Notice of Proposed Amendment 2020-07

Unmanned aircraft system beyond visual line operations over populated areas or assemblies of people in the 'specific' category

RMT.0730

EXECUTIVE SUMMARY

The objective of this Notice of Proposed Amendment (NPA) is to clarify the conditions under which unmanned aircraft system (UAS) beyond visual line of sight (BVLOS) operations over a populated area or an assembly of people can be authorised in the 'specific' category.

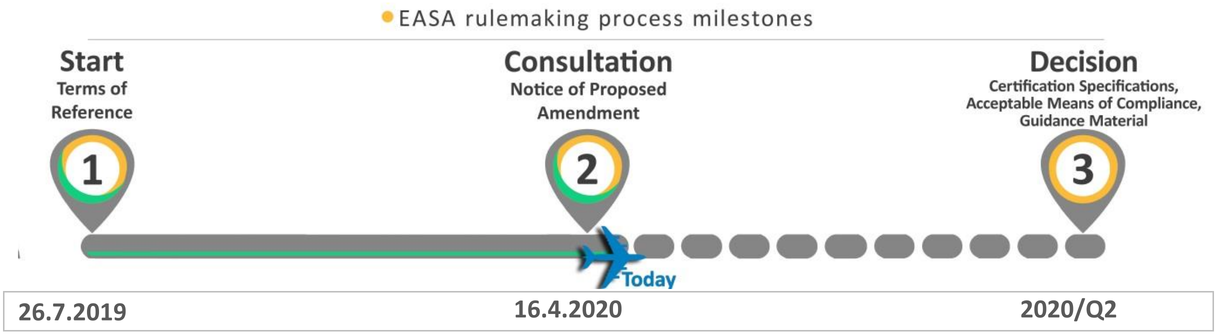
This NPA proposes to amend the Acceptable Means of Compliance (AMC) and Guidance Material (GM) to Commission Implementing Regulation (EU) 2019/947. The AMC and GM to Article 11 'Rules for conducting an operational risk assessment' of said Regulation are proposed to be amended to define the intrinsic UAS ground risk classes (GRCs) for the following operational scenarios:

— BVLOS operations over a populated area; and

— BVLOS operations over an assembly of people.

The proposed amendments are expected to increase safety, improve harmonisation among EASA Member States, and facilitate societal acceptance of UAS BVLOS operations in the 'specific' category.

Action area:	UAS		
Affected rules:	AMC & GM to Regulation (EU) 2019/947		
Affected stakeholders:	UAS operators (private and commercial); competent authorities; remote pilots; continuing-airworthiness organisations; design and production organisations; other airspace users (manned aircraft); general public.		
Driver:	Safety	**Rulemaking group:**	No
Impact assessment:	Light	**Rulemaking Procedure:**	Standard



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1. About this NPA

1.1. How this NPA was developed

The European Union Aviation Safety Agency (EASA) developed this NPA in line with Regulation (EU) 2018/1139[1] (the 'Basic Regulation') and the Rulemaking Procedure[2]. This rulemaking activity is included in the European Plan for Aviation Safety (EPAS) 2020-2024 under Rulemaking Task (RMT).0730. The text of this NPA has been developed by EASA. It is hereby submitted to all interested parties[3] for consultation.

1.2. How to comment on this NPA

Please submit your comments using the automated **Comment-Response Tool (CRT)** available at **http://hub.easa.europa.eu/crt/**[4].

The deadline for submission of comments is **15 May 2020**.

1.3. The next steps

Following the closing of the public commenting period, EASA will review all the comments received.

Based on the comments received, EASA will develop a decision that amends the Acceptable Means of Compliance (AMC) and Guidance Material (GM) to Commission Implementing Regulation (EU) 2019/947[5] (the 'UAS Regulation'). A summary of the comments received will be provided in the explanatory note to the decision.

The comments received on this NPA and the EASA responses to them will be reflected in a comment-response document (CRD). The CRD will be published on the EASA website[6].

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1 Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (OJ L 212, 22.8.2018, p. 1) (https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1535612134845&uri=CELEX:32018R1139).

2 EASA is bound to follow a structured rulemaking process as required by Article 115(1) of Regulation (EU) 2018/1139. Such a process has been adopted by the EASA Management Board (MB) and is referred to as the 'Rulemaking Procedure'. See MB Decision No 18-2015 of 15 December 2015 replacing Decision 01/2012 concerning the procedure to be applied by EASA for the issuing of opinions, certification specifications and guidance material (http://www.easa.europa.eu/the-agency/management-board/decisions/easa-mb-decision-18-2015-rulemaking-procedure).

3 In accordance with Article 115 of Regulation (EU) 2018/1139, and Articles 6(3) and 7 of the Rulemaking Procedure.

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

5 Commission Implementing Regulation (EU) 2019/947 of 24 May 2019 on the rules and procedures for the operation of unmanned aircraft (OJ L 152, 11.6.2019, p. 45) (https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1585758182219&uri=CELEX:32019R0947).

6 https://www.easa.europa.eu/document-library/comment-response-documents

2. In summary — why and what

2.1. Why we need to change the rules — issue/rationale

The AMC to Article 11 'Rules for conducting an operational risk assessment' of the UAS Regulation does not define the intrinsic unmanned aircraft system (UAS) ground risk classes (GRCs) for the following operational scenarios:

— beyond visual line of sight (BVLOS) operations over a populated area; and

— BVLOS operations over an assembly of people.

As said Regulation is applicable as from 1 July 2020[7], the related AMC and GM should also be available as of that date to provide UAS operators with the acceptable conditions under which BVLOS operations over a populated area or an assembly of people can be authorised in the 'specific' category.

2.1.1. Related safety issues

EASA took into consideration the outcome of the investigation into an incident involving a small electric-powered quadrotor, produced by *Matternet*, which occurred on 9 May 2019 in Zurich, Switzerland. Around two minutes after take-off, while the UAS was overflying a forest, the UAS flight termination system (FTS) was automatically activated, initiating an emergency landing. After the parachute was ejected, its connecting line with the UAS broke, and the UAS hit the ground uncontrolled in the vicinity of an area where some children were playing. The UAS was destroyed on impact and nobody was injured. However, none of the people near the crash site could hear the acoustic warning signal that is produced when the FTS is activated.

No safety recommendation is expected to be addressed to EASA with regard to this incident. However, this incident raised considerable safety and societal concerns. EASA considered therefore the need to increase the specific assurance and integrity level (SAIL) for BVLOS operations over a populated area and over an assembly of people, taking also into account the future projections of such UAS operations.

2.1.2. Exemptions in accordance with Article 70 'Safeguard provisions'/Article 71 'Flexibility provisions' and/or Article 76 'Agency measures' of the Basic Regulation

There are no exemptions pertinent to the scope of this RMT.

2.1.3. Alternative means of compliance (AltMoC) relevant to the content of this RMT

There are no AltMoCs pertinent to the scope of this RMT.

2.1.4. ICAO and third-country references relevant to the content of this RMT

There are no ICAO or third-country references pertinent to the scope of this RMT.

[7] The European Commission is considering a request from some EASA Member States to postpone the applicability date of the Regulation for a period of 6 months due to the COVID-19 pandemic. By the time of publication of this NPA, the European Commission had not decided in favour of a postponement.

2.2. What we want to achieve — objectives

The overall objectives of the EASA system are defined in Article 1 of the Basic Regulation. This proposal will contribute to the achievement of the overall objectives by addressing the issues outlined in Section 2.1.

The specific objectives of this proposal are:

— to clarify the conditions under which BVLOS operations over a populated area and an assembly of people can be authorised in the 'specific' category'; and

— to achieve an acceptable level of safety and harmonisation among EASA Member States, as well as facilitate societal acceptance of UAS BVLOS operations in the 'specific' category.

