

LEGAL NOTICE NO. 34

REPUBLIC OF TRINIDAD AND TOBAGO

THE CIVIL AVIATION ACT, 2001

REGULATION

MADE BY THE AUTHORITY WITH THE APPROVAL OF THE MINISTER UNDER  
SECTION 33 OF THE CIVIL AVIATION ACT

THE CIVIL AVIATION [(NO. 2) OPERATIONS] (AMENDMENT)  
REGULATIONS, 2008

1. These Regulations may be cited as the Civil Aviation [(No. 2) Citation Operations] (Amendment) Regulations, 2008.
2. In these Regulations—

	Interpretation
“the Act” means the Civil Aviation Act, 2001; and	Act No. 11 of 2001
“the Regulations” means the Civil Aviation [(No. 2) Operations] Regulations, 2004.	L. N. No. 101 of 2004
3. Regulation 2 of the Regulations is amended—

	Regulation 2 amended
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  - (a) by inserting in the appropriate alphabetical sequence, the following definitions:
    - “alternate heliport” means a heliport to which a helicopter may proceed when it becomes either impossible or inadvisable to proceed to or to land at the heliport of intended landing and includes—
      - (a) “take-off alternate” which is an alternate heliport at which a helicopter can land should this become necessary shortly after take-off and it is not possible to use the heliport of departure;
      - (b) “*en route* alternate” which is a heliport at which a helicopter would be able to land after experiencing an abnormal or emergency condition while *en route* and may include the heliport of departure; and

- (c) “destination alternate” which is an alternate heliport to which a helicopter may proceed should it become either impossible or inadvisable to land at the heliport of intended landing and may include the heliport of departure;

“automatic dependent surveillance—contract” means the method by which the terms of an automatic dependent surveillance—contract agreement will be exchanged between ground system and the aircraft, via data link, specifying under what conditions automatic dependent surveillance—contract reports would be initiated and what data would be contained in the report;

“automatic dependent surveillance—contract agreement” means a reporting plan which establishes the conditions of automatic dependent surveillance—contract data such as data required by the air traffic services unit and frequency of automatic dependent surveillance—contract reports which have to be agreed to prior to using automatic dependent surveillance—contract in the provision of air traffic services;

“automatic dependent surveillance—broadcast” means a system by which aircraft, aerodrome vehicles and other objects can automatically transmit or receive data such as identification, position and any additional data as appropriate, in a broadcast mode via a data link;

“congested hostile environment” means a hostile environment within a congested area;

“final approach and take-off area” means a defined area over which the final phase of the approach manoeuvre to hover or landing is completed and from which the take-off manoeuvre is commenced and includes the rejected take-off area available for helicopters operating in performance Class 1;

“hostile environment” means an environment in which—

- (a) a safe forced landing cannot be accomplished because the surface and its surrounding environment, is inadequate;
- (b) the helicopter occupants cannot be adequately protected from the atmospheric and weather elements;
- (c) search and rescue response or capability is not provided consistent with anticipated exposure; or

(d) there is an unacceptable risk of endangering persons or property on the ground;

“non-congested hostile environment” means a hostile environment outside a congested area;

“non-hostile environment” means an environment in which—

(a) a safe forced landing can be accomplished because the surface, and its surrounding environment, is adequate;

(b) the helicopter occupants can be adequately protected from the elements;

(c) search and rescue response and capability is provided consistent with anticipated exposure; and

(d) the assessed risk of endangering persons or property on the ground is acceptable;

“offshore operations” means operations which routinely have a substantial proportion of the flight conducted over water areas to or from offshore locations and include but are not limited to support of offshore oil, gas and mineral exploitation and sea-pilot transfer;

“okta(s)” is the international unit for reporting cloud amount which is the estimated total apparent area of the sky covered with cloud such that 0 okta means sky clear, 1 okta means one-eighth of the sky covered with cloud, 1–2 oktas means up to one quarter of the sky covered with cloud, 3–4 oktas means up to one half of the sky covered with cloud, 5–7 oktas means up to three quarters of the sky covered with cloud, and 8 oktas means sky overcast with cloud;

“operations in performance Class 1” means operations of a helicopter with performance such that, in the event of a critical power unit failure, performance is available to enable the helicopter to safely continue the flight to an appropriate landing area, unless the failure occurs prior to reaching the take-off decision point or after passing the landing decision point, in which case the helicopter must be able to land within the rejected take-off or landing area;

“operations in performance Class 2” means operations of a helicopter with performance such that, in the event of critical power unit failure, performance is available to enable the helicopter to safely continue the flight to an appropriate landing area, except when the failure occurs early during the take-off manoeuvre or late in the landing manoeuvre, in which case a forced landing may be required;

