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Pursuant to Article 142, paragraph 5 of the Air Traffic Act ("Official Gazette", number 69/09, 84/11, 54/13, 127/13 and 92/14), The Minister of the Maritime Affairs, Transport and Infrastructure adopts

## ORDINANCE ON UNMANNED AIRCRAFT SYSTEMS

### PART 1

#### General provisions

#### Article 1

##### Scope

- (1) This Ordinance prescribes general, technical and operational conditions for the safe use of unmanned aircraft, Unmanned Aircraft Systems and model aircraft and conditions for persons involved in the unmanned aircraft and Unmanned Aircraft Systems operations.
- (2) The provisions of this Ordinance shall apply to Unmanned Aircraft System, with an operating mass of up to and including 150 kilograms used in the Republic of Croatia.
- (3) The provisions of this Ordinance shall not apply to Unmanned Aircraft System when used for State activities (military, police, security and intelligence, customs, search and rescue, firefighting, coastguard or similar activities or services).
- (4) By way of derogation from provisions of Paragraph 3 of this Article, when State activities are performed according to the procedures and rules for general air traffic (GAT) within the Croatian airspace and airspace which is, in accordance to international agreement, assigned to the jurisdiction of the Republic of Croatia (Zagreb Flight Information Region), flights shall be conducted in accordance with the flight rules laid down in Part 2 of this Ordinance.
- (5) The provisions of this Ordinance shall not apply to unmanned aircraft if they cannot achieve kinetic energy greater than 79 J.
- (6) The provisions of this Ordinance shall not apply to Unmanned Aircraft System when used indoors.

#### Article 2

##### Terms and abbreviations

Terms used in this Ordinance have following meanings:

1. Agency: Croatian Civil Aviation Agency;
2. Area of operation: The airspace within which unmanned aircraft flight is performed;
3. Assembly of people: Gathering of people in a certain area (e.g. for the purpose of attending or participating in an organized event – concert, wedding, event, celebration, demonstrations, . . . or the use of common facilities – the beach, attraction park, . . .);

4. Associated Observer: A person who assists (helps) Handler in performance of Unmanned Aircraft System flight, when the Handler operates unmanned aircraft using system to display view from the aircraft (FPV);
5. Auxiliary farm buildings: stables, landfill, barns, warehouses and similar;
6. Flight operations: use of Unmanned Aircraft Systems, regardless of whether for consideration or not, when Unmanned Aircraft System is used for areal work (such as aerial photography, aerial advertising, aerial surveillance, fire protection, avalanche launch, scientific research flights, television, movie and news flights, special events flights including flying displays, competition flights and similar);
7. Flight within visual line of sight: the flight of an Unmanned Aircraft System, where the Unmanned Aircraft System Handler (hereinafter referred to as the Handler) flies in such a way that the unmanned aircraft can be observed at all time without use of optical or electronic aids. Contact lenses or corrective glasses are not considered as optical aid;
8. Global Navigation Satellite Systems (GNSS): Global navigation system whereby the receiver determines its geographical position using time and position data received from the satellite;
9. Model aircraft: Unmanned aircraft with sole purpose for the recreation and sport;
10. Operating mass of unmanned aircraft: The total mass of unmanned aircraft at the time of take-off;
11. System of view from the aircraft display (FPV): A system that uses / aircraft mounted camera and a display unit on the ground that enables the operator to display the view from the aircraft;
12. Unmanned aircraft: Aircraft used for flights without a pilot on board, that is remotely controlled or programmed and autonomous;
13. Unmanned Aircraft System: System intended to perform flight with aircraft without a pilot on board, it is remotely controlled or programmed and autonomous. It consists of unmanned aircraft and other components for managing or programming necessary to control unmanned aircraft by one or more persons;
14. Unmanned Aircraft System Handler: A person who operates Unmanned Aircraft System. In the terms of the provisions of the Air Traffic Act, the Handler is considered to be the pilot in command (hereinafter referred to as the Handler);
15. Unmanned Aircraft Systems Operator: A natural or legal person who performs Unmanned Aircraft System flight operations (hereinafter referred to as the Operator).