2.3. How we want to achieve it — overview of the proposals

2.3.1. Proposed amendments to AMC1 Article 11 'Rules for conducting an operational risk assessment'

In AMC1 Article 11 'Rules for conducting an operational risk assessment', EASA provides a methodology that may be used by UAS operators to:

— identify the intrinsic UAS GRC;

— determine the final GRC;

— determine the SAIL; and

— ultimately, identify the operational safety objective (OSO) at the associated level of robustness.

However, the existing version of AMC1 to Article 11 does not define the intrinsic UAS GRCs for:

— BVLOS operations over a populated area; and

— BVLOS operations over an assembly of people.

This is intended to be covered by the proposals detailed below.

To properly formulate the proposals, the term 'populated area' needs first to be clarified. Although the term 'populated area' is not defined as such in the UAS Regulation, Table 2 of AMC1 to Article 11 provides four categories of areas of operations: 'controlled ground area', 'sparsely populated', 'populated' and 'assembly of people', where:

— 'controlled ground area' is defined in Article 2(21) of the UAS Regulation;

— 'sparsely populated': is defined in the proposed new GM2 to AMC1 Article 11 of this NPA; and

— 'assemblies of people' is defined in Article 2(3) of the UAS Regulation and the related GM Article 2(3) 'Definitions'.

An area of operation is thus to be considered as 'populated' when it does not match the definitions of 'controlled ground area', 'sparsely populated', and 'assemblies of people'; therefore, a description of 'populated area' is proposed in the new GM2 to AMC1 Article 11.

With regard to the intrinsic UAS GRCs for BVLOS operations over a populated area and BVLOS operations over an assembly of people, EASA proposes to have a proportionate approach and distinguish two cases:

— first case:

- for a UAS with a maximum take-off mass (MTOM) of less than or equal to 4 kg, which is intended to be operated over a populated area; and
- for a UAS with a kinetic energy of less than or equal to 80 J, which is intended to be operated over an assembly of people,

EASA proposes to use the GRCs that are provided in Table 2 'Intrinsic ground risk classes (GRC) determination' of the JARUS[8] SORA Main Body, edition 2.0; and

— second case:

- for a UAS with an MTOM of more than 4 kg, which is intended to be operated over a populated area; and
- for a UAS with a kinetic energy of more than 80 J, which is intended to be operated over an assembly of people,

in line with the impact assessment (IA) of Chapter 4 of this NPA, EASA proposes to consider the risk of these operations as high, irrespective of the mitigations proposed by applicants; therefore, the SAIL of these operations will be always considered to be SAIL VI, and all the OSOs will need to be systematically met at the highest level of robustness.

The rationale behind the MTOM thresholds is that the 4-kg value provides a safety continuum between the 'open' and 'specific' categories for visual line of sight (VLOS) or BVLOS operations over populated areas, as summarised in the following table:

Table 1

		0-250 g	**250-900 g**	**900 g-4 kg**	**4-25 kg**	**> 25 kg**
VLOS	**Populated**	'Open'	'Open'	'Open'	'Specific' without mandatory (R)TC	'Specific' without mandatory (R)TC
BVLOS	**Populated**	'Specific' without mandatory (R)TC	'Specific' without mandatory (R)TC	'Specific' without mandatory (R)TC	'Specific' with mandatory (R)TC	'Specific' with mandatory (R)TC

Note: (R)TC stands for (restricted) type certificate.

The 80-J threshold corresponds to the value that is used in the 'open' category to limit operations that are carried out over uninvolved people. For further information, please refer to Appendix II — Rationale behind MTOM/energy thresholds for UAS Class C0 and C1' of NPA 2017-05 (B).

8 Joint Authorities for Rulemaking on Unmanned Systems (JARUS) website at http://jarus-rpas.org/

According to Article 40(1)(d) of Regulation (EU) 2019/945[9], all UASs used in the 'specific' category, for which the risk assessment considers that the risk of the operation cannot be adequately mitigated without the certification of the UAS, shall be certified. This applies to all UAS operations for which the requested level of assurance of the OSOs associated with the design is high. In that case, Article 40(2) of Regulation (EU) 2019/945 requires the certified UAS to comply with the applicable requirements of Regulations (EU) No 748/2012[10] (the 'Initial Airworthiness' Regulation), (EU) 2015/640[11] (the 'Additional Airworthiness Specifications' Regulation), and (EU) No 1321/2014[12] (the 'Continuing Airworthiness' Regulation). Based on that, the UAS must:

— have a(n) (R)TC or a permit to fly according to the Initial Airworthiness Regulation;

— a competent authority for continuing airworthiness to verify compliance with the Continuing Airworthiness Regulation; and

— in the same way, a competent authority, designated by the EASA Member State, to verify compliance with the Additional Airworthiness Specifications Regulation, where applicable.

The following is a description of the implementation steps to be taken by EASA once the related decision, following this NPA, is published:

In the absence of certification specifications (CS) for the type certification of this type of product, EASA will develop a complete set of dedicated technical specifications in the form of special conditions.

With regard to continuing airworthiness, since Article 58(1) 'Delegated powers' of the Basic Regulation requires a delegated act (DA) for the maintenance of UASs, EASA will propose a new DA for this domain. This DA will be included in the NPA for the 'certified' category of UAS, which is planned for 2021/Q2 under RMT.0230. The DA will include an Annex for certified UAS that operate in the 'specific' category, pursuant to Article 40(1)(d) of Regulation (EU) 2019/945. The Annex will contain alleviations, compared to the continuing-airworthiness requirements laid down for UASs in the 'certified' category. In the interim period until this new DA is available, Article 40(2) of Regulation (EU) 2019/945 applies, and the certified UAS is required to comply with the 'applicable requirements' of the Continuing Airworthiness Regulation. To this end, EASA will develop AMC & GM to Regulation (EU) 2019/945 to explain how and to what extent the requirements of the Continuing Airworthiness Regulation must be complied with.

As long as EASA does not issue (R)TCs for UASs, BVLOS operations over a populated area or an assembly of people are only authorised with a permit to fly, after EASA approves the flight

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[9] Commission Delegated Regulation (EU) 2019/945 of 12 March 2019 on unmanned aircraft systems and on third-country operators of unmanned aircraft systems (OJ L 152, 11.6.2019, p. 1) (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32019R0945).

[10] Commission Regulation (EU) No 748/2012 of 3 August 2012 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations (OJ L 224, 21.8.2012, p. 1) (https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32012R0748&from=EN).

[11] Commission Regulation (EU) 2015/640 of 23 April 2015 on additional airworthiness specifications for a given type of operations and amending Regulation (EU) No 965/2012 (OJ L 106, 24.4.2015, p. 18) (https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32015R0640&from=EN).

[12] Commission Regulation (EU) No 1321/2014 of 26 November 2014 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks (OJ L 362, 17.12.2014, p. 1) (https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R1321&qid=1585822088583&from=EN).

conditions in accordance with the requirements of point 21.A.701 of the Annex (Part 21) to the Initial Airworthiness Regulation. In such a case, the continuing airworthiness of the UAS is ensured based on the specific continuing-airworthiness requirements that are defined in that permit to fly and on those flight conditions.

In consideration of the above, the following amendments to AMC1 Article 11 'Rules for conducting an operational risk assessment' are proposed to cover the cases of BVLOS operations over a populated area and an assembly of people.

Table 2 of Section 2.3.1(d) of AMC1 Article 11, which defines the 'Intrinsic UAS ground risk class', contains 'TBD[13]' entries for both cases of 'BVLOS in a populated environment' and 'BVLOS over an assembly of people'. As explained above, this NPA proposes to use the data provided in Table 2 of JARUS SORA, Main Body, edition 2.0 for:

— a UAS with an MTOM of less than or equal to 4 kg, which is intended to be operated over a populated area; and

— a UAS with a kinetic energy of less than or equal to 80 J, which is intended to be operated over an assembly of people,

as indicated in Table 2 below:

Table 2

Intrinsic UAS ground risk class				
Max UAS characteristics dimension	1 m/approx. 3 ft	3 m/approx. 10 ft	8 m/approx. 25 ft	> 8 m/approx. 25 ft
Typical kinetic energy expected	< 700 J (approx. 529 ft lb)	< 34 kJ (approx. 25 000 ft lb)	1 084 kJ (approx. 800 000 ft lb)	> 1 084 kJ (approx. 800 000 ft lb)
Operational scenario				
BVLOS operations over a populated area (for UAS with an MTOM of less than or equal to 4 kg)	5	6	8	10
BVLOS operations over an assembly of people (for UAS with a kinetic energy of less than or equal to 80 J)	8			

Note: the change from 'BVLOS operations in populated environment' to 'BVLOS operations over a populated area' is explained in Section 2.3.2.