“operations in performance Class 3” means operations with performance such that, in the event of a power unit failure at any time during the flight, a forced landing will be required;

“required communication performance” means a statement of the performance requirements for operational communication in support of specific Air Traffic Management functions;

“RCP type” means a label that represents the values assigned to required communication performance parameters for communication transaction time, continuity, availability and integrity such as RCP 240;

“series of flights” means consecutive flights of a helicopter that—

- (a) begin and end within a period of 24 hours; and
- (b) are all conducted by the same pilot-in-command;

(b) by deleting the definition—

- (i) “defined point before landing” and substituting the following definition:

“ “defined point before landing” means the point, within the approach and landing phase, after which the ability of a helicopter operating in performance Class 2, to continue the flight safely, with one engine inoperative, is not assured and a forced landing may be required;”;

- (ii) “defined point after take-off” and substituting the following definition:

“ “defined point after take-off” means the point, within the take-off and initial climb phase, before which the ability of the helicopter

operating in performance Class 2, to continue the flight safely, with one engine inoperative, is not assured and a forced landing may be required;”;

- (iii) “landing decision point” and substituting the following definition:

“ “landing decision point” means the point used in determining the landing performance of a helicopter operating in performance Class 1, where, should a power-unit failure occur at this point, the landing may be safely continued or a balked landing initiated;”;

- (iv) “take-off decision point” and substituting the following definition:

“ “take-off decision point” means the point used in determining take-off performance of a helicopter operating in performance Class 1 from which, a power-unit failure occurring at this point, either a rejected take-off may be made or a take-off safely continued;”.

4. Regulation 11 of the Regulations is amended in subregulation (1), Regulation 11 amended by deleting paragraph (h) and substituting the following paragraph:

“(h) document attesting to noise certification;”.

5. Regulation 25 of the Regulations is amended by deleting subregulations (1) and (2) and substituting the following subregulations: Regulation 25 amended

“ (1) An operator of an aircraft transporting dangerous goods shall report—

- (a) all dangerous goods incidents and accidents; and  
(b) all instances of undeclared and misdeclared dangerous goods in cargo,

occurring in Trinidad and Tobago and which involve the transport of dangerous goods originating in another State or destined for another State.

(2) The report on—

- (a) dangerous goods incidents and accidents; and  
(b) undeclared and misdeclared dangerous goods in cargo,

required by subregulation (1) shall be made in accordance with the detailed provision of *ICAO Doc. 9284—Technical Instructions for the Safe Transport of Dangerous Goods by Air.*”

Regulation 76 amended 6. Regulation 76 of the Regulations is amended in subregulation (3), by inserting after the words “in excess of thirty minutes” the words “and whenever the cabin altitude exceeds 13,000 feet”.

Regulation 84 amended 7. Regulation 84 of the Regulations is amended—  
(a) by deleting the heading above and substituting the following heading “**Flight Preparation**”;  
(b) in subregulation (1), by inserting after the words “aircraft in flight” the words “or a helicopter in a series of flight”; and  
(c) in subregulation (2), by inserting after the words “met for a particular flight” the words “or series of flights in the case of a helicopter”.

Regulation 85 amended 8. Regulation 85 of the Regulations is amended in subregulation (1), by deleting the words “and continuously available irrespective of weather conditions or during their published hours of operations as applicable”.

Regulation 87 amended 9. Regulation 87 of the Regulations is amended by inserting after the words “or that part of the route to be flown” the words “or in the intended area of operations”.

Regulation 92 amended 10. Regulation 92 of the Regulations is amended in subregulation (3), by inserting after the word “aerodrome” in four places where it occurs, the words “or heliport”.

Regulation 96 amended 11. Regulation 96 of the Regulations is amended by inserting after subregulation (4) the following subregulation:

“ (4A) A pilot in command shall not commence a flight in accordance with instrument flight rules to an aerodrome or heliport where a suitable alternate is not available due to the destination aerodrome or heliport being isolated, without enough fuel carried to enable the helicopter to fly to the destination to which the flight is planned and thereafter for a period that will, based on geographic and environmental considerations, enable a safe landing to be made.”

Regulation 99 amended 12. Regulation 99 of the Regulations is amended—  
(a) in subregulation (4), by inserting after the words “Regulations, 2004” the words “for a period of not less than three months”; and

- (b) in subregulation (5), by inserting after the words “for every intended flight” the words “of an aircraft or series of flight of a helicopter”.

13. Regulation 106 of the Regulations is amended—

Regulation 106  
amended

- (a) by deleting subregulation (4) and substituting the following subregulations:

“ (4) An operator shall not operate a helicopter to or from heliports in a congested hostile environment, unless he satisfies the requirements specified by the competent authority in which the heliport is situated, to enable the operation to be conducted in a manner that gives appropriate consideration for the risk associated with a power-unit failure.