### Article 3

#### Classification of unmanned aircraft used for flight operations

According to operating mass, unmanned aircraft used for flight operations are divided into:

1. Class 5: up to 5 kilograms,
2. Class 25: from 5 kilograms to 25 kilograms,
3. Class 150: 25 kilograms up to and including 150 kilograms.

## Article 4

### Areas of operation classification

With regards to population and types of buildings, areas of operation are classified as follows:

1. Class I –The area with no elevated structures or facilities nor people, except the Handler and personnel necessary for flying.
2. Class II - The area with auxiliary farm buildings or structures not intended for stay and without people, except the Handler and personnel necessary for flying. It is allowed for people to occasionally pass through the area, but without retention (cyclists, pedestrians, etc.).
3. Class III - The area with buildings or facilities primarily intended for residential, business or recreational purposes (residential buildings and houses, schools, offices, sports facilities, parks, etc.).
4. Class IV –Urban zone area (center of towns or other settlements).

## Article 5

### Flight operations categorization

- (1) Flight operations category is determined by the level of potential risk to the environment, in accordance with Appendix 1 of this Ordinance.
- (2) By way of derogation from provisions of Paragraph 1 of this Article, flying over an assembly of people or over industrial area, where there is a possibility of ignition or explosion due to crash of the unmanned aircraft, is considered flight operations category D.

## Article 6

### Model aircraft

Model aircraft is allowed to fly in areas of operations Classes I and II.

## Article 7

### Mandatory insurance requirement

- (1) The operator shall obtain an insurance policy in accordance with the regulation governing the mandatory insurance in traffic.
- (2) By way of derogation from provisions of Paragraph 1 of this Article, to fly model aircraft, the owner shall obtain an insurance policy in accordance with the regulation governing the mandatory insurance, where applicable.

## Article 8

### The use of radio frequency spectrum

- (1) The operator shall obtain the approval for the use of radio frequency spectrum in accordance with a dedicated regulation, where applicable.

(2) By way of derogation from Paragraph 1 of this Article, to fly model aircraft, the owner shall obtain the approval for the use of radio frequency spectrum in accordance with a dedicated regulation, where applicable.

## Article 9

### Unmanned aircraft markings

- (1) Unmanned aircraft used for flight operations and model aircraft with operating mass of more than 5 kg shall be marked with non-flammable identification plate.
- (2) By way of derogation from paragraph 1 of this Article, identification label is acceptable for unmanned aircraft with operating mass below 5 kg used for flight operations.
- (3) Marking of an unmanned aircraft which is used for flight operations shall be carried out by the operator.
- (4) Marking of model aircrafts shall be carried out by the owner.
- (5) Non-flammable identification plate or identification label shall contain the following information:
  - a) The identification of unmanned aircraft in accordance with paragraphs 8 and 9 of this Article,
  - b) Name, address and contact information of the operator or owner, as applicable.
- (6) Non-flammable identification plate or identification label shall be of adequate size that allows clear identification and shall be attached in durable manner.
- (7) The operator of Unmanned Aircraft System used in flight operations or the owner of the model aircraft shall replace a non-flammable identification plate or identification label immediately after any change of data laid down in paragraph 5 of this Article, damage beyond recognition or loss.
- (8) The identification mark for unmanned aircraft used for flight operations category D is assigned by the Agency.
- (9) The identification mark for the model aircraft, determined by the owner or the operator of the unmanned aircraft used for flight operations categories A, B and C, cannot start with letter "D".

## PART 2

### Rules of the air

## Article 10

### Application of the regulations

Flying of an unmanned aircraft shall be performed in accordance with applicable regulations on use of Croatian airspace and the provisions of this Ordinance.

## Article 11

### General conditions for unmanned aircraft flying

- (1) The Handler shall ensure that the unmanned aircraft flight does not present danger to life, health or property of people due to crash or loss of control of an unmanned aircraft and that it does not endanger or interfere with public order.

