet, there is no competent authority in any EU country to judge the skills of of the light weight RPA operators except the professional operators themselves. However, as flying safety is a paramount concern, responsible light weight RPA operators are willing to co-operate towards a licencing system. As in every aspect of aviation, the licence could be obtained with a suitable theory test and a flying test.

comment 204

comment by: *Studio Pietinen*

Page 39, 3.2

Communication between RPA operators and air traffic authorities before operation. A SMS-based system, on which a light RPA operator requests for permission to operate, could provide instant permission or denial from the air traffic authorities. Once the operation is accepted, the location, used altitudes and operation time would be relayed to whom it may concern.

comment 213

comment by: *EUROCONTROL*

Appendix 2 Remotely piloted aircraft systems

- paragraph 1.1

Removing "engaged in international navigation" could be considered as a difference.

- paragraph 1.1

ICAO mentions a "special authorisation" and the NPA only an "authorisation", which could be considered as a difference (between special and routine operations)

The ICAO sentence "the authorisation may be in the form of agreements between the States involved" could be subject of AMC or GM.

- paragraph 2. Certificates and licensing

The notes could be considered for GM.

- paragraph 2.1

The ICAO provision related to maintenance (2.1 b) was not transposed, which may be considered as a difference.

- paragraph 2.1 (7)

The text should read "all the **remote** pilots involved in ..." instead of "all the pilots involved in ..." to avoid confusion.

- paragraph 3.1

About the requests for authorisation, the ICAO text refers only to overflights whereas the NPA text refers to overflights and also take-off, extending the applicability of the criteria for the requests. This may be considered as a

difference with ICAO.

- paragraph 3.2 q)

The replacement of "national security standards" by "system security standards" is ambiguous. A description or reference to such security standards should be provided.

- paragraph 3.3

The issue of the languages in the EU system is obviously different than in the ICAO provision and should be identified as a difference.

The text of 3.3 should refer to paragraph 3.2 instead of 4.2.

- paragraph 4.2

The wording "*When satisfied that the RPAS operator is in compliance with the applicable requirements, the competent authority shall issue the authorisation...*" seems to indicate that the Competent Authority cannot refuse to deliver the authorisation on other grounds, is it really the intention? The same applies for paragraph 5.2 of the NPA about the changes.

- paragraph 6.1

It might be advisable to ensure that the "complete notification and coordination with the relevant air traffic services" is completely and sufficiently covered by "*this regulation*" and that the flight plans provisions are completely and sufficiently covered by "*Section 4 of this Annex*".

C. Appendices – 2. DRAFT TEXT OF THE COMMON RULES OF THE AIR AND OPERATIONAL PROVISIONS REGARDING SERVICES AND PROCEDURES IN AIR NAVIGATION, ENDORSED BY THE RELEVANT EU COMMITTEE [TEXT NOT FOR COMMENTING]

p. 42-146

comment 185

comment by: CAA CZ

Appendix 2, 2.1: What is the applicability of the SERA rules towards the Basic regulation 216/2008 Annex II aircraft? Are RPA below 150 kg MTOM subject to SERA? If not, it is not appropriate to confuse the reader with model aircraft, most of which except of very few fall below this threshold.

comment 186

comment by: CAA CZ

Numbering of the Appendix references should be checked in the NPA – e.g. page 10, par. 54 refers to „proposed Appendix 4 to the common rules of the air“ should be Appendix 2. It is confusing with the Appendix 4 of the ICAO Annex 2. Similarly, numbering of the paragraphs 4.1 – 4.3 should be 3.1 – 3.3 (page 11, par. 59-61).

comment 213 ❖

comment by: EUROCONTROL

Appendix 2 Remotely piloted aircraft systems

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5. Appendix A - Attachments

 [Delair-Tech - comments on NPA 2012 10.pdf](#)
Attachment #1 to comment [#131](#)

 [tableau-6-1.pdf](#)
Attachment #2 to comment [#229](#)