(4A) In conditions where the safe continuation of flight is not ensured in the event of a critical power-unit failure, helicopter operations shall be conducted in a manner that gives appropriate consideration for achieving a safe forced landing.”; and

- (b) in subregulation (5), by inserting after the words “in accordance with” the words “Schedule 4A and”.

14. Regulation 112 of the Regulations is amended in subregulations (2) and (3), by deleting the words “for the pressure-altitude appropriate to the elevation of the aerodrome, and where used as a parameter to determine the maximum take-off mass, any other local atmospheric condition” wherever they occur and substituting in each place the words “taking into account the factors specified in regulation 108(1)”.  
Regulation 112  
amended

15. Regulation 114 of the Regulations is amended by deleting subregulations (5) and (6) and substituting the following subregulations:  
Regulation 114  
amended

“ (5) An air operator operating a helicopter in performance Class 1 shall ensure that the helicopter is able, in the event of the failure of the critical power-unit being recognized—

(a) at or before the take-off decision point, to discontinue the take-off and stop within the rejected take-off area available; or

(b) at or after the take-off decision point, to continue the take-off, clearing all obstacles along the flight path by an adequate margin until the helicopter is in a position to comply with the requirements of regulation 116(5).

(6) An air operator operating a helicopter in performance Class 2 shall ensure that the helicopter is able, in the event of the failure of the critical power-unit—

- (a) at any time before reaching defined point after take-off, to achieve a safe forced landing; or
- (b) at any time after reaching defined point after take-off, to continue the take-off clearing all obstacles along the flight path by an adequate margin until the helicopter is in a position to comply with the requirements of regulation 116(5).

(7) An air operator operating a helicopter in performance Class 3 shall ensure that the helicopter is able, in the event of the failure of the critical power-unit at any point of the flight path, to achieve a safe forced landing.”.

Regulation 116 amended 16. Regulation 116 of the Regulations is amended by inserting after subregulation (4), the following subregulations:

“ (5) An air operator operating a helicopter in performance Class 1 or performance Class 2 shall ensure that the helicopter is able, in the event of the failure of the critical power-unit at any point in the *en route* phase, to continue the flight to a site and meet the requirements of regulation 118(7) or (8) respectively, without flying below the appropriate minimum flight altitude at any point.

(6) An air operator operating a helicopter in performance Class 3 shall ensure that the helicopter is able—

- (a) with all power-units operating, to continue along its intended route or planned diversions without flying at any point below the appropriate minimum flight altitude; or
- (b) in the event of the failure of a power-unit at any point in the *en route* phase, to achieve a safe forced landing.”.

17. Regulation 118 of the Regulations is amended by deleting subregulations (7) and (8) and substituting the following subregulations:

“ (7) An air operator operating a helicopter in performance Class 1 shall ensure that the helicopter is able, in the event of the failure of the critical power-unit being recognized—

- (a) at any point during the approach and landing phase, before the landing decision point, after clearing all obstacles in the approach path to—
  - (i) land and stop within the landing distance available; or

- (ii) perform a balked landing and clear all obstacles in the flight path by an adequate margin equivalent to that specified in regulation 114(5); or
- (b) after the landing decision point, to stop and land within the landing distance available.

(8) An air operator operating a helicopter in performance Class 2 shall ensure that the helicopter is able, in the event of the failure of the critical power-unit being recognized—

- (a) at any point during the approach and landing phase, before the landing decision point, after clearing all obstacles in the approach path to—
  - (i) land and stop within the landing distance available;
  - (ii) perform a balked landing and clear all obstacles in the flight path by an adequate margin equivalent to that specified in regulation 114(5); or
- (b) after the landing decision point, to achieve a safe forced landing.

(8A) An air operator operating a helicopter in performance Class 3 shall ensure that the helicopter is able, in the event of the failure of the critical power-unit at any point in the approach and landing phase of flight, to achieve a safe forced landing.”.

18. The Regulations are amended by inserting after regulation 118A, Regulation 118B inserted the following regulation:

**“Additional Requirements for Operations of Helicopters in Performance Class 3 in Instrument Meteorological Conditions Except Special Visual Flight Rules Flight**

Additional requirements for operations of helicopters in performance Class 3 in Instrument Meteorological Conditions, except special Visual Flight Rules Flight

118B. (1) An air operator shall ensure that a helicopter operating in performance Class 3, in Instrument Meteorological Conditions, is only conducted over a surface environment acceptable to the competent authority of the State over which the operations are performed.