(2) The Handler shall:

- a) Ensure that the unmanned aircraft flight is performed by day,
- b) Check and ensure the integrity of the Unmanned Aircraft System before flight,
- c) Gather all necessary information for the planned flight and ensure that meteorological and other conditions in flight area ensure safe flight performance,
- d) Ensure that all equipment or cargo is properly attached to unmanned aircraft in a way to prevent unintentional drop off,
- e) Ensure that the unmanned aircraft safely clears all obstacles during take-off or landing,
- f) Ensure safe distance of unmanned aircraft from persons, animals, objects, vehicles, vessels, other aircraft, roads, railways, waterways or transmission lines, not less than 30 meters,
- g) Ensure that the minimum distance of unmanned aircraft from assembly of people is 150 meters,
- h) Ensure that the unmanned aircraft flight is performed within Handler's visual line of sight and at the distance of not more than 500 meter from Handler,
- i) Ensure that the flight of unmanned aircraft is performed outside of controlled airspace,
- j) Ensure that the unmanned aircraft flight is performed at distance of at least 3 km from airport and approach or departure path, except when specific procedures for unmanned aircraft flying are depicted in the aerodrome's instructions for use, and
- k) Ensure that during the unmanned aircraft flight no objects are dropped.

## Article 12

### Flying with view from the aircraft display (FPV)

- (1) The use of FPV is allowed for model aircraft only.
- (2) The Handler shall perform a flight only if accompanied by an associated observer.
- (3) The Handler shall brief the associate observer with all essential details of the planned flight, at least with regards to height and route planned.
- (4) Associate observer shall maintain uninterrupted visual contact with the unmanned aircraft throughout flight and inform the Handler of any deviation from the planned flight, possible disruption of minimum distances and other matters relevant to the safety of flight.
- (5) Associate observer and handler shall be at a distance that allows unhindered voice communication without technical aids during the flight.

## PART 3

### Flight operations

#### Article 13

##### The right to perform flight operations

- (1) The Operator is allowed to perform flight operations categories A and B, provided that the Operator's Declaration is submitted to the Agency before performing flight operations, as prescribed by Article 18 of this Ordinance.
- (2) The Operator is allowed to perform flight operations category C provided that the Operations Manual is developed and Operator's Declaration is submitted to the Agency before performing flight operations, as prescribed by Article 18 of this Ordinance.
- (3) The Operator is allowed to perform flight operations category D provided that the Agency Approval has been obtained.

#### Article 14

##### Flight operations

- (1) The Handler shall perform Unmanned Aircraft System flights in accordance with the applicable rules and Flight Manual or instructions for use.
- (2) When performing flight operations, the operator shall ensure compliance with the operational and technical requirements for the intended flight operations category, laid down in Appendix 4 of this Ordinance.
- (3) By way of derogation from provisions of Paragraph 2 of this Article, the operator of Unmanned Aircraft System used for Category D operations with operating mass greater or equal to 25 kilograms shall ensure compliance with the operational requirements laid down in Appendix 4 of this Ordinance and requirements prescribed in the Ordinance on design, acceptance, construction and maintenance of aircraft not under the authority of the European Aviation Safety Agency (EASA).
- (4) By way of derogation from provisions of Article 11, Paragraph 2 (f) and (g) of this Ordinance, Unmanned Aircraft System flight operations can be performed at shorter distances, provided that the approval from the Agency has been obtained.
- (5) By way of derogation from provisions of Article 11, Paragraph 2 (h) of this Ordinance, Unmanned Aircraft System flight operations can be performed at greater distances and beyond visual line of sight, provided that the approval from the Agency has been obtained.
- (6) By way of derogation from provisions of Article 11, Paragraph 2 (i) of this Ordinance, Unmanned Aircraft System flight operations can be performed in controlled airspace, provided that approval for the special use of the controlled airspace of the relevant air traffic control has been obtained.
- (7) By way of derogation from provisions of Article 11, Paragraph 2 (k) of this Ordinance, Unmanned Aircraft System flight operations with purpose for dropping of objects in flight can be performed provided that approval from the Agency has been obtained.

