

UNITED NATIONS SECRETARIAT TECHNICAL AND OPERATIONAL EVALUATION CRITERIA (TOEC) FOR THE PROVISION OF FLIGHT SERVICE VENDOR REGISTRATION FOR MANNED AND UNMANNED COMMERCIAL AIRCRAFT CHARTER SERVICES

Annex 3 – AOC Holders Unmanned Aircraft Systems (UAS)

Addendum 1 - UAS Companies without an AOC



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FOREWORD

The International Civil Aviation Organization (ICAO) provides guidelines for the safe integration and regulation of Remotely Piloted Aircraft Systems (RPAS)/Unmanned Aircraft Systems (UAS) into national and international airspace. These requirements focus on safety, operational efficiency, and interoperability with existing manned aviation systems.

In response to the constant evolution of UAS technology around the world and the ever-changing landscape of individual State UAS regulations this Addendum to Annex 3 of the TOEC becomes necessary to ensure the continued adherence to the United Nations Financial Regulations and Rules, Staff Regulations and Rules, Standards of Conduct, and highest standards of efficiency, competence, and integrity.

NOTE: For applicable definitions and terminology used in this Addendum, refer to the definitions below and the definitions included in the main TOEC document.

1 DEFINITIONS

C2 Link: The data link between an unmanned aircraft and a remote pilot station or control station that is used in the management of a flight.

Detect and avoid (DAA): The capability to see, sense or detect conflicting traffic or other hazards and take the appropriate action.

First-person view device: A device that generates and transmits a streaming video image to a control station display or monitor that gives the pilot of an unmanned aircraft the illusion of flying the aircraft from an on-board pilot's perspective.

Flight termination system: A system that when activated, terminates the flight of an unmanned aircraft.

Fly-away: In respect to a remotely piloted aircraft, an interruption or loss of the C2 link such that the remote pilot is no longer controlling the aircraft, and the unmanned aircraft is not flying its preprogramed procedures in the predicted manner.

Handover: The act of passing piloting control from one remote pilot station to another.

Incident: An occurrence, other than an accident, associated with the operation of an aircraft that affects or could affect the safety of operation.

Instrument meteorological conditions (IMC): Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, less than the minima specified for visual meteorological conditions (VMC).

Notice to Airmen, NOTAM: A notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

Operator: A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Remote ID: Is the ability of an unmanned aircraft in flight to provide identification and location information that can be received by other parties through a broadcast signal.



Remote pilot: A person charged by the operator with duties essential to the operation of an unmanned aircraft and who manipulates the flight controls, as appropriate, during flight time.

Remote pilot-in-command: The remote pilot designated by the operator as being in command and charged with the safe conduct of a flight.

Remotely piloted aircraft (RPA): An unmanned aircraft that is piloted from a remote pilot station.

Remotely piloted aircraft system (RPAS): A remotely piloted aircraft, its associated remote pilot stations, the required command and control links and any other components as specified in the type design.

Risk mitigation: The process of incorporating defences or preventive controls to lower the severity and/or likelihood of a hazard and the projected consequences.

Safety: The state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level.

Segregated airspace: Airspace of specified dimensions allocated for exclusive use to a specific user(s).

Shielded operation: Means an operation of an aircraft within 100 m of, and below the top of, a natural or man-made object.

Standard operating procedures (SOP): Are a set of step-by-step instructions that are essential for safe aviation operations aiming to foster operation consistency, coordination and standardization. SOPs provide clear, comprehensive instructions for how to carry out a task or procedure. They specify the task, when it should be conducted, who should conduct it, how it should be completed, and the sequence for the task.

Unmanned aircraft (UA): An aircraft that is intended to be operated with no pilot onboard.

Unmanned aircraft (UA) observer: A trained and competent person designated by the operator who, by visual observation of the unmanned aircraft, assists the remote pilot in the safe conduct of the flight.

Unmanned aircraft system (UAS): An unmanned aircraft and its associated components.

Visual line-of-sight (VLOS): An operation in which the pilot or UA observer maintains direct unaided visual contact with the unmanned aircraft.

Visual meteorological conditions (VMC): Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, equal to or better than specified minima.

NOTE: These definitions derive from ICAO publications. If definitions of the main TOEC Ed. 4 and this Addendum differ, the definitions of this Addendum shall prevail.

2 SCOPE AND PURPOSE

This document supplements the TOEC Ed. 4 and establishes the technical criteria for the United Nations technical flight service vendor registration process for commercial unmanned aircraft system companies offering Open or Specific category UAS services for hire to the United Nations, but do not have an Air Operator Certificate (AOC) issued by the competent Authority as required by the TOEC Ed. 4.



Only technically and financially cleared flight service vendors shall participate in United Nations aviation tender and bidding exercises.

3 APPLICABILITY

Remotely piloted aircraft are one type of unmanned aircraft. All unmanned aircraft, whether remotely piloted, fully autonomous, or combination thereof, are subject to the provisions of Article 8 titled Pilotless Aircraft of the Convention on International Civil Aviation (Chicago Convention/ICAO Doc 7300).

