



Brussels, **XXX**
[...](2019) **XXX** draft

ANNEX TO EASA OPINION No 05/2019

COMMISSION IMPLEMENTING REGULATION (EU) .../...

of **XXX**

**amending Commission Implementing Regulation (EU) 2019/947 as regards the adoption
of standard scenarios**

COMMISSION IMPLEMENTING REGULATION (EU) .../...

of **XXX**

amending Commission Implementing Regulation (EU) 2019/947 as regards the adoption of standard scenarios

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) 2018/1139 of the European Parliament and of the Council 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 No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91⁽¹⁾, and in particular Article 57 thereof,

Whereas:

- (1) Appendix 1 to the Annex to Regulation (EU) 2019/947⁽²⁾ should contain standard scenarios supporting a declaration.
- (2) Two standard scenarios have been developed by EASA, based on the experience gained by some Member States. Standard scenario 1 (STS-01) covers operations executed in visual line of sight (VLOS), at a maximum height of 120 m over a controlled ground area in a populated environment using a CE class C5 UAS. Standard scenario 2 (STS-02) covers operations that might be conducted beyond visual line of sight (BVLOS), with the UA at a distance of not more than 2 km from the remote pilot if visual observers are used, at a maximum height of 120 m over a controlled ground area in a sparsely populated environment, and using a CE class C6 UAS.
- (3) The European Union Aviation Safety Agency has prepared draft implementing rules and submitted them with Opinion No 05/2019⁽³⁾ in accordance with points (b) and (c) of Article 75(2) and with Article 76(1) of Regulation (EU) 2018/1139.
- (4) The measures provided for in this Regulation are in accordance with the opinion of the committee established in accordance with Article 128(4) of Regulation (EU) 2018/1139,

¹ OJ L 212, 22.8.2018, p. 1.

² 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).

⁽³⁾ <https://www.easa.europa.eu/document-library/opinions>

HAS ADOPTED THIS REGULATION:

Article 1

- (1) Point (18) of Article 2 is replaced by the following:
‘(18) ‘involved persons’ means persons who participate in the UAS operation and who are aware of the instructions and safety precautions given by the UAS operator;’;
- (2) The following point (24) is added to Article 2:
‘(24) ‘unmanned aircraft observer’ means a person, situated alongside the remote pilot, who, by unaided visual observation of the UA, assists the remote pilot in keeping the UA in VLOS and safely conducting the flight;’;
- (3) The following point (25) is added to Article 2:
‘(25) ‘visual observer’ means a person who assists the remote pilot by performing unaided visual scanning of the airspace in which the unmanned aircraft is operating for any potential hazard in the air;’;
- (4) The following point (26) is added to Article 2:
‘(26) ‘control unit’ (‘CU’) means the equipment or system of equipment to control unmanned aircraft remotely as defined in point 32 of Article 3 of Regulation (EU) 2018/1139, with the exception of any infrastructure supporting the C2 link service, which supports the control or the monitoring of the unmanned aircraft during any phase of flight;’;
- (5) The following point (27) is added to Article 2:
‘(27) ‘C2 link service’ means a communication service between the unmanned aircraft and the CU provided by a third party;’.
- (6) The following point (28) is added to Article 2:
‘(28) ‘flight geography’ means the volume(s) of airspace defined spatially and temporally in which the UAS operator plans to conduct the operation under normal procedures.’;
- (7) The following point (29) is added to Article 2:
‘(29) ‘flight geography area’ means the projection of the flight geography on the surface of the earth.’;
- (8) The following point (30) is added to Article 2:
‘(30) ‘contingency volume’ means the volume outside the flight geography where contingency procedures are applied.’;
- (9) The following point (31) is added to Article 2:
‘(31) ‘contingency area’ means the projection of the contingency volume on the surface of the earth;’;
- (10) The following point (32) is added to Article 2:
‘(32) ‘operational volume’ is the combination of the flight geography and the contingency volume;’;