## Article 15

### Operator's Responsibilities

- (1) The operator shall appoint the responsible person who has the overall responsibility over the activities of operator.
- (2) The operator shall establish a reporting system on events related to safety in air transport according to the applicable regulation.
- (3) The operator shall establish a system of record-keeping which shall contain at least the following information:
  - a) Date of flight,
  - b) The start time and finish time of flight operations and flight duration,
  - c) Name of the Handler who performed the flight,
  - d) Flight operations location,
  - e) Area of operation Classification,
  - f) The operating weight of an unmanned aircraft, and
  - g) Remarks on the events which the operator assesses as of significance to flight operations.
- (4) Flight Records shall be kept for at least two years after the date of the flight.
- (5) The operator shall assess the need and carry out risk management activities prior to conducting flight operations category C or D, if deemed necessary.
- (6) Risk management shall include the identification of hazards, risk evaluation and measures to reduce the risk to an acceptable level, if necessary.
- (7) To document the procedure of risk management operator can use the form laid down in Appendix 3 of this Ordinance.
- (8) Records of risk management shall be kept for at least two years from the date of related flight operations termination.

## Article 16

### Operations Manual

- (1) The Operations Manual shall include at least the following parts and instructions:
  - a) Table of contents,
  - b) Record of revision and list of effective pages,
  - c) Duties and responsibilities of personnel involved in the activities of operators,
  - d) Standard operating procedures,
  - e) Unmanned Aircraft Systems maintenance,
  - f) Emergency procedures,
  - g) Flight operations limitations,
  - h) Reporting,
  - i) Risk management,
  - j) Handler's training, and
  - k) Record-keeping.
- (2) The operator shall ensure that the Operations Manual is continuously compliant with applicable rules and Flight Manual or instructions for use.

- (3) The operator shall ensure that all personnel have access to the Operations Manual.
- (4) Personnel shall be familiar with the parts of the Operations Manual related to their duties.
- (5) The operator shall perform activities in accordance with the provisions of the Operations Manual.

#### Article 17

##### Failure and impact analysis (FEMA - Failure Mode and Effect Analysis)

- (1) The operator shall perform failure analysis of essential components/functions of Unmanned Aircraft System, as applicable in accordance with the requirements laid down in Appendix 4 of this Ordinance.
- (2) The operator shall perform failure analysis of important functions of Unmanned Aircraft System to indicate that failure of individual component or function does not lead to Unmanned Aircraft System essential functions failure.
- (3) The operator shall test Unmanned Aircraft System on individual failure to ensure redundancy of essential functions/components and that backup system automatically or manually takes over, or ensure emergency operation that compensates faulty system (e.g. manual control).
- (4) Failure and impact analysis and the associated Unmanned Aircraft System configuration shall be recorded using the form laid down in Appendix 5 of this Ordinance.
- (5) By way of derogation from provisions of paragraph 2 of this Article, if Unmanned Aircraft System manufacturer published failure and impact analysis, the operator does not have to perform Unmanned Aircraft System test.
- (6) After every modification that affects Unmanned Aircraft System essential functions, operator shall perform failure and impact analysis of Unmanned Aircraft System essential components/functions.
- (7) Valid failure and impact analysis shall be kept for at least 6 months after termination of flight operations.

#### Article 18

##### The Operator's Declaration

- (1) The operator intending to perform flight operations shall declare capability and sufficient resources to take responsibilities associated with Unmanned Aircraft Systems flight operations, that the Unmanned Aircraft Systems used for flight operations comply with technical requirements and that flight operations shall be performed in accordance with the provisions of this Ordinance.
- (2) The Operator's Declaration shall be submitted using the form laid down in Appendix 2 to this Ordinance.
- (3) The operator shall:
  - a) maintain compliance with the applicable requirements and the information contained in the Operator's Declaration,
  - b) in the case of changes, notify the Agency by submission of revised Operator's Declaration, and
  - c) notify the Agency about flight operations termination.



## Article 19

### Agency Approvals

- (1) When the Agency approval is required by this Ordinance, to obtain the approval operator shall submit:
  - a) name and address of the applicant,
  - b) description of the intended flight operations,
  - c) number and types of Unmanned Aircraft System intended for use,
  - d) evidence of complying the operational and technical requirements for intended flight operations,
  - e) photos of the unmanned aircraft/s intended for use,
  - f) documented safety risk assessment for intended flight operations,
  - g) Operations Manual, and
  - h) Operator's Declaration for flight operations category D, as laid down in Article 18 of this Ordinance.
- (2) Agency Approval application shall be submitted in a form and manner established by the Agency.
- (3) For the purpose of issuing the approval Agency may inspect the applicant and request demonstration flights.
- (4) The Agency Approval for flight operations category D shall be issued for a period of maximum two years.
- (5) Approvals prescribed in Article 14, paragraphs 4, 5 and 7 of this Ordinance shall be issued in case of justified operational needs and with validity considered appropriate by the Agency based on the assessment of the risk posed to the environment in which operations are conducted.