This Addendum to TOEC Annex 3 is applicable to unmanned aircraft service providers offering Open or Specific category UAS services where the competent Authority does not issue an AOC.

In case respective State regulations change and the competent Authority starts issuing an AOC to unmanned service providers, those UN flight service vendors must submit their AOC and supporting certificates, approvals and other relevant documentation within 12 months after the competent Authority started issuing AOCs.

All requirements included in the TOEC main document for manned and unmanned services offered to the United Nations remain applicable, unless supplemented or prevailed by this Addendum.

4 REQUIREMENTS

All communications under this Addendum shall be performed in English language, only. This includes meetings and all in-date controlled manuals, certificates and approvals, controlled records, and other related documentation for United Nations technical flight service vendor registration. Only controlled documentation is acceptable for UN flight service vendor registration activities.

The responsibility and accountability for a safe flight operation rest with the UAS company. UAS companies must be able to demonstrate their ability to comply with the requirements of the United Nations and have sufficient financial resources to conduct safe operations. The UAS flight service vendor must have sole operational and maintenance control of the offered RPAS/UAS, of all crew members and other personnel required for operation of the system.

The onus rests upon the UAS company to notify the United Nations, technical Vendor Registration Unit (tVR) of the Enabling and Outreach Service (EOS) about any changes in its organisation, structure, or operation.

Direct lines of communication between tVR and the UAS company are mandatory. Company third party representatives, like manufacturers, law firms, consulting companies, brokers, or similar entities are not accepted for United Nations technical flight service vendor registration.

The United Nations are taking an operations-centric risk management approach to their technical requirements for flight service vendor registration efforts which may provide the desired levels of safety without the need for overly prescriptive vendor registration criteria.

Its focus is on two principal risks: (1) the risk of an Unmanned Aircraft (UA) causing a fatality to persons or damaging property on the ground and (2) the risk of collision between an UA and another aircraft airspace user in any phase of flight.



The United Nations' basic rule is, a company, offering commercial UAS services to the United Nations is responsible and accountable for anyone operating their UAS and associated equipment on the company's behalf.

Established aviation principles of operational and safety accountability and responsibility apply.

Company management systems must correspond to the size of the organisation, to the nature and complexity of its activities, considering the hazards and associated risks inherent in these activities.

As a minimum, any company offering UAS services without holding an AOC to the United Nations must have the following:

- a) A business license or equivalent approved by the applicable national authority.
- b) Information on ownership of the UAS offered to the United Nations.
- c) Required insurance certificates as per unmanned services offered.
- d) Lease agreement(s) (if applicable) of UAS offered to the United Nations, documenting the lessee has sole unrestricted operational and maintenance control over the leased UAS including all UA.
- e) Company policy of sexual misconduct and exploitation.
- f) Company management structure and organizational chart.
- g) Company Management Systems for ensuring operational safety, regulatory compliance, environmental protection, cyber security and data protection, and overall operational oversight All company systems and programs must include supporting processes and procedures for training and other relevant activities to maintain adequate proficiency levels.
- h) Annual **Management Review** under the lead of the most senior manager of the company

 The Management Review must aim to evaluate the suitability and adequacy of the organization's various management system.
- i) **Emergency Response Plan (ERP),** including ERP roles, training and lessons learnt of ERP drills Such drills must be exercised once per year.
- j) Operational Risk Management (ORM), including procedures for the identification, assessment and management of risks Minimum ORM steps required are: 1) Identify hazards, 2) Assess hazards, 3) Make decisions on risks, 4) Implement controls/ risk mitigating measures, and 5) Supervise. Identifying and implementing control measures must aim to reduce the likelihood and/or severity of operational hazards to an acceptable level, as defined by the UAS company. All ORM must be signed and approved by the CEO or a designated representative, as per company succession of command.
- k) A Company Manual established under the authority of national UAS regulations, documenting the management and utilization of all aircraft activities in compliance with all applicable national requirements The Company Manual must clearly state that the CEO or most senior manager holds the ultimate responsibility and accountability for all legal, regulatory and contractual obligations, including the approval of operations, operational risk management, training and airworthiness to ensure successful and safe operations.



The Company Manual must define operational roles, responsibilities, accountabilities and authorities.

- Standard Operating Procedure (SOP)¹ on operational control and oversight, exercising authority over the initiation, conduct or termination of a flight/ mission This SOP must include procedures for the day-to-day administration of flight operations, and as applicable SOP on the transport of dangerous goods by air in line with provisions of ICAO Annex 18 and Article 35 of the Chicago Convention.
- m) **SOP on incident/ accident reporting**, including means to immediately establish communications with the United Nations (after contract award).
- n) SOP on obtaining airspace approval for domestic and/or international UAS operations, including segregation of airspace, plus UAS flights in Flight Information Regions (FIRs) where the air traffic service provider is a foreign government and coordination with that government is required, plus additional diplomatic clearances as applicable.
- SOP on Remote ID requirements established by the relevant aviation authority once the UAS company will provide their services to the United Nations.
- p) SOP on **obtaining certificates of waivers**, e.g., daylight operation requirement, or authorization of certain airspace utilization The SOP shall include a list of regulations subject to waiver.
- q) SOP on special permitting for flights over sensitive areas (e.g., National Parks or Wilderness Areas) and/or in the vicinity of protected species or marine mammals to meet environmental compliance requirements.
- r) **UAS mission operations plan** detailing:
 - i) Concept of operations when, where, why, and how
 - ii) Aircraft system description
 - iii) Sensor package
 - iv) Communication links
 - v) Electromagnetic interference testing (EMI)
 - vi) Aircrew requirements and responsibilities
 - vii) Launch procedures
 - viii) Flight operations (weather limitations, NOTAMS, day/night operations, dropping of articles, Visual Line-of-Sight Operations, rules of the air including right-of-way, operation over people, etc.)
 - ix) Recovery procedures
 - x) Flight restrictions
 - xi) Operational risk management or hazard analysis
- s) **Emergency procedures**, including as a minimum:
 - i) Lost link procedure
 - ii) Lost visual line of sight procedure