13 To be developed.

Additionally, footnote 7 in Table 2 of AMC1 Article 11 states: 'The intrinsic ground risk class for BVLOS operations in populated environment or over gathering of people will be developed in a future edition of the SORA'. Considering the amendments proposed to Table 2, footnote 7 is no longer relevant and thus proposed to be deleted.

Section 2.3.1(f) was reserved to address the operational scenarios 'BVLOS over a populated area' and 'BVLOS over an assembly of people', which this NPA proposes to define. Therefore, Section 2.3.1(f) is proposed to be amended by deleting the word 'Reserved' and replacing it with the following:

'The following operations:

— BVLOS operations over a populated area for a UAS with an MTOM of more than 4 kg; and

— BVLOS operations over an assembly of people for a UAS with a kinetic energy of more than 80 J

are considered to be high-risk operations for third parties on the ground, irrespective of the mitigations proposed by applicants. Steps #2 and #3, as described in this AMC, are therefore not applicable to these types of operations.'

Finally, to address the cases of:

— a UAS with an MTOM of more than 4 kg, which is intended to be operated over a populated area; and

— a UAS with a kinetic energy of more than 80 J, which is intended to be operated over an assembly of people,

'Final GRC 7' row in Table 5 of Section 2.5.1(d) of AMC1 Article 11 is proposed to be amended so that these operations always lead to a SAIL VI categorisation. This is achieved by extending the applicability of the 'Final GRC 7'row to cases of 'BVLOS operations over a populated area for a UAS with an MTOM of more than 4 kg or BVLOS operations over an assembly of people for a UAS with a kinetic energy of more than 80 J'.

2.3.2. Additional amendments proposed to AMC1 Article 11

Following comments received by EASA, some additional amendments are proposed to AMC1 Article 11: minor adjustments, clarifications of notions, wording harmonisation, and corrections of word omissions or picture duplications.

The individual proposed amendments are the following:

— Box 'UAS operation approval (with associated limitations)' at the end of Figure 3 'The SORA process' is considered misleading since the SORA process, as proposed, does not address damage to critical infrastructure, and an additional risk assessment of critical infrastructure needs to be performed. Figure 3 is thus proposed to be amended by replacing the content of said box by 'The OSOs take in account the risks of the operation; the combination of the mitigation measures, competency of the personnel and technical features is adequate'.

— The term 'area of operation' used in Section 2.3.1(h) is not explicitly defined (however, this is implicitly done in Section 2.3.1(c)). Section 2.3.1(c) is thus proposed to be amended to clarify that the 'area at risk when conducting the operation' can also be called the 'area of operation' in the document. Section 2.3.1(h) is also amended to introduce a reference to Section 2.3.1(c) where the term 'area of operation' is defined.

— In Section 2.3.1(h), the word 'no' is missing from the sentence 'the assurance that there will be uninvolved persons in the area of operation is under the full responsibility of the UAS operator'. This is a significant omission as the intended meaning of the sentence is the opposite. Hence, Section 2.3.1(h) is proposed to be modified by adding the word 'no' before 'uninvolved persons'.

— In Section 2.5.2, footnote 12 refers to Section 3.2.11(a), which does not exist. Therefore, this reference in the footnote is proposed to be deleted.

— In Section 2.5.3, the numbering of the footnote related to 'single failure' is incorrect. It erroneously reads '12', and it is proposed to be modified to read '14'.

— In Annexes B and E, the wording regarding the high level of assurance for design-related OSOs is not harmonised. Therefore, the following new text is proposed: '[…] is demonstrated by the certification of the UAS, which is issued by EASA according to Article 40(1)(d) of Regulation (EU) 2019/945'.

— The wording regarding BVLOS operations 'in a populated environment' is not harmonised and could lead to misinterpretation. Therefore, it is proposed to replace 'in a populated environment' with 'over a populated area'.

— In Annex C, there is a duplication of Figure C.5. Therefore, the duplicate of the figure is proposed to be deleted.

2.3.3. GM2 to AMC1 Article 11 'Rules for conducting an operational risk assessment'

Based on some comments received by EASA, the concept of a 'sparsely populated area' needs to be better clarified: further guidance is necessary for a harmonised interpretation of the 'sparsely populated area' notion among EASA Member States.

Therefore, to have a harmonised approach among European Institutions and agencies, the definition of 'sparsely populated' is proposed to conform to the European Commission's Regional Working Paper 2014: 'WP 01/2014 — A harmonised definition of cities and rural areas: the new degree of urbanisation'. An area can be considered as 'sparsely populated' if it is classified as 'thinly populated' in accordance with WP 01/2014.

2.4. What are the expected benefits and drawbacks of the proposals

The expected benefits and drawbacks of the proposal are summarised below. For the full impact assessment of the alternative options, please refer to Chapter 4.

The preferred option, considering all impacts (safety, social, and economic), is Option 3, i.e.:

— for a UAS with an MTOM of more than 4 kg, which is intended to be operated over a populated area; and

— for a UAS with a kinetic energy of more than 80 J, which is intended to be operated over an assembly of people,

EASA proposes to consider the risk of these operations as high, irrespective of the mitigations proposed by applicants, and impose a SAIL VI categorisation.

As explained in Section 2.3.1, with Option 3, all the operational safety objectives would be required to be met at the highest level of robustness, with the involvement of a competent authority for all airworthiness aspects (e.g. maintenance, design). Hence, this option would significantly increase the level of safety of UAS BVLOS operations over a populated area and over an assembly of people. Furthermore, it would undoubtedly facilitate societal acceptance of this technology, thanks to the verification performed by EASA for the certification of the design, to the competent authority involvement in all other airworthiness aspects, and to the third-party validation of all remaining aspects.

Moreover, Option 3 offers the same economic benefits as Option 2 (UAS certification required) for UAS operators. Operators would avoid the additional costs from a non-harmonised approach among EASA Member States, and they could take credit for the UAS certification by demonstrating compliance with the design-related OSOs at the required level of robustness.

However, with Option 3, there would be additional costs for both manufacturers and operators due to the increase in the expected SAIL of the OSOs, and not only those related to design. Furthermore, national aviation authorities (NAAs) would need to dedicate additional resources to their involvement in the airworthiness aspects.

3. Proposed amendments and rationale in detail

The text of the amendment is arranged to show deleted, new or amended, and unchanged text as follows:

— deleted text is ~~struck through~~;

— new or amended text is highlighted in blue;

— an ellipsis '[…]' indicates that the rest of the text is unchanged.

3.1. Draft acceptable means of compliance and guidance material (draft EASA decision)

AMC1 Article 11 Rules for conducting an operational risk assessment

SPECIFIC OPERATIONS RISK ASSESSMENT (SOURCE JARUS SORA V2.0)

EDITION September 2019

[…]

2.2 SORA process outline

(a) The SORA methodology provides a logical process to analyse the proposed ConOps and establish an adequate level of confidence that the operation can be conducted with an acceptable level of risk. There are ten steps that support the SORA methodology and each of these steps is described in the following paragraphs and further detailed, when necessary, in the relevant annexes.