## Article 20

### Mandatory documentation for flight operations

When performing flight operations the Handler shall have following documentation:

- a) Flight Manual or instructions for use of Unmanned Aircraft Systems,
- b) original or a certified true copy of the Agency Approval, if applicable,
- c) insurance policy, if applicable,
- d) in addition to the documents laid down in points (a) to (c) of this Article, for flight operations categories A and B, proof of knowledge of applicable air traffic regulations, mental and physical fitness and competence to operate the type / model of an Unmanned Aircraft System in accordance with Appendix 4 of this Ordinance, and
- e) in addition to documents laid down in points (a) to (c) of this Article, for flight operations categories C and D:
  - i. Operations Manual
  - ii. Proof of competence to operate an Unmanned Aircraft System in accordance with Appendix 4 of this Ordinance,
  - iii. A pilot's license or a certificate of passed theoretical knowledge examinations for Unmanned Aircraft Systems carried out by the Agency, and
  - iv. Proof of mental and physical fitness in accordance with Appendix 4 of this Ordinance.

## Appendices

### Article 21

(1) Appendices printed along with this Ordinance are its integral part.

(2) The Appendices referred to in paragraph 1 of this Article are:

- a) Appendix 1: Flight operations categorization
- b) Appendix 2: Form of Operator's Declaration for flight operations with Unmanned Aircraft System
- c) Appendix 3: Hazard log for UAS operations
- d) Appendix 4: Operational and technical requirements for flight operations
- e) Appendix 5: Form Failure and impact analysis

### Article 22

#### Entry into force

(1) This Ordinance shall enter into force on the eighth day of its publication on the "Official Gazette".

(2) With date of entry into force of this Ordinance, the Ordinance on design, acceptance, construction and maintenance of aircraft not under the authority of the European Aviation Safety Agency (EASA) ("Official Gazette", number 40/12) shall cease to have effect on:

- a) The model aircraft,
- b) The Unmanned Aircraft System used for flight operations categories A, B and C, and
- c) The Unmanned Aircraft Systems used for flight operations category D and whose operating mass is less than 5 kilograms.

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Zagreb, 24 April 2015.

Minister Maritime Affairs, Transport and Infrastructure

Ph. D. Siniša Hajdaš Dončić

Appendix 1 – Flight operations categorization

Classification of unmanned aircraft	Areas of operation classification			
	I	II	III	IV
<b>5</b> OM <sup>(1)</sup> < 5 kg	A	A	B	C
<b>25</b> 5 ≤ OM < 25 kg	A	B	C	D
<b>150</b> 25 ≤ OM ≤ 150 kg	B	C	D	D

Remark (1): OM – operating mass

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Appendix 2 - Form of Operator's Declaration for flight operations with Unmanned Aircraft System