(2) The Director General may recommend that the Authority approve operations by a helicopter in performance Class 3, in Instrument Meteorological Conditions in commercial air transport operations, where the Director General is satisfied that the airworthiness requirements for the helicopter is appropriate for flight under instrument flight rules and that the overall level of

safety required under the Act and Regulations made thereunder is satisfied by—

- (a) the reliability of the engines;
- (b) the operator's maintenance procedures, operating practices and crew training programme; and
- (c) equipment and other requirements provided in accordance with Schedule 6A.

(3) An air operator shall not operate a helicopter in performance Class 3, in Instrument Meteorological Condition unless the helicopter has a programme for engine trend monitoring.

(4) The programme for engine trend monitoring referred to in subregulation (3) shall utilize the recommended instruments, systems and operational and maintenance procedures of the manufacturer of the engine and helicopter, to monitor the engines.”.

Regulation 121  
amended

19. Regulation 121 of the Regulations is amended—

- (a) in subregulation (2), by inserting after the words “turned under power” the words “for the purpose of flight”; and
- (b) by inserting after subregulation (2), the following subregulations:

“ (3) Notwithstanding subregulation (2), an operator may authorize a person other than a qualified pilot to turn a rotor of a helicopter for purposes other than flight, where the operator—

- (a) has provided the person with appropriately specific training and procedures to be followed; and
- (b) is satisfied that the person is competent to conduct such operations.

(4) A person authorized by an operator under subregulation (3), may turn a rotor of a helicopter under power for purposes other than flight.”.

Regulation 127  
amended

20. Regulation 127 of the Regulations is amended in—

- (a) the heading, by inserting after the word “Aerodrome” the words “or Heliport”;
- (b) subregulation (3)(a), by deleting the word “aeroplane” and substituting the word “aircraft”; and
- (c) subregulation (3)(c), by inserting after the words “selected for use” the words “and for heliports, the physical characteristics and direction of approach”.

21. Regulation 158 of the Regulations is amended by inserting after subregulation (1), the following subregulation: Regulation  
158 amended

“ (1A) A pilot in command of an aircraft subjected to an act of unlawful interference shall attempt to land as soon as practicable at—

- (a) the nearest suitable aerodrome; or
- (b) a dedicated aerodrome assigned by the appropriate authority, unless considerations aboard the aircraft dictate otherwise.”

22. Regulation 165 of the Regulations is amended in subregulation (1)(a) and (b), by deleting the words “Mean Sea Level altitudes plus or flight level plus 500 feet” and substituting the words “Mean Sea Level altitudes plus 500 feet or cruising level plus 500 feet”. Regulation  
165 amended

23. Regulation 225(b) of the Regulations is amended by inserting after the words “instrument rating” the words “in the category, class and type for the aircraft operated”. Regulation  
225 amended

24. The Regulations are amended by inserting after Schedule 4, the following Schedule: Schedule  
4 amended

“SCHEDULE 4A

[Regulation 106(5)]

The requirements for unmanned free balloons referred to in regulation 106(5) are as follows:

**Classification of Unmanned Free Balloons**

1. An unmanned free balloon shall be classified as—
  - (a) light: where the unmanned free balloon carries a payload of one or more packages with a combined mass of less than 4 kilogrammes unless qualifying as a heavy balloon in accordance with paragraphs (c)(ii), (iii) and (iv);
  - (b) medium: where the unmanned free balloon which carries a payload of two or more packages with a combined mass of 4 kilogrammes or more, but less than 6 kilogrammes unless qualifying as a heavy balloon in accordance with paragraph (c)(ii), (iii) and (iv); or
  - (c) heavy: where the unmanned free balloon which carries a payload which—
    - (i) has a combined mass of 6 kilogrammes or more;
    - (ii) includes a package of 3 kilogrammes or more;
    - (iii) includes a package of 2 kilogrammes or more with an area density of more than 13 grammes per square centimetre; or

- (iv) uses a rope or other device for suspension of the payload that requires an impact force of 230 newton or more to separate the suspended payload from the balloon.

NOTE 1: *The area density referred to in subparagraph (c)(iii) is determined by dividing the total mass in grammes of the payload package by the area in square centimetres of its smallest surface.*

NOTE 2: Figure 1 gives the classification of unmanned free balloon.

### **General Operating Rules**

2. (1) An unmanned free balloon shall not be operated without appropriate authorization from the State from which the launch is made.

(2) An unmanned free balloon, other than a light balloon used exclusively for meteorological purposes and operated in the manner prescribed by the Authority, shall not be operated across the territory of another State without appropriate authorization from that other State concerned.

(3) The authorization referred to in paragraph (2) shall be obtained prior to the launching of the balloon if there is reasonable expectation, when planning the operation, that the balloon may drift into airspace over the territory of another State. Such authorization may be obtained for a series of balloon flights or for a particular type of recurring flight, e.g., atmospheric research balloon flights.