(b) The SORA focuses on the assessment of air and ground risks. In addition to air and ground risks, an additional risk assessment of critical infrastructure should also be performed. This should be done in cooperation with the organisation responsible for the infrastructure, as they are most knowledgeable of those threats. Figure 3 outlines the ten steps of the risk model, while Figure 4 provides an overall understanding of how to arrive at an air risk class (ARC) for a given operation.

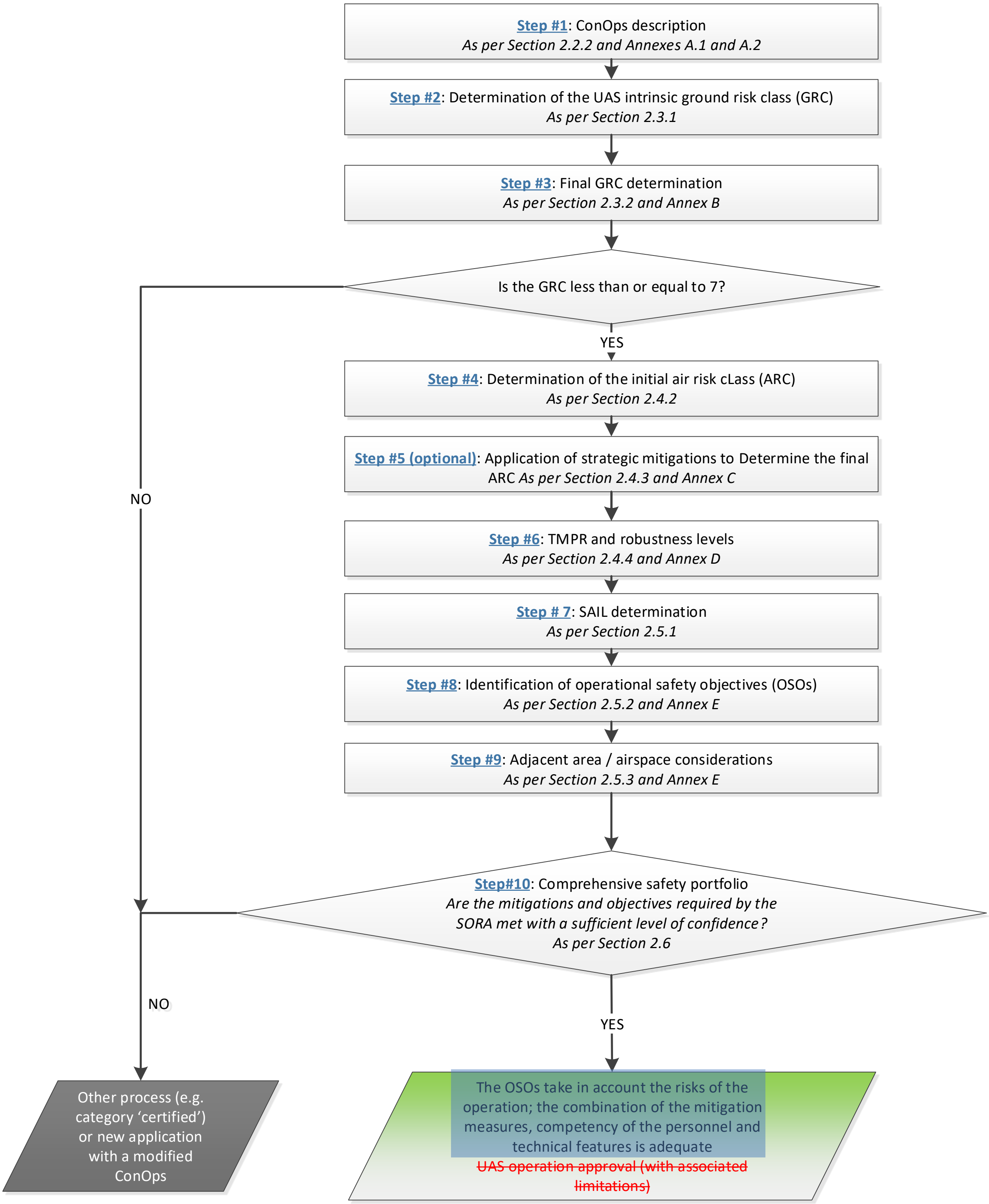


Figure 3 — The SORA process

Note: If operations are conducted across different environments, some steps may need to be repeated for each particular environment.

[…]

2.3 The ground risk process

2.3.1 Step #2 — Determination of the intrinsic UAS ground risk class (GRC)

[…]

(c) The applicant needs to have defined the area at risk when conducting the operation (also called the 'area of operation') including:

[…]

(d) Table 2 illustrates how to determine the intrinsic ground risk class (GRC). The intrinsic GRC is found at the intersection of the applicable operational scenario and the maximum UA characteristic dimension that drives the UAS lethal area. ~~In case of~~If there is a mismatch between the maximum UAS characteristic dimension and the typical kinetic energy expected, the applicant should provide substantiation for the chosen column.

Intrinsic UAS ground risk class				
Max UAS characteristics dimension	1 m / approx. 3 ft	3 m / approx. 10 ft	8 m / approx. 25 ft	>8 m / approx. 25 ft
Typical kinetic energy expected	< 700 J (approx. 529 ft lb)	< 34 kJ (approx. 25 000 ft lb)	< 1 084 kJ (approx. 800 000 ft lb)	> 1 084 kJ (approx. 800 000 ft lb)
Operational scenarios				
VLOS/BVLOS over a controlled ground area[6]	1	2	3	4
VLOS ~~in~~over a sparsely populated ~~environment~~area	2	3	4	5
BVLOS ~~in~~ over a sparsely populated ~~environment~~area	3	4	5	6
VLOS ~~in~~over a populated ~~environment~~area	4	5	6	8
BVLOS ~~in~~over a populated ~~environment~~area (for UASs with an MTOM of less than or equal to 4 kg)	~~TBD[7]~~5	~~TBD[7]~~6	~~TBD[7]~~8	~~TBD[7]~~10
VLOS over an assembly of people	7			
BVLOS over an assembly of people (for UAS with a kinetic energy of less than or equal to 80 J)	~~TBD[7]~~8			

6 In line with Figure 1 and paragraph 2.3.1.(c), the controlled area should encompass the flight geography, the contingency volume and the ground risk buffer.

7 ~~The intrinsic ground risk class for BVLOS operations in populated environment or over gathering of people will be developed in a future edition of the SORA.~~

Table 1 — Determination of the intrinsic GRC

(e) […]

(f) ~~Reserved~~The following operations:

(1) BVLOS operations over a populated area for a UAS with an MTOM of more than 4 kg, and

(2) BVLOS operations over an assembly of people for a UAS with a kinetic energy of more than 80 J

are considered to be high-risk operations for third parties on the ground, irrespective of the mitigations proposed by applicants. Steps #2 and #3, as described in this AMC, are therefore not applicable to these types of operations.

[…]

(h) Controlled ground areas[9] are a way to strategically mitigate the risk on ground (similar to flying in segregated airspace); the assurance that there will be no uninvolved persons in the area of operation, as defined in Section 2.3.1(c), should be verified ~~is under the full responsibility of~~ by the UAS operator through appropriate procedures.

[…]

2.5 Final assignment of specific assurance and integrity level (SAIL) and OSO

2.5.1 Step #7 SAIL determination

[…]

(d) The SAIL assigned to a particular ConOps is determined using **Error! Reference source n ot found.**:

SAIL determination				
	Residual ARC			
Final GRC	a	b	c	d
≤2	**I**	**II**	**IV**	**VI**
3	**II**	**II**	**IV**	**VI**
4	**III**	**III**	**IV**	**VI**
5	**IV**	**IV**	**IV**	**VI**
6	**V**	**V**	**V**	**VI**
Final GRC 7 or for BVLOS operations over a populated area for a UAS with an MTOM of more than 4 kg or BVLOS operations over an assembly of people for a UAS with a kinetic energy of more than 80 J	**VI**	**VI**	**VI**	**VI**
>7	Category C operation			

[9] See the definition in Article 2(21) of the UAS Regulation.