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¹ NOTE: There is no TOEC hard requirement regarding where the requested requirements must be documented—whether in the company manual, stand-alone SOP, or other forms of company documentation—provided that the document is controlled and maintained in accordance with the company's document control procedures.



- iii) Lost communication procedure
- t) Method of sense-and-avoid with other aircraft:
 - i) Method of air traffic control (ATC) communications
 - ii) UAS airworthiness and previous testing/flights
 - iii) Environmental compliance requirements as applicable
- u) **SOP on not pairing of unexperienced** UAS active flight personnel (pilot-in-command, observer, etc.) including the UAS companies' definition of "unexperienced".
- v) Instructions on company fatigue risk management, ensuring operations personnel are performing at an adequate level of alertness and for the purposes of managing its fatigue-related safety risks, the FRM System is integrated with the company operational risk management system.
- w) **SOP on pilot qualifications and certification**, detailing company requirements pertinent to education, skills and work experience making personnel apt for their role at the UAS company, including set criteria that must be met for employment.
- x) All UAS pilots, observers and other operationally relevant personnel providing services to the **United Nations** in addition to item (w) must:
 - i) be at a minimum 18 years of age
 - ii) have demonstrated English language proficiency
 - iii) not be simultaneously employed by another UAS air operator
 - iv) hold a current medical certification and radiotelephony license; and
 - v) be company employed personnel (no freelance pilots or observers)

5 APPLICATION

UAS companies without an AOC who wish to offer services to the United Nations shall submit a formal application letter stipulating the following:

- a) Formal Application, including mailing address (P.O. Box is not accepted) and physical address of the applicant's primary operating location; point of contact for the technical vendor registration process, email and phone numbers of all management personnel of the UAS company offering its services to the United Nations.
- b) Indication whether any of the persons named in the formal application have served as key personnel, or officers of a company or were involved in violations of sanctions imposed by the United Nations.
- c) UAS types offered to the United Nations, and related documentation demonstrating compliance with requirements stipulated under section 4 above.
- d) The letter shall be signed by the CEO or most senior manager of the company.

6 TECHNICAL REGISTRATION PROCESS

The mechanisms and methodology outlined in section 7 of the main TOEC document ('Methodology – Technical Registration Process') shall apply. As part of the mandatory UAS



vendor registration kick-off meeting, tVR will provide detailed and customized instructions for data submission.

7 TECHNICAL STATUS CHANGE

- a) Technically fully cleared UAS companies who wish to add an additional UAS to their existing flight service vendor technical registration shall submit as applicable the following information:
 - i. Application letter including company point of contact, type of UAS to be added.
 - ii. Certificates and approvals of the UAS to be added.
 - iii. UAS mission operations plan, emergency procedures and method of sense-and-avoid.
- b) A technical E-audit or on-site audit is not required. However, where deemed necessary tVR reserves the right to perform the same.
- c) Applicable TOEC main document requirements remain in effect.

8 TECHNICAL RENEWAL, SUSPENSION AND REINSTATEMENT

Technical registration for all United Nations flight service vendors is valid for two (2) years from the date of entry into the United Nations Vendors List, as managed by the EOS Vendor Registration Unit, and is subject to continued compliance with this Addendum.

8.1 TECHNICAL RENEWAL – UAS COMPANIES WITHOUT AN AOC

A technically cleared and fully registered United Nations UAS flight service vendor, who wishes to upkeep its vendor registration status, shall apply through an email for technical renewal.

The written renewal application shall include following:

- a) A valid **company business license or equivalent** approved by the applicable national authority.
- b) The latest company **Management Review meeting minutes**, stipulating the review results, encompassing areas for improvement, and any resulting action items as applicable.
- c) The onus rests with the UAS company to submit the above documentation to tVR Unit no later than **30 calendar days before the expiry date** of initial technical vendor registration.

8.2 TECHNICAL SUSPENSION – UAS COMPANIES WITHOUT AN AOC

The provisions set forth in paragraph 9.2 of the TOEC main document shall apply.

8.3 TECHNICAL REINSTATEMENT – UAS COMPANIES WITHOUT AN AOC

The provisions set forth in paragraph 9.3 of the TOEC main document shall apply.