(4) An unmanned free balloon shall be operated in accordance with conditions specified by the State of Registry and the State(s) expected to be over-flown.

(5) An unmanned free balloon shall not be operated in such a manner that impact of the balloon, or any part thereof, including its payload, with the surface of the earth, creates a hazard to persons or property not associated with the operation.

(6) A heavy unmanned free balloon shall not be operated over the high seas without prior co-ordination with the appropriate Air Traffic Services Authority.

### **Operating Limitations and Equipment Requirements**

3. (1) A heavy unmanned free balloon shall not be operated without authorization from the appropriate Air Traffic Services Authority at or through any level below 18 000 metres (60,000 feet) pressure-altitude at which—

- (a) there are clouds or obscuring phenomena of more than four oktas coverage; or
- (b) the horizontal visibility is less than 8 kilometres.

(2) A heavy or medium unmanned free balloon shall not be released in a manner that will cause it to fly lower than 300 metres (1,000 feet) over the congested areas of cities, towns or settlements or an open-air assembly of persons not associated with the operation.

(3) A heavy unmanned free balloon shall not be operated unless—

- (a) it is equipped with at least two payload flight termination devices or systems, whether automatic or operated by tele-command, that operate independently of each other;
- (b) for polyethylene zero-pressure balloons, at least two methods, systems, devices, or combinations thereof, that function independently of each other are employed for terminating the flight of the balloon envelope;

NOTE: *Super-pressure balloons do not require these devices as they quickly rise after payload discharge and burst without the need for a device or system designed to puncture the balloon envelope. In this context a super-pressure balloon is a simple non-extensible envelope capable of withstanding a differential of pressure, higher inside than out. It is inflated so that the smaller night-time pressure of the gas still fully extends the envelope. Such a super-pressure balloon will keep essentially constant level until too much gas diffuses out of it.*

- (c) the balloon envelope is equipped with either a radar reflective device or radar reflective material that will present an echo to surface radar operating in the 200 megahertz to 2700 megahertz frequency range, or the balloon is equipped with such other devices as will permit continuous tracking by the operator beyond the range of ground-based radar.
- (4) A heavy unmanned free balloon shall not be operated under the following conditions:
- (a) in an area where ground-based secondary surveillance radar equipment is in use, unless it is equipped with a secondary surveillance radar transponder, with pressure altitude reporting capability, which is continuously operating on an assigned code, or which can be turned on when necessary by the tracking station; or
  - (b) in an area where ground-based Auto Dependent Surveillance—Broadcast equipment is in use, unless it is equipped with Auto Dependent Surveillance—Broadcast Transmitter, with pressure-altitude reporting capability, which is continuously operating or which can be turned on when necessary by the tracking station.
- (5) An unmanned free balloon that is equipped with a trailing antenna that requires a force of more than 230 newtons to break it at any point shall not be operated unless the antenna has coloured pennants or streamers that are attached at not more than 15 metres intervals.
- (6) A heavy unmanned free balloon shall not be operated below 18 000 metres (60,000 feet) pressure-altitude between sunset and sunrise or such other period between sunset and sunrise, corrected to the altitude of operation as may be prescribed by the Authority, unless the balloon and its attachments and payload, whether or not they become separated during the operation, are lighted.
- (7) A heavy unmanned free balloon that is equipped with a suspension device (other than a high conspicuously coloured open parachute) more than 15 metres long shall not be operated between sunrise and sunset below 18 000 metres (60,000 feet) pressure-altitude unless the suspension device is coloured in alternate bands of high conspicuity colours or has coloured pennants attached.

#### Termination

4. The operator of a heavy unmanned free balloon shall activate the appropriate termination devices required by clause 3 (3)(a) and (b) above—
- (a) when it becomes known that weather conditions are less than those prescribed for the operation;

- (b) if a malfunction or any other reason makes further operation hazardous to air traffic or to persons or property on the surface; or
- (c) prior to unauthorized entry into the airspace over another State's territory.