Table 5 — SAIL determination

2.5.2 Step #8 — Identification of the operational safety objectives (OSOs)

[…]

OSO number (in line with Annex E)		SAIL					
		I	**II**	**III**	**IV**	**V**	**VI**
	Technical issue with the UAS						
OSO#01	Ensure the UAS operator is competent and/or proven	O	L	M	H	H	H
OSO#02	UAS manufactured by competent and/or proven entity	O	O	L	M	H	H
OSO#03	UAS maintained by competent and/or proven entity	L	L	M	M	H	H
OSO#04	UAS developed to authority recognised design standards[12]	O	O	O	L	M	H

[…]

2.5.3 Step #9 – Adjacent area/airspace considerations

[…]

(c) The following three safety requirements apply for operations conducted:

[…]

(2) Or where the operational volume is in a populated environments where:

(i) M1 mitigation has been applied to lower the GRC; or

(ii) operating in a controlled ground area.

1. The probability of the UA leaving the operational volume should be less than 10^{-4}/FH.

2. No single failure[12][14] of the UAS or any external system supporting the operation should lead to its operation outside the ground risk buffer.

Compliance with the requirements above should be substantiated by analysis and/or test data with supporting evidence.

3. Software (SW) and airborne electronic hardware (AEH) whose development error(s) could **directly** (refer to Note 2) lead to operations outside the ground risk buffer should be developed to an industry standard or methodology that is recognised as being adequate by the competent authority.

[…]

[12] The robustness level does not apply to mitigations for which credit has been taken to derive the risk classes. ~~This is further detailed in para. 3.2.11(a).~~

ANNEX B TO AMC1 TO ARTICLE 11

INTEGRITY AND ASSURANCE LEVELS FOR THE MITIGATIONS USED TO REDUCE THE INTRINSIC GROUND RISK CLASS (GRC)

[…]

B.2 M1 – Strategic mitigations for ground risk

[…]

(2) **Specific criteria in case of use of a tether to reduce people at risk**

When an applicant wants to take credit for a tether to justify a reduction in the number of people at risk:

(a) the tether needs to be considered part of the UAS and assessed based on the criteria below, and

(b) potential hazards created by the tether itself should be addressed through the OSOs defined in Annex E.

The level of integrity criteria for a tethered mitigation ~~is~~are found in Table B.4. The level of assurance for a tethered mitigation is found in Table B.5.

[…]

		Level of assurance		
		Low	**Medium**	**High**
M1 — Tethered operation	Criterion #1 (Technical design)	Does not meet the 'medium' level criteria	The applicant has supporting evidence (including the specifications of the tether material) to justify~~claim~~ that the required level of integrity is achieved. (a) This is typically achieved through testing or operational experience. (b) Tests can be based on simulations; however, the validity of the target environment used in the simulation needs to be justified.	The claimed level of integrity is demonstrated by the certificate of the UAS, which is issued by EASA according to Article 40(1)(d) of Regulation (EU) 2019/945~~validated by EASA~~.
	Comments	*N/A*	*N/A*	*N/A*
	Criterion #2 (Procedures)	(a) Procedures do not require validation against either a standard or a means	(a) Procedures are validated against standards considered adequate by the competent authority	Same as medium. In addition: (a) Flight tests performed to

		of compliance considered adequate by the competent authority. (b) The adequacy of the procedures and checklists is declared.	and/or in accordance with a means of compliance acceptable to that authority. (b) Adequacy of the procedures is proven through: (1) dedicated flight tests; or (2) simulation, provided the simulation is proven valid for the intended purpose with positive results.	validate the procedures cover the complete flight envelope or are proven to be conservative. (b) The procedures, flight tests and simulations are validated by a competent third party.
	Comments	*N/A*	*N/A*	*N/A*

Table B.5 — Level of assurance assessment criteria for ground risk tethered M1 mitigations

[…]

ANNEX C TO AMC1 TO ARTICLE 11

STRATEGIC MITIGATION — COLLISION RISK ASSESSMENT

C.1 Introduction — air risk strategic mitigations

[…]

C.4 General air-SORA mitigation overview

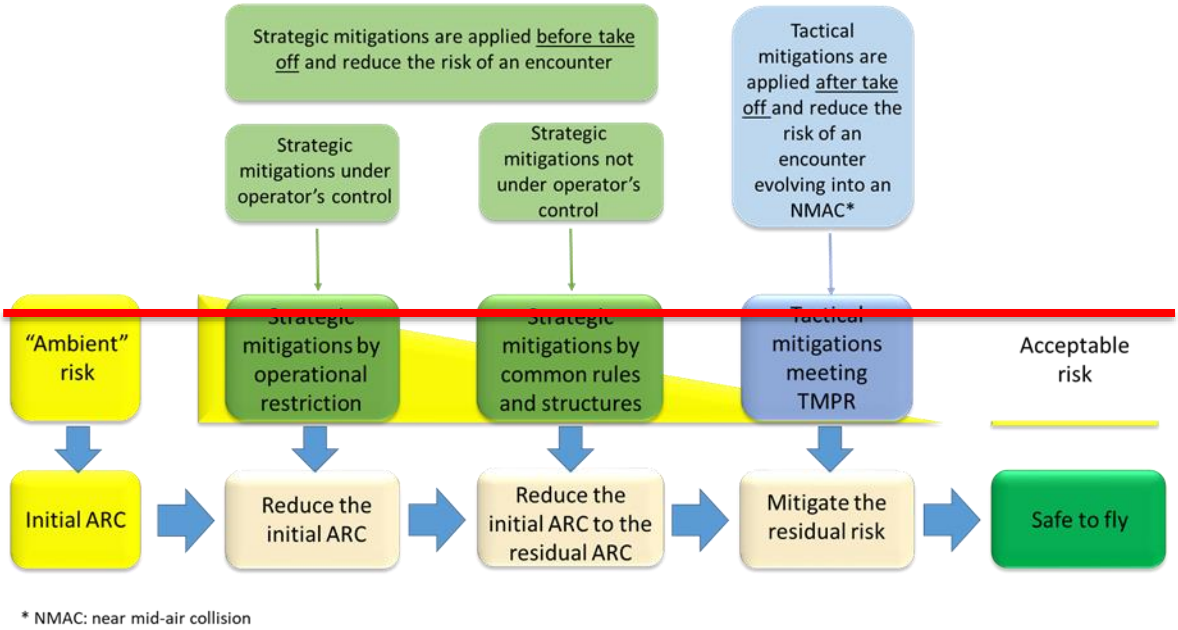
SORA classification of mitigations

The SORA classifies mitigations to suit the operational needs of a UAS in the ‘specific’ class. These mitigations are classified as:

(a) strategic mitigations by the application of operational restrictions;

(b) strategic mitigations by the application of common structures and rules; and

(c) tactical mitigations.