Izjava operatora sustava bespilotnih zrakoplova

Odjel letačkih operacija

<b>IZJAVA/DECLARATION</b>	
u skladu s Pravilnikom sustavima bespilotnih zrakoplova/ <i>in accordance with Ordinance for Unmanned Aerial Systems</i>	
<b>Operator/ Operator</b>	
Ime/ <i>Name</i> :	
Mjesto i adresa u kojem operator ima sjedište ili se poslovno nastanio i mjesto i adresa s kojeg se upravlja operacijama/ <i>Place and address in which the operator is established or residing and place and address from which the operations are directed.</i>	
Ime i kontakt informacije odgovornog rukovoditelja/ <i>Name and contact details of the accountable manager.</i>	
<b>Letačke operacije/ Flight operations</b>	
Datum početka operacija/datum primjene promjene/ <i>Starting date of operation/applicability date of the change.</i>	
Kategorija operacija / <i>Flight operations category.</i>	
<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	
Tip(ovi) sustava bespilotnih zrakoplova, identifikacijske oznake (ako je primjenjivo) i glavna baza/ <i>Type(s) of UAS, identification(s) and main base.</i>	
<b>Izjave/ Statements</b>	
<input type="checkbox"/> Svi letovi će biti izvođeni u skladu s odredbama Pravilnika o sustavima bespilotnih zrakoplova i ostalih primjenjivih propisa / <i>All flights will be conducted in accordance with the requirements of Ordinance on Unmanned Aerial Systems and other applicable requirements</i> <b>Napomena / Note: Samo za letačke operacije kategorije A i B / For Flight operations Category A and B only</b>	
<input type="checkbox"/> Operativni priručnik je u skladu s primjenjivim zahtjevima propisanim u Pravilniku o sustavima bespilotnih zrakoplova/ <i>Operations Manual is in compliance with applicable requirements from Ordinance on Unmanned Aerial Systems</i> <b>Napomena/Note: Samo za letačke operacije kategorije C i D/ For Flight Operations Category C and D only</b>	
<input type="checkbox"/> Svi letovi će biti izvođeni u skladu s procedurama i uputama propisanim u operativnom priručniku/ <i>All flights will be carried out in accordance with the procedures and instructions specified in the operations manual.</i> <b>Napomena/Note: Samo za letačke operacije kategorije C i D/ For Flight Operations Category C and D only</b>	
<input type="checkbox"/> Sustav bespilotnog zrakoplova kojim se izvode letačke operacije ispunjava tehničke uvjete propisane Dodatkom 4 Pravilnika o sustavima bespilotnih zrakoplova/ <i>UAS used in flight operations comply with technical requirements specified in Annex 4 of Ordinance on Unmanned Aerial Systems</i>	
<input type="checkbox"/> Sustavom bespilotnog zrakoplova upravljati će osoba koja ispunjava uvjete propisane Pravilnikom o sustavima bespilotnih zrakoplova / <i>UAS will be operated by the person qualified in accordance Ordinance on Unmanned Aerial Systems</i>	
<input type="checkbox"/> Operator će izvijestiti Hrvatsku agenciju za civilno zrakoplovstvo o svakoj promjeni koja utječe na informacije iz ove Izjave/ <i>Operator will inform CCAA about any change that affects the information disclosed in this Declaration.</i>	
<input type="checkbox"/> Operator jamči da su informacije iz ove Izjave točne/ <i>The operator confirms that the information disclosed in this declaration is correct.</i>	
Datum, ime i potpis odgovornog rukovoditelja/ <i>Date, name and signature of the accountable manager</i>	

Appendix 3 – Hazard log for UAS operations

Activity/Operations/Process							
Risk							
Unsafe event / final consequence	Risk assessment with existing safety measures			Risk mitigation measures	Risk assessment after risk mitigation		
	The probability that the event occurred	The severity of the consequences of events	Risk assessment		The probability that the event occurred	The severity of the consequences of events	Risk assessment

The severity of the consequences of events	The probability that the event occurred				
	Very Unlikely (1)	Unlikely (2)	Possible (3)	Likely (4)	Very Likely (5)
Negligible (E)	1E	2E	3E	4E	5E
Minor (D)	1D	2D	3D	4D	5D
Moderate (C)	1C	2C	3C	4C	5C
Significant (B)	1B	2B	3B	4B	5B
Severe (A)	1A	2A	3A	4A	5A

Appendix 4 – Operational and technical requirements for flight operations

Operational requirements for flight operations				
Flight operations category	A	B	C	D
Requirements				
Handler's age	16 years	18 years		
Psychophysical ability	Handler's declaration or Medical certificate Class I, II or III or A medical certificate of fitness to operate vehicles which is issued to drivers whose profession is not operating vehicles, but no more than 5 years old or Driving licence		Medical certificate Class I, II or III or A medical certificate of fitness to operate vehicles which is issued to drivers whose profession is not operating vehicles, but no more than 5 years old or Driving licence	
Knowledge of applicable aviation regulations	Handler's declaration or Pilot licence or Certificate of passed theoretical knowledge examinations for UAS operator provided by Agency		Pilot licence or Certificate of passed theoretical knowledge examinations for UAS operator provided by Agency	
Qualification for managing UAS	Handler's declaration			