#### **Flight Notification**

5. (1) Pre-flight notification—
- (a) early notification of the intended flight of an unmanned free balloon in the medium or heavy category shall be made to the appropriate air traffic services unit not less than seven days before the date of the intended flight;
  - (b) notification of the intended flight shall include the following information as may be required by the appropriate air traffic services unit:
    - (i) balloon flight identification or project code name;
    - (ii) balloon classification and description;
    - (iii) Secondary Surveillance Radar Code, aircraft address or Non-Directional Beacon frequency as applicable;
    - (iv) operator's name and telephone number;
    - (v) launch site;
    - (vi) estimated time of launch or time of commencement and completion of multiple launches;
    - (vii) number of balloons to be launched and the scheduled interval between launches if multiple launches;
    - (viii) expected direction of ascent;
    - (ix) cruising level(s) or pressure-altitude;
    - (x) the estimated elapsed time to pass 18 000 metres (60,000 feet) pressure-altitude or to reach cruising level if at or below 18 000 metres (60,000 feet), together with the estimated location;

NOTE: *If the operation consists of continuous launchings, the time to be included is the estimated time at which the first and the last in the series will reach the appropriate level (e.g., 122136Z–130330Z).*

- (xi) the estimated date and time of termination of the flight and the planned location of the impact or recovery area. In the case of balloons carrying out flights of long duration, as a result of which the date and time of termination of the flight and the location of impact cannot be forecast with accuracy, the term "long duration" shall be used.

NOTE: *If there is to be more than one location of impact/recovery, each location is to be listed together with the appropriate estimated time of impact. If there is to be a series of continuous impacts, the time to be included is the estimated time of the first and the last in the series (e.g., 070330Z–072300Z)*

- (c) any changes in the pre-launch information notified in accordance with paragraph (b) above shall be forwarded to the air traffic services unit concerned not less than 6 hours before the estimated time of launch, or in the case of solar

or cosmic disturbance investigations involving a critical time element, not less than 30 minutes before the estimated time of the commencement of the operation.

(2) Notification of launch—

Immediately after a medium or heavy unmanned free balloon is launched the operator shall notify the appropriate Air Traffic Services Unit of the following:

- (a) balloon flight identification;
- (b) launch site;
- (c) actual time of launch;
- (d) estimated time at which 18 000 metres (60,000 feet) pressure-altitude will be passed, or the estimated time at which the cruising level will be reached if at or below 18 000 metres (60,000 feet) and the estimated location; and
- (e) any changes to the information previously notified in accordance with paragraph (1)(b)(vii) and (viii).

(3) Notification of cancellation—

The operator shall notify the appropriate Air Traffic Services Unit immediately after it is known that the intended flight of a medium or heavy unmanned free balloon, previously notified in accordance with clause 5 (1), has been cancelled.

**Position Recording and Reports**

6. (1) The operator of a heavy unmanned free balloon operating at or below 18 000 metres (60,000 feet) pressure-altitude shall monitor the flight path of the balloon and forward reports of the balloon's position as requested by Air Traffic Services.

(2) Unless Air Traffic Services require reports as specified under subclause (1) at more frequent intervals, the operator shall record the position every 2 hours.

(3) The operator of a heavy unmanned free balloon operating above 18 000 metres (60,000 feet) pressure-altitude shall monitor the flight progress of the balloon and forward reports of the balloon's position as requested by Air Traffic Services.

(4) Unless Air Traffic Services require reports as specified under subclause (3) at more frequent intervals, the operator shall record the position every 24 hours.

(5) If a position cannot be recorded in accordance with subclauses (1), (2), (3) and (4) the operator shall immediately notify the appropriate Air Traffic Services Unit.

(6) The notification under subclause (5) shall include the last recorded position.