~~Figure C.5 shows the alignment of the mitigation definitions between ICAO and the SORA.~~

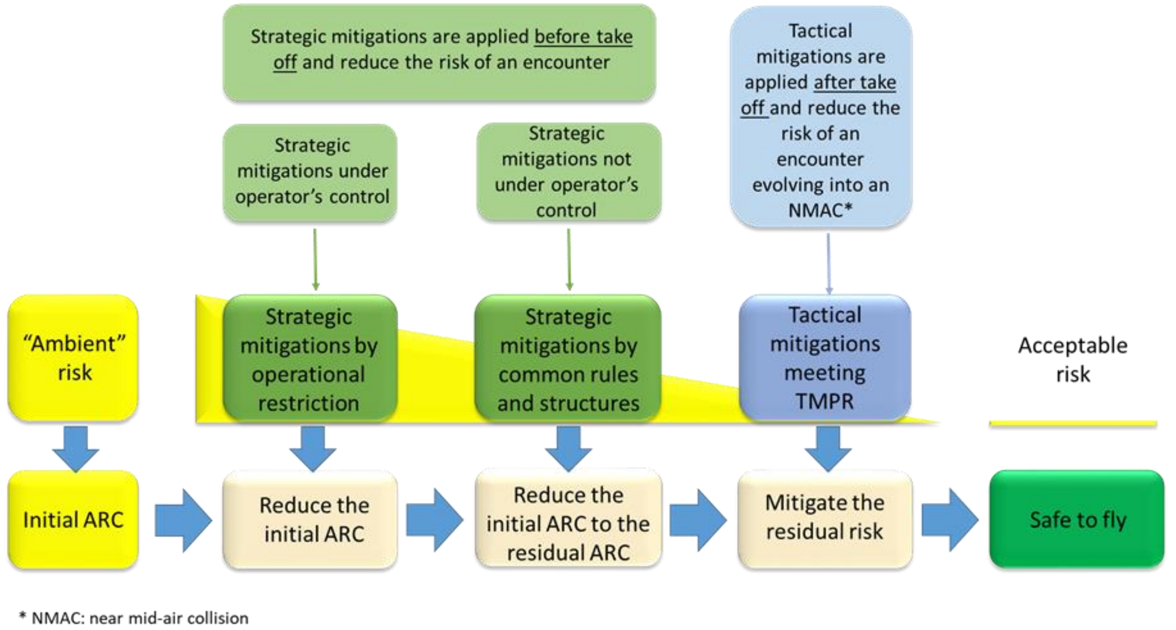


Figure C.5 — SORA air-conflict mitigation process

ANNEX E TO APPENDIX A TO AMC1 TO ARTICLE 11

INTEGRITY AND ASSURANCE LEVELS FOR THE OPERATIONAL SAFETY OBJECTIVES (OSOs)

E.1 How to use SORA Annex E

[…]

E.2 OSOs related to technical issues with the UAS

[…]

OSO #06 — C3 link characteristics (e.g. performance, spectrum use) are appropriate for the operation

[…]

TECHNICAL ISSUE WITH THE UAS		**Level of assurance**		
		Low	**Medium**	**High**
[…]				
OSO #06 **C3 link characteristics (e.g. performance, spectrum use) are appropriate for the operation**	Criteria	Consider the assurance criteria defined in Section 9 (low level of assurance)	Demonstration of the C3 link performance is in accordance with standards considered adequate by the competent authority and/or in accordance with means of compliance acceptable to that authority.	Same as medium. In addition, evidence is ~~validated by a competent third party~~demonstrated by the certificate of the UAS, which is issued by EASA according to Article 40(1)(d) of Regulation (EU) 2019/945.
	Comments	*N/A*	*N/A*	*N/A*

[…]

E.5 OSOs related to safe design

[…]

		LEVEL of ASSURANCE		
		Low	**Medium**	**High**
OSO #10 & OSO #12	Criteria	A design and installation appraisal is available. In particular, this appraisal shows that: (a) the design and installation features (independence, separation and redundancy) satisfy the low integrity criterion; and (b) particular risks relevant to the ConOps (e.g. hail, ice, snow, electromagnetic interference, etc.) do not violate the independence claims, if any.	Same as low. In addition, the level of integrity claimed is substantiated by analysis and/or test data with supporting evidence.	Same as medium. In addition, ~~a competent third party validates~~ the claimed level of integrity ~~claimed~~is demonstrated by the certificate of the UAS, which is issued by EASA according to Article 40(1)(d) of Regulation (EU) 2019/945.
	Comments	*N/A*	*N/A*	*N/A*

[…]

E.7 OSOs related to Human Error

[…]

OSO #18 — Automatic protection of the flight envelope from human errors

[…]

HUMAN ERROR		**LEVEL of ASSURANCE**		
		Low	**Medium**	**High**
OSO #18 Automatic protection of the flight envelope from human errors	Criteria	The automatic protection of the flight envelope has been developed in-house or out of the box (e.g. using commercial off-the-shelf elements), without following specific standards.	The automatic protection of the flight envelope has been developed to standards considered adequate by the competent authority and/or in accordance with a means of compliance acceptable to that authority.	Same as Medium. In addition, ~~evidence~~the claimed level of integrity is ~~validated~~demonstrated by the certificate of the UAS, which is issued by EASA according to Article 40(1)(d) of Regulation (EU) 2019/945.
	Comments	_N/A_	_N/A_	_N/A_

[…]

E.9 Assurance level criteria for technical OSO

		LEVEL of ASSURANCE		
		Low	**Medium**	**High**
TECHNICAL OSO	Criteria	The applicant declares that the required level of integrity has been achieved[1].	The applicant has supporting evidence that the required level of integrity is achieved. This is typically done by testing, analysis, simulation[2], inspection, design review or through operational experience.	~~EASA validates t~~The claimed level of integrity is demonstrated by the certificate of the UAS, which is issued by EASA according to Article 40(1)(d) of Regulation (EU) 2019/945.
	Comments	_[1] Supporting evidence may or may not be available._	_[2] When simulation is used, the validity of the targeted environment used in the simulation needs to be justified._	_N/A_

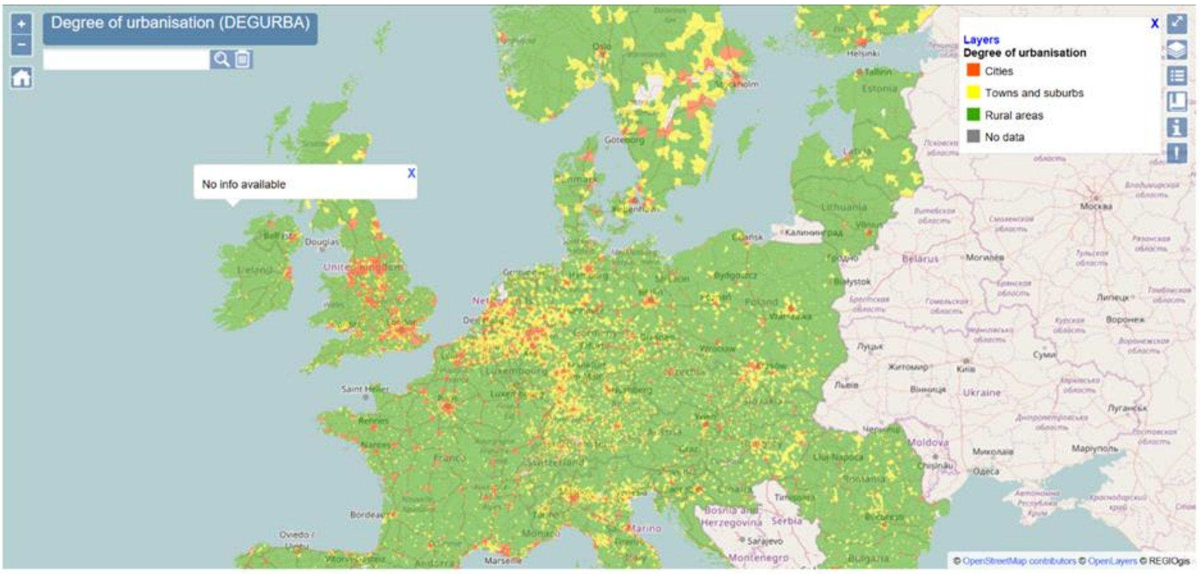
GM2 to AMC1 Article 11 Rules for conducting an operational risk assessment

SPARSELY POPULATED AREAS

An area can be considered to be sparsely populated if it can be classified as thinly populated in accordance with the European Commission's Regional Working Paper 2014: 'WP 01/2014 — A harmonised definition of cities and rural areas: the new degree of urbanisation'[15].

According to WP 01/2014, thinly populated areas (also defined as 'rural areas') are characterised by more than 50 % of the population living in rural grid cells.