- (11) The following point (33) is added to Article 2:
‘(33) ‘ground risk buffer’ is an area over the surface of the earth, which surrounds the operational volume and that is defined to minimise the risk to third parties on the surface in the event of the unmanned aircraft leaving the operational volume.’;
- (12) Paragraph 5 of Article 5 is replaced by the following
‘5. Where the UAS operator submits a declaration to the competent authority of the Member State of registration in accordance with point UAS.SPEC.020 laid down in Part B of the Annex for an operation complying with a standard scenario as defined in Appendix 1 to that Annex, the UAS operator shall not be required to obtain an operational authorisation in accordance with paragraphs 1 to 4 of this Article, and the procedure laid down in paragraph 5 of Article 12 shall apply. The UAS operator shall use the declaration referred to in Appendix 2 to that Annex.’;
- (13) Article 23 is replaced by the following:
‘1. This Regulation shall enter into force on the twentieth day following that of its publication in the Official Journal of the European Union.
It shall apply from 1 July 2020.
2. Paragraph 5 of Article 5 shall apply from [OP: please insert 18 months after the entry into force of this Regulation- i.e. June 2022]
3. Notwithstanding paragraph 1 of Article 21, in accordance with paragraph 5 of Article 5, Member States may accept declarations made by UAS operators based on national standard scenarios or equivalent, if those scenarios meet the requirements of point UAS.SPEC.020 of the Annex, until [OP: please insert 18 months after the entry into force of this Regulation — i.e. 1 June 2022]. Such declarations shall not be valid after [OP: please insert 42 months after the entry into force of this Regulation — i.e. 1 June 2024].
4. Paragraph 3 of Article 15 shall apply from 1 July 2021.’;
- (14) Point (1) of point UAS.OPEN.020 is replaced by the following:
‘(1) for unmanned aircraft referred to in point (5)(d), be conducted in such a way that a remote pilot of the unmanned aircraft does not overfly assemblies of people and reasonably expects that only involved persons will be overflown. In the event of unexpected overflight of persons who are not involved, the remote pilot shall reduce as much as possible the time during which the unmanned aircraft overflies those persons;’;
- (15) Point (2) of point UAS.OPEN.020 is replaced by the following:
‘(2) in the case of an unmanned aircraft referred to in points (5)(a), (5)(b) and (5)(c), be conducted in such a way that the remote pilot of the unmanned aircraft may overfly persons who are not involved, but shall never overfly assemblies of people;’;
- (16) Point (4)(b) of point UAS.OPEN.020 is replaced by the following:
‘(b) in the case of an unmanned aircraft class C1, as defined in Part 2 of the Annex to Regulation (EU) 2019/945, who has completed an online training course followed by completing successfully an online theoretical knowledge examination provided by the competent authority or by an entity recognised by the competent authority of

a Member State. The examination shall comprise 40 multiple-choice questions distributed appropriately across the following subjects:

- i. air safety;
- ii. airspace restrictions;
- iii. aviation regulations;
- iv. human performance limitations;
- v. operational procedures;
- vi. UAS general knowledge;
- vii. privacy and data protection;
- viii. insurance;
- ix. security.’;

(17) Point (1) of point UAS.OPEN.030 is replaced by the following:

‘(1) be conducted in such a way that the unmanned aircraft does not overfly persons who are not involved and the UAS operations take place at a safe horizontal distance of at least 30 metres from them; the remote pilot may reduce the horizontal safety distance down to a minimum of 5 metres from persons who are not involved when operating an unmanned aircraft with an active low speed mode function and after evaluation of the situation regarding:

- (a) weather conditions,
- (b) performance of the unmanned aircraft,
- (c) segregation of the involved area.’;

(18) Point (2) of point UAS.OPEN.030 is replaced by the following:

‘(2) be performed by a remote pilot who is familiar with the user’s manual provided by the manufacturer of the UAS and holds a certificate of remote pilot competency issued by the competent authority or by an entity recognised by the competent authority of a Member State. This certificate shall be obtained after complying with all of the following conditions and in the order indicated:

- (a) completing an online training course and passed the online theoretical knowledge examination as referred to in point (4)(b) of point UAS.OPEN.020;
- (b) completing a self-practical training in the operating conditions of the subcategory A3 set out in points (1) and (2) of point UAS.OPEN.040;
- (c) declaring the completion of the self-practical training defined in point (b) and passing an additional theoretical knowledge examination provided by the competent authority or by an entity recognised by the competent authority of a Member State. The examination shall comprise at least 30 multiple-choice questions aimed at assessing the remote pilot’s knowledge of the technical and operational mitigations for ground risk, distributed appropriately across the following subjects:

- (a) meteorology;
 - (b) UAS flight performance;
 - (c) technical and operational mitigations for ground risk.’;
- (19) Point (1) of point UAS.OPEN.040 is replaced by the following:
‘(1) be conducted in an area where the remote pilot reasonably expects that no person who is not involved will be endangered within the range where the unmanned aircraft is flown during the entire time of the UAS operation;
- (20) Point (3) of point UAS.OPEN.040 is replaced by the following:
‘(3) be performed by a remote pilot who is familiar with the user’s manual provided by the manufacturer of the UAS and who has completed an online training course and passed an online theoretical knowledge examination as defined in point (4)(b) of point UAS.OPEN.020;’;
- (21) Point (3) of point UAS.OPEN.050 is replaced by the following:
‘(3) designate a remote pilot for each flight;’;
- (22) Point (1)(e) of point UAS.OPEN.060 is replaced by the following:
‘(e) if the UAS is fitted with an additional payload, verify that its mass exceeds neither the MTOM defined by the manufacturer nor the MTOM limit of its class.’;
- (23) Point (4) of point UAS.OPEN.060 is replaced by the following:
‘(4) For the purposes of point (2)(b), remote pilots may be assisted by an unmanned aircraft observer. Clear and effective communication shall be established between the remote pilot and the unmanned aircraft observer.’;
- (24) Point (1)(b) of point UAS.SPEC.020 is replaced by the following:
‘(b) performed below 120 metres from the surface of the earth, and:
- i. in uncontrolled airspace (class F or G) unless different limitations are provided by Member States through UAS geographical zones in areas where the probability of encountering manned aircraft is not low; or
 - ii. in controlled airspace after coordination and flight authorisation in accordance with published procedures for the area of operation, so that a low probability of encountering manned aircraft is ensured.’;
- (25) Point (1)(b) of point UAS.SPEC.050 is replaced with the following:
‘(b) designate a remote pilot for each flight or, in the case of autonomous operations, ensure that during all phases of the flight, responsibilities and tasks especially those defined in points (2) and (3) of point UAS.SPEC.060 are properly allocated in accordance with the procedures established pursuant to point (a) above;’
- (26) Point (1)(g) of point UAS.SPEC.050 is replaced with the following:
‘(g) keep and maintain up to date a record of:
- i. all the relevant qualifications, experience and/or training courses completed by the remote pilot and the other personnel in charge of duties essential to the UAS operation, as defined within the operations manual, and by the maintenance staff, for

- at least 3 years after the persons have ceased employment with the organisation or have changed their position in the organisation;
- ii. the maintenance activities conducted on the UAS for a minimum of 3 years;
 - iii. the information on the UAS operations as required by the declaration or the operational authorisation for a minimum of 3 years;’;
- (27) The following points (1)(j), (1)(k), and 1(l) are added to point UAS.SPEC.050:
- ‘(j) establish and keep up to date a list of the designated remote pilots for each flight;
 - (k) establish and keep up to date a list of the maintenance staff employed by the operator to carry out maintenance activities; and
 - (l) ensure that each individual UA is equipped with at least one green flashing light for the purpose of conspicuity of the UA, to allow a person on the ground to distinguish the UA from a manned aircraft, when the UAS operation takes place at night and at a height not exceeding 120 m above the closest point on the surface of the earth.’
- (28) Point (1) of point UAS.SPEC.060 is replaced by the following:
- ‘(1) The remote pilot shall:
 - (a) not perform duties under the influence of psychoactive substances or alcohol or when it is unfit to perform its tasks due to injury, fatigue, medication, sickness or other causes;
 - (b) have the appropriate remote pilot competency as defined in the operational authorisation, in the standard scenario defined in Appendix 1 or as defined by the LUC, and carry a proof of competency while operating the UAS; and
 - (c) be familiar with the user’s manual provided by the manufacturer of the UAS.’;
- (29) The following point UAS.SPEC.085 is inserted:
- ‘UAS.SPEC.085 Duration and validity of an operational declaration:**
- The operational declaration shall have a limited duration of 2 years. It shall remain valid unless:
- (1) during the oversight of the UAS operator, the competent authority has found that the UAS operation is not conducted in accordance with the operational declaration;
 - (2) the conditions of the UAS operation are changed such that it no longer complies with the applicable requirements of this Regulation; or
 - (3) the competent authority is not granted access in accordance with point UAS.SPEC.090.’;
- (30) Appendix 1 is amended according to the Annex to this Regulation.
- (31) The new Appendices 2, 3, 4 and 5 are added according to the Annex to this Regulation.

Article 2

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

For the Commission

The President

[...]