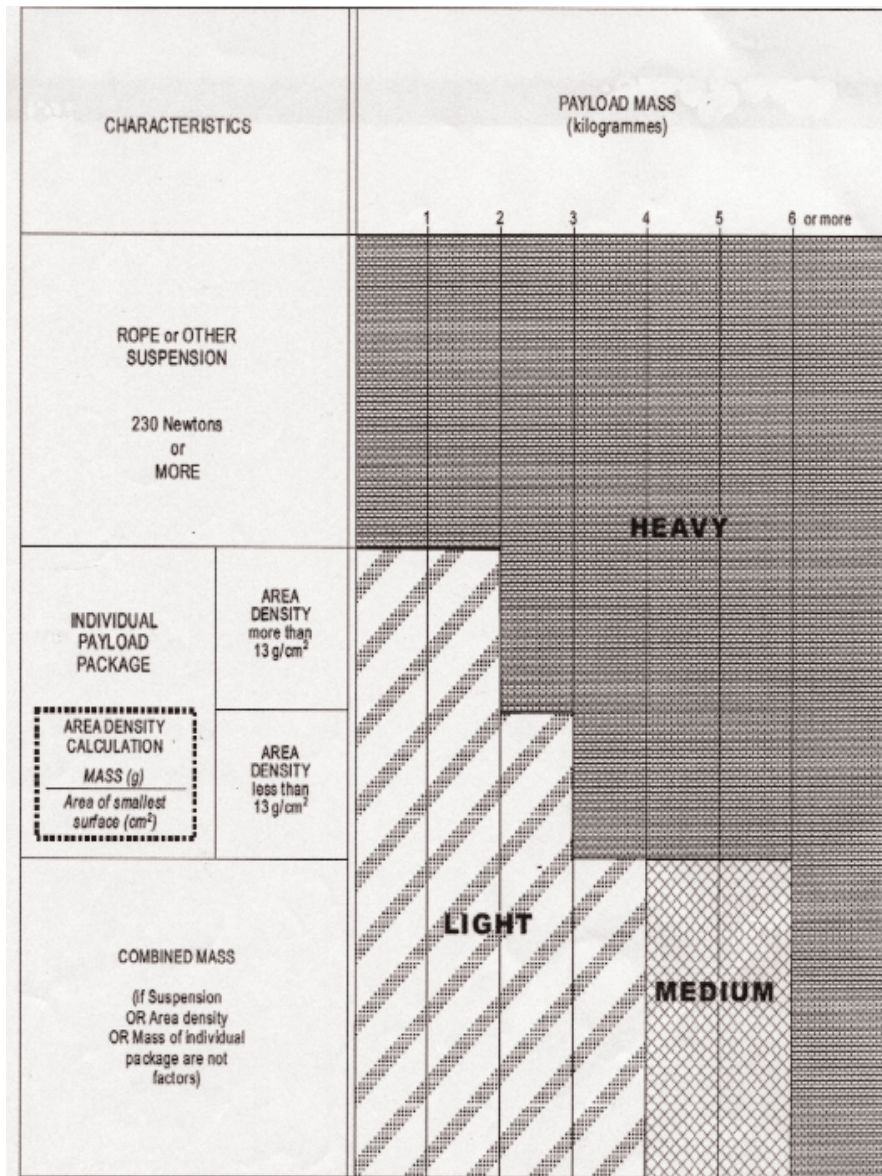
(7) Where tracking of a balloon is re-established, the appropriate Air Traffic Services Unit shall be notified immediately.

(8) One hour before the beginning of planned descent of a heavy unmanned free balloon, the operator shall forward to the appropriate Air Traffic Services Unit the following information regarding the balloon:

- (a) the current geographical position;
- (b) the current level or pressure-altitude;

- (c) the forecast time of penetration of 18 000 metres (60,000 feet) pressure-altitude, if applicable; and
  - (d) the forecast time and location of ground impact.
- (9) The operator of a heavy or medium unmanned free balloon shall notify the appropriate Air Traffic Services Unit when the operation is ended.

**Figure 1**  
**Classification of Unmanned Free Balloons**



25. The Regulations are amended by inserting after Schedule 6A Schedule 6A inserted the following Schedule:

“SCHEDULE 6A

(Regulation 118B)

Airworthiness and operations requirements referred to in regulation 118B, shall satisfy the following:

**Engine Reliability**

1. Attaining and maintaining approval for engines used by helicopters operating in performance Class 3 in Instrument Meteorological Conditions—

- (a) in order to attain initial approval for existing in-service engine types, the operator shall assure the Authority that the reliability of the engine has a nominal power loss rate of less than 1 per 100 000 engine hours based on a risk management process;

*NOTE: Power loss in this context is defined as any significant loss of power, the cause of which may be traced to engine or engine component, design, maintenance or installation, including design or installation of the fuel ancillary or engine control systems.*

- (b) in order to attain initial approval for new engine types, the operator shall assure the Authority that the State of Design has assessed the engine model for acceptance for operations in performance Class 3 in Instrument Meteorological Conditions;
- (c) in order to maintain approval, the operator shall assure the Authority that the State of Design, through the continuing airworthiness process, ensures that engine reliability remains consistent with the intent of the Standard contained in paragraph (a).

2. The operator shall be responsible for a programme for ongoing engine trend monitoring.

3. To minimize the probability of in-flight engine failure, the operator shall ensure that the engine is equipped with—

- (a) for turbine engines, a re-ignition system that activates automatically or a manually selectable continuous ignition system unless the engine certification has determined that such a system is not required, taking into consideration the likely environmental conditions in which the engine is to be operated;
- (b) a magnetic particle detection, or equivalent system that monitors the engine, accessories gearbox, and reduction gearbox, and which includes a flight deck caution indication; and
- (c) a means that would permit continuing operation of the engine through a sufficient power range to safely complete the flight in the event of any reasonably probable failure of the fuel control unit.