Such areas correspond to the green ones in the interactive map: at https://ec.europa.eu/regional_policy/mapapps/urban/degurba.html. See screenshot below:



Due to the limited resolution of the map, clusters with significant population density may belong to the green area and may thus not be highlighted if they have a population of less than 5 000 inhabitants. Therefore, even if the operational areas are contained in green zones, more detailed local maps should be used to check whether such small clusters are included in the operational area. In this case, the Organisation for Economic Cooperation and Development (OECD) rural population density criteria that are included in WP 01/2014 may be used to assess whether the 'sparsely populated' assumption still holds or not for such clusters.

For similar reasons, yellow areas, which include suburbs, may also contain relatively small clusters that are characterised by population patterns similar to those of rural areas. It is therefore possible that, on the basis of more detailed local maps, some operational areas of limited extent within the yellow areas may correspond to 'sparsely populated' areas. The same OECD criteria could be applied as guidelines for the yellow areas.

If the area where the UAS operation takes place includes a small portion with a higher population density, that operational area may still be considered as sparsely populated provided that the UAS operation within the portion with the higher population density lasts less than 5 % of the operational time.

[15] https://ec.europa.eu/regional_policy/sources/docgener/work/2014_01_new_urban.pdf

4. Impact assessment (IA)

4.1. What is the issue

Please refer to Section 2.1.

4.1.1. Safety risk assessment

As there is not sufficient data to perform an exhaustive safety risk assessment, EASA took into consideration the outcome of the investigation into the *Matternet* incident, which is explained in Section 2.1.1. No other incidents or accidents related to UAS BVLOS operations over populated areas or assemblies of people have been reported. Although the number of such operations is very limited at the moment, this will most likely change in the next years.

According to the SESAR Joint Undertaking 'European Drones Outlook Study: Unlocking the value for Europe'[16], the number of UAS performing BVLOS operations over populated areas or assemblies of people is expected to reach ca 95 000 units in 2035 and ca 115 000 units in 2050. The exposure of the population to the risk of a UAS crashing will thus become higher, requiring a high safety standard.

4.1.2. Who is affected

The following stakeholders are affected:

— industry:
  — manufacturers of UAS;
  — continuing-airworthiness organisations; and
  — operators of UAS; and
— authorities:
  — competent authority, designated by each EASA Member State to issue operational authorisations;
  — competent authority of the continuing-airworthiness organisation, contracted by the UAS operator;
  — competent authority for the verification of compliance with the Additional Airworthiness Specifications Regulation; and
  — EASA, responsible for the certification of the UAS design.

4.1.3. How could the issue/problem evolve

If no further action is taken, EASA Member States will be required to define themselves on a case-by-case basis the 'intrinsic UAS GRCs', leading to a lack of harmonisation of solutions, as it cannot be ensured that all EASA Member States will use the same approach. This could result in a situation where two UAS operators, located in two different EASA Member States and using the same UAS for the same concept of operation, might be requested to demonstrate different levels of robustness for each OSO (as defined in JARUS SORA).

16 http://www.sesarju.eu/sites/default/files/documents/reports/European_Drones_Outlook_Study_2016.pdf

4.2. What we want to achieve — objectives

Please refer to Section 2.2.

4.3. How it could be achieved — options

The policy options are summarised in the following table:

Table 3 — Policy options

Option No	Short title	Description
0	No change	No change to the AMC and GM: each NAA defines its own approach.
1	JARUS SORA	Use the data that are provided in Table 2 'Intrinsic ground risk classes (GRC) Determination' of JARUS SORA, Main Body, edition 2.0.
2	UAS certified	Use the data that are provided in Table 2 'Intrinsic ground risk classes (GRC) Determination' of JARUS SORA, Main Body, edition 2.0, and require the highest level of robustness only for the verification of the technical requirements of UASs that are operated in BVLOS: — for a UAS with an MTOM of more than 4 kg, which is intended to be operated over a populated area; and — for a UAS with a kinetic energy of more than 80 J, which is intended to be operated over an assembly of people. For the above-mentioned UAS, when they are intended to be used in an operation with: — a SAIL ≤ IV, Article 40(1)(d) of Regulation 2019/945 is not applicable, however, certification of the UAS by EASA according to the Initial Airworthiness Regulation is required; and — a SAIL > IV, existing requirements are still applicable, including Article 40(1)(d) of Regulation 2019/945; therefore, in addition to the certification of the UAS by EASA according to the Initial Airworthiness Regulation, the involvement of the competent authorities for the continuing-airworthiness aspects according to Commission Regulation (EU) No 1321/2014 (Continuing Airworthiness Regulation) is required, and, if applicable, also the involvement of competent authorities for the verification of compliance with Commission Regulation (EU) No 2015/240 (Additional Airworthiness Specifications Regulation).
3	UAS certified and operations classified in the highest risk category	Consider that BVLOS operations: — for a UAS with an MTOM of more than 4 kg, which is intended to be operated over a populated area; and — for a UAS with a kinetic energy of more than 80 J, which is intended to be operated over an assembly of people, are high-risk operations, irrespective of the mitigations proposed by applicants; all the OSOs will need to be systematically met at the highest level of robustness. Therefore, for all the above-mentioned UAS, Article 40(1)(d) of Commission Regulation (EU) 2019/945 is applicable: certification of the UAS by EASA according to Commission Regulation (EU) No 748/2012 (Initial Airworthiness Regulation) is required, as well as the involvement of the competent authorities for the continuing-airworthiness aspects.

4.4. What are the impacts

4.4.1. Methodology applied

The methodology applied for this IA is the multi-criteria analysis (MCA), which allows to compare all the options by scoring them against a set of criteria.

MCA covers a wide range of techniques that are intended to combine a range of positive and negative impacts into a single scheme to allow easier comparison of scenarios. The key steps of an MCA generally include the following:

(a) establishing the criteria to be used to compare the options (these criteria must be measurable, at least in qualitative terms); and

(b) scoring how well each option meets the criteria; the scoring needs to be relative to the baseline scenario.

The criteria used to compare the options are derived from the Basic Regulation.

As shown in detail in Table 4 below, the scoring of the impacts uses a scale of --- to +++ to indicate the negative and positive impacts of each option (i.e. from low to high negative/positive impacts), with a 'no impact' score also possible.

Table 4 — Scoring of impacts

Negative impact	Score	Positive impact	Score
---	High negative impact	+++	High positive impact
--	Medium negative impact	++	Medium positive impact
-	Low negative impact	+	Low positive impact
0		Neutral/insignificant	

<u>Note</u>: the text might show negative or positive impacts for Option 0 (baseline scenario); however, to allow straightforward comparability of all options with the baseline scenario, the scores of Option 0 are set to 0.

4.4.2. Safety impact

<u>Option 0 — No change</u>

The intrinsic UAS GRCs table of AMC1 to Article 11 'Rules for conducting an operational risk assessment' of the UAS Regulation contains TBD ('to be developed') entries for both cases of BVLOS operations over a populated area and over an assembly of people. Therefore, each EASA Member State would need to decide which intrinsic ground risk to assign to such operations, leading to a lack of harmonisation of the approach followed by different EASA Member States. It is highly likely that some EASA Member States will continue using Table 2 'Intrinsic ground risk classes (GRC) Determination' of JARUS SORA, while others may decide to have a completely different approach. This means that each EASA Member States may use different means to ensure the same level of safety, in terms of design, operator, and pilot competency requirements. In addition, this Option does not always require the operator to have a UAS (R)TC. Therefore, the safety impact of this Option is considered neutral.

Option 1 — JARUS SORA

Compared with Option 0, Option 1 ensures harmonisation of approach among EASA Member States as the intrinsic UAS ground risk class table of AMC1 to Article 11 would be populated with the values of the analogous JARUS SORA Table 2. However, this Option may not require in all cases a UAS (R)TC from EASA, nor the verification of the other OSOs by a third party. Hence, the safety impact of this Option is considered neutral.

Option 2 — UAS certified

This Option requires a high level of assurance (i.e. a(n) (R)TC) for the mitigations and OSOs related to the design, for a UAS:

— with an MTOM of more than 4 kg, which is operated over a populated area; and

— with a kinetic energy of more than 80 J, which is operated over an assembly of people.