Technical requirements for flight operations					
Requirement	Flight operations category	A	B	C	D
Control System		The encoded direct digital data link between the control station and the receiver, with automatic selection of interference free frequency	The encoded direct digital data link between the control station and the receiver, with automatic selection of interference free frequency, artificial stabilization – except for inherently stable airplane and blimps	The encoded direct digital data link between the control station and the receiver, with automatic selection of interference free frequency, artificial stabilization and navigation with return home function (RTH)	
Telemetry parameters display (Handler)		Not applicable	Strength of the radio signal, power supply voltage, current power drain	Strength of the radio signal, the number of GNSS satellites, power supply voltage, current power drain, distance and direction to the Handler, altitude, speed, direction, malfunction display / display of the back-up system operation	
Safety system		Not applicable		Parachute, kinetic energy during descend must be <79 J, parachute activation must be independent from the main power supply, automatic activation in the event of a power loss	
Minimum multicopter engine number		Not applicable	6 NOTE: less than 6 engines i acceptable provided that multicopter is parachute equipped. Kinetic energy during descend must be <79 J, parachute activation must be independent from the main power supply.	8	

Unmanned Aircraft System essential components/functions must not be affected by individual failure – mandatory failure and impact analysis (FMEA)	Not applicable	Power supply, radio signal reception, artificial stabilization and flight control	Power supply, radio signal reception, artificial stabilization and flight control, GNSS, magnetometer
Unmanned Aircraft System Failure and impact analysis (Failure Mode and Effect Analysis - FMEA) in accordance with Appendix 5 of this Ordinance	Not applicable	Selfassessment – table of analysis must be kept, Operator's Declaration submit to Agency, redo in case of modifications	Mass < 5 kg: Selfassessment – table of analysis must be kept, Operator's Declaration submit to Agency, redo in case of modifications, selfassessment submit to Agency
UAS servicing and maintenance	Not applicable	In accordance with manufacturer instructions, operator shall develop servicing and maintenance if no manufacturer instructions are published, maintenance records shall be kept for 3 years	

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Appendix 5 – Failure and impact analysis form

Unmanned Aircraft System Failure and impact analysis (Failure Mode and Effect Analysis - FMEA) to perform flight operations category C and D				
Unmanned Aircraft System configuration				
Identification mark:			Flight operations category:	
Manufacturer and model:			Aircraft type:	
Operator:			Operator's address:	
Date and revision:			Operating mass:	kg
Unmanned Aircraft System components				
Battery	Manufacturer:  Model:	Qty.:  Battery voltage (S):  Discharge current (C):  Capacity:	Alternative battery:  Battery voltage (S):  Discharge current (C):  Capacity:	Alternative battery:  Battery voltage (S):  Discharge current (C):  Capacity:
Receiver	Manufacturer:  Model:	Qty.:  Channel Nr.:  Freq.:	System  Protocol  Telemetry	Firmware:
FCU	Manufacturer:  Model:	Qty.:  GNSS:  Barometer:	Magnetometer:  Ultrasonic:  Opt. Sensor:	Voltage/ Current Sensor:  OSD:  Firmware:

Engine	Manufacturer: Model: Mark:	Engine Nr.: Power: Prop:	KV: At S: Max current:	Propeller:	Manufacturer: Model:	Dimensions: Type:
Motor controller	Manufacturer: Model:	Load: Firmware:	Ver.:	Propeller: (alternative)	Manufacturer: Model:	Dimensions: Type:
Parachute	Manufacturer: Model: Mark: Type:	Qty.: Max. Energy: Automatic deploy: Manual deploy:		Safety valve	Manufacturer: Model:	Notes:

#### Failure and impact analysis

Nr.	Function/system	Failure description	Consequence	Prevention
1	Power supply			
2	Radio signal reception,			
3	Artificial stabilization and flight control			
4	Drive system			

5	GNSS positioning			
6	Magnetic direction (magnetometer)			
Applicant declares that: <ul style="list-style-type: none"> <li>- Failure and impact analysis (FEMA) for above mentioned Unmanned Aircraft System is carried out to prove that individual component failure cannot cause total failure of individual system</li> <li>- consequences analysis of individual failure is carried out - provided Unmanned Aircraft System manufacturer did not publish failure and impact analysis</li> </ul>				
Date:		Operator's responsible person:		Signature:

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