**Systems and Equipment**

4. Helicopters operating in performance Class 3 in Instrument Meteorological Conditions shall be equipped with the following systems and equipment intended to ensure

continued safe flight or to assist in achieving a safe forced landing after an engine failure, under all allowable operating conditions—

- (a) either two separate electrical generating systems, each one capable of supplying all probable combinations of continuous in-flight electrical loads for instruments, equipment and systems required in Instrument Meteorological Conditions; or a primary electrical source and a standby battery or other alternate source of electric power that is capable of supplying 150 per cent of electrical loads of all required instruments and equipment necessary for safe emergency operations of the helicopter for at least one hour; and
- (b) an emergency electrical supply system of sufficient capacity and endurance, following loss of all normally generated power to, as a minimum:

NOTE: *If a battery is used to satisfy the requirement for a second power source [see clause 4(a) above], an additional electrical power supply may not be required.*

- (i) maintain the operation of all essential flight instruments, communication and navigation systems during a descent from the maximum certificated altitude in an auto-rotational configuration to the completion of a landing;
- (ii) maintain the operation of the stabilization system, if applicable;
- (iii) lower the landing gear, if applicable;
- (iv) where required, provide power to one pilot heater, which must serve an air speed indicator clearly visible to the pilot;
- (v) provide for landing light operation;
- (vi) provide for one engine restart, if applicable; and
- (vii) provide for the operation of the radio altimeter;
- (c) a radio altimeter;
- (d) an autopilot if intended as a substitute for a second pilot. In these cases, the State of Operator shall ensure the operator's approval clearly states any conditions or limitations on its use;
- (e) a means to provide for at least one attempt at engine re-start;
- (f) an area navigation system approved for use in Instrument Flight Rules, capable of being used to locate suitable landing areas in the event of an emergency;
- (g) a landing light that is independent of retractable landing gear and is capable of adequately illuminating the touchdown area in a night forced landing; and
- (h) an engine fire warning system.

#### **Minimum Serviceability Requirements—Operating Equipment**

5. The Authority shall specify the minimum serviceability requirements for operating equipment in helicopters operating in performance Class 3 in Instrument Meteorological Conditions.

#### **Operations Manual Information**

6. The operations manual shall include limitations, procedures, approval status and other information relevant to operations in performance Class 3 in Instrument Meteorological Conditions.

**Event Reporting**

7. (1) An operator approved to conduct operations by helicopters in performance Class 3 in Instrument Meteorological Conditions shall report all significant failures, malfunctions or defects to the Authority, the State of Manufacture and the State of Design.

(2) The Authority shall monitor operations in performance Class 3 in Instrument Meteorological Conditions so as to be able to take any actions necessary to ensure that the intended safety level is maintained.

(3) The Authority shall notify major events or trends of particular concern to the appropriate Type Certificate holder, the State of Manufacture and the State of Design.

**Operator Planning**

8. During route planning, an operator shall take account all of relevant information in the assessment of intended routes or areas of operations, including the following:

- (a) the nature of the terrain to be over-flown, including the potential for carrying out a safe forced landing in the event of an engine failure or major malfunction;
- (b) weather information, including seasonal and other adverse meteorological influences that may affect the flight; and
- (c) all other criteria and limitations specified by the Authority.

**Flight Crew Experience, Training and Checking**

9. (1) The Authority shall prescribe the minimum flight crew experience for helicopters operating in performance Class 3 in Instrument Meteorological Conditions.

(2) An operator's flight crew training and checking programme shall be appropriate to operations in performance Class 3 in Instrument Meteorological Conditions, covering normal, abnormal and emergency procedures and, in particular, detection of engine failure including descent to a forced landing in Instrument Meteorological Conditions and, for single engine helicopters, entry into a stabilized auto-rotation.

**Operator Certification or Validation**

10. An operator shall demonstrate the ability to conduct operations in performance Class 3 in Instrument Meteorological Conditions through a certification and approval process specified by the Authority.”.

26. Schedule 7 of the Regulations is amended by inserting after Schedule 7 subparagraph (I)(ii)(A)(IV) the following subparagraph: amended

“(V) where equipped with Automatic Dependent Surveillance—Broadcast or Automatic Dependent Surveillance—Contract, select the appropriate emergency functionality, where available, unless otherwise instructed by the appropriate Air Traffic Services Unit.”.

27. Schedule 12 of the Regulations is amended in the implementing Schedule 12 standards for Regulation 224A in subparagraph (F)(iii)(B), by inserting amended after the words “have made at least” the word “three”.

Made by the Civil Aviation Authority this 27th day of March, 2008.

R. LUTCHMEDIAL  
*Civil Aviation Authority*

Approved by the Minister of Works and Transport this 27th day of March, 2008.

C. IMBERT  
*Minister of Works and Transport*

Laid in the House of Representatives this 11th day of April, 2008.

N. JAGGASSAR  
*Acting Clerk of the House*

Laid in the Senate this 15th day of April, 2008.

J. SANDY  
*Acting Clerk of the Senate*