Therefore, the safety impact of this Option is considered medium positive.

Option 3 — UAS certified and operations classified in the highest risk category

With this Option, all OSOs are required to be met at the highest level of robustness, which entails a systematic third-party validation for all aspects (e.g. maintenance, training, design, etc.) for a UAS:

— with an MTOM of more than 4 kg, which is operated over a populated area; and

— with a kinetic energy of more than 80 J, which is operated over an assembly of people.

Hence, the safety impact of this Option is considered high positive.

4.4.3. Social impact

Public perception and societal acceptance are key elements to enable the full deployment of the possibilities that UAS technology offers. It is essential to understand that the general public will not likely accept incidents/accidents of UAS ‘falling from the sky’, while the benefits for society still need to be demonstrated.

Options 0 (No change) and 1 (JARUS SORA)

Options 0 and 1 do not affect either positively or negatively public perception or societal acceptance of UASs. Therefore, their social impact is considered neutral.

Option 2 — UAS certified

This Option would increase the safety level of UAS BVLOS operations over a populated area and an assembly of people, and therefore would undoubtedly facilitate societal acceptance of that technology, thanks to the EASA checks for the certification of the product. Hence, the social impact of this Option, compared with Option 0, is considered medium positive.

Option 3 — UAS certified and operations classified in the highest risk category

This Option would considerably increase the safety level of UAS BVLOS operations over populated areas and assemblies of people. Therefore, it would facilitate and enhance societal acceptance of that technology, thanks to the EASA checks for the certification of the design, to the involvement of the competent authorities for all other airworthiness aspects (e.g. maintenance), and to the third-party validation of all remaining aspects (e.g. training, operator organisation). Hence, the social impact of this Option, compared with Option 0, is considered high positive.

4.4.4. Economic impact

Option 0 — No change

Option 0 could lead to a lack of harmonisation of approach among EASA Member States. Each EASA Member State would define different intrinsic UAS GRCs for BVLOS operations over a populated area and BVLOS operations over an assembly of people. This could result in different SAILs and different expected levels of robustness for each OSOs for the design, operator, and pilot competency requirements. For example, two UAS operators, located in two different EASA Member States, and using the same UAS and the same concept of operation, might be requested to demonstrate different levels of robustness for each OSO.

Considering that UAS operators are expected to flourish in the near future and that the number of cross-border operations and/or operations outside the state of registration will likely escalate, this Option could have a substantial negative impact, in terms of time and resources used by UAS operators to comply with a diferrent set of requirements from each EASA Member State.

In addition, multiple UAS operators that conduct an operation using the same concept and the same UAS will need to apply for an authorisation to the NAA and provide evidence, including that the UAS operated meets the technical requirements, as they will not be able to use any certificate recognised by the UAS manufacturer.

Therefore, a negative impact is also expected for the NAAs as they would need to dedicate each time resources to assess the UAS's compliance.

Overall, a medium negative economic impact would continue to exist with Option 0 (i.e. no change).

Option 1 — JARUS SORA

Option 1 ensures harmonisation among EASA Member States regarding their approach to safely authorising BVLOS operations over populated areas and assemblies of people. Therefore, the economic impact of this Option, compared with Option 0, is considered low positive.

Option 2 — UAS certified

In economical terms, Option 2 could have two different impacts:

(a) The costs for EASA certification would be incurred by UAS manufacturers, which would be then passed on to UAS operators through the purchase cost. EASA is developing a proposal to amend the UAS Regulation to allow a certification approach proportionate to the risk of the operation, resulting in proportionate certification costs for the applicants.

(b) UAS operators could take credit for the UAS certification by demonstrating compliance with the level of robustness for the design-related OSOs, and would therefore not need to provide a justification to the NAA. NAAs would save resources as they are not required to assess if the UAS design is appropriate for the operation. However, EASA would need to dedicate resources to certifying those UAS.

Therefore, considering the effects alltogehter, Option 2, compared with Option 0, is expected to have a medium positive economic impact.

Option 3 — UAS certified and operations classified in the highest risk category

Option 3 offers the same cost benefits for the UAS operator as Option 2. However, operators would have additional costs due to the increased SAIL of the OSOs that are not only related to design (e.g. remote crew competences, operator organisation, etc.). According to Articles 40(1)(d) and 40(2) of Regulation (EU) 2019/945, the certified UAS is required to comply with the applicable airworthiness requirements of the Initial Airworthiness, Additional Airworthiness Specifications, and Continuing Airworthiness Regulations. Therefore, the economic impact of this Option, compared with Option 0, is evaluated as low positive.

4.5. Conclusion

4.5.1. Comparison of options

Impacts are rated on a scale from --- to +++:

Table 5 — Comparison of the Options' impacts

	Option 0[17]	Option 1	Option 2	Option 3
Safety impact	0	0	++	+++
Social impact	0	0	++	+++
Economic impact	0	+	++	+
Total	0	0/+	++	++/+++

The **preferred option**, considering all impacts (safety, social, and economic), **is Option 3**.

4.6. Monitoring and evaluation

Monitoring is a continuous and systematic process of data collection and analysis about the implementation/application of a rule/activity. It generates factual information for future possible evaluations and impact assessments; it also helps to identify actual implementation problems. A proposal on the indicators to check is presented below:

Table 6 — Monitoring and evaluation

What to monitor	How to monitor	Who should monitor	How often to monitor
Occurrences, incidents, and accidents involving UAS that conduct BVLOS operations over a populated area and an assembly of people.	European Co-ordination Centre for Accident and Incident Reporting Systems (ECCAIRS).	EASA and/or NAAs.	On a recurrent, e.g. yearly, basis.

[17] The text might show negative or positive impacts for Option 0 (baseline scenario); however, to allow straightforward comparability of all the options with the baseline scenario, the scores of Option 0 are set to 0.

5. Proposed actions to support implementation

— For UAS that are certified pursuant to Article 40(1)(d) of Regulation (EU) 2019/945, EASA will develop AMC & GM to said Regulation under RMT.0730 to explain how and to what extent the related requirements of the Continuing Airworthiness Regulation must be complied with.

— Focused communication for Advisory Body meeting(s) (MAB/SAB/TeB/TEC/COM)

(Advisory Body members)

— Providing supporting clarifications in electronic communication tools EASA–NAAs (EUSurvey or other)

(Primarily targeted audience: competent authorities)

— EASA Circular

(Primarily targeted audience: competent authorities, industry)

— Detailed explanation with clarification on the EASA web

(Primarily targeted audience: industry, competent authorities)

— Dedicated thematic workshop/session

(Primarily targeted audience: industry, competent authorities)

— Series of thematic events organised on the regional principle

(Primarily targeted audience: industry, competent authorities)

— Combination of the above selected means

(industry, competent authorities)

6. References

6.1. Related regulations

Commission Implementing Regulation (EU) 2019/947 of 24 May 2019 on the rules and procedures for the operation of unmanned aircraft of the European Parliament and of the Council (OJ L 152, 11.6.2019, p.45).

6.2. Affected decisions

Executive Director Decision 2019/021/R of 9 October 2019 issuing Acceptable Means of Compliance and Guidance Material to Commission Implementing Regulation (EU) 2019/947.

6.3. Other reference documents

Commission Delegated Regulation (EU) 2019/945 of 12 March 2019 on unmanned aircraft systems and on third-country operators of unmanned aircraft systems (OJ L 152, 11.6.2019, p. 1).

7. Appendix

N/a.

8. Quality of the document

If you are not satisfied with the quality of this document, please indicate the areas which you believe could be improved and provide a short justification/explanation:

— technical quality of the draft proposed rules and/or regulations and/or the draft proposed amendments to them;

— text clarity and readability;

— quality of the impact assessment (IA);

— application of the better regulation principles; and

— others (please specify).

Note: your replies and/or comments to this section shall be considered for internal quality assurance and management purposes only and will not be published in the related CRD.