ENR 1. GENERAL RULES AND PROCEDURES

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The air traffic rules and procedure applicable to air traffic over Bhutan territory confirm to Annex 2 and Annex11 to the Convention on International Civil Aviation and to those portion of the *Procedures for Air Navigation Service – Air Traffic Management (PANS-ATM)* to the aircraft and of the Regional Supplementary Procedures applicable to the South East Asia Region.

1.1 **Application of Rules to Aircraft. These Rules shall apply to :**

a) All aircraft within the boundaries of Bhutan, and

b) All aircraft registered in Bhutan wherever they may be to the extent that they do not conflict with the rules published by the State having jurisdiction over the territory over flown.

1.2 **Compliance with the Rules of the air :** The operation of an aircraft either in flight or on the movement area of an aerodrome shall be in compliance with the general rules and, in addition, when in flight, either with:

a)The visual flight rules; or

b) The instrument flight rules.

2.1 **Responsibility for compliance with the Rules of the Air**

2.1.1 **Responsibility of the pilot- in-command**
The pilot-in-command of an aircraft shall, whether manipulating the controls or not, be responsible for the operation of the aircraft in accordance with the rules of the air, except that the pilot-in-command may depart from these rules in circumstance that render such departure absolutely necessary in the interest of safety.

2.1.2 **Pre-flight action**
Before beginning a flight, the pilot–in-command of an aircraft shall become familiar with all available information appropriate to the intended operation. Pre-flight action for flights away from the vicinity of an aerodrome, and for all IFR flights, shall include a careful study of available current weather reports and forecasts, taking into consideration fuel requirement and an alternative course of action, if the flight cannot be completed as planned.

3. Authority of Pilot-in-command of an Aircraft.
The pilot-in-command of an aircraft shall have final authority as to the disposition of the aircraft while in command

4. Reporting hazardous condition.
The commander of an aircraft shall, on meeting with hazardous condition in the course of a flight, or as soon as possible thereafter, send to the appropriate air traffic control unit by quickest means available, information containing such particulars of hazardous conditions as may be pertinent to the safety of other aircraft.

5. Misuse of signal and markings.

5.1 A signal or marking to which a meaning is given by these Rules, or which is required by these Rules to be used in circumstances, or for a purpose therein specified, shall not be used except with that meaning, or for that purpose.

5.2 A person in an aircraft or on an aerodrome or at any place at which an aircraft is taking off or landing shall not make any signal which may be confused with a signal specified in these Rules.

6. Problematic use of Psychoactive Substance.
No person whose function is critical to the safety of aviation (safety-sensitive personnel) shall undertake that function while under the influence of any psychoactive substance, by reason of which human performance is impaired. No such person shall engage in any kind of problematic use of substance.

7. Protection of Persons and Property

7.1 *Negligent or reckless operation of aircraft*
An aircraft shall not be operated in a negligent or reckless manner so as to endanger life or property of others.

7.2 *Minimum Heights.*
Except when necessary for take-off or landing, or except by permission from the Director General of BCAA, aircraft shall not be flown over the congested areas of cities, towns or settlements or over an open-air assembly of persons unless:

a) At such a height as will permit, in the event of an emergency arising, a landing to be made without undue hazard to persons or property on the surface; or

b) At a height of 1500ft above the highest fixed object within 2000ft of the aircraft, whichever is higher.

7.2.1 An aircraft shall not fly, except with the permission in writing of the HoA, BCAA and in accordance with any conditions therein specified:

a) Over, or within 3000ft of, any assembly in the open air of persons assembled for the purpose of witnessing or participating in any organised event, and with the consent in writing of the organisers of the event; or

b) Below such height as would enable it to alight clear of the assembly in the event of failure of a power unit and if such an aircraft is towing a banner such height shall be calculated on the basis that the banner shall not be dropped within 3000ft of the assembly;

c) Closer than 500ft to any person, vessel, vehicle or structure;

7.2.2 A helicopter shall not fly, except with the permission in writing of the HoA, BCAA and in accordance with any conditions therein specified,:

a) Below such height as would enable it to alight without danger to persons or property on the surface, in the event of failure of a power unit;

b) Over a congested area of a city, town or settlement below a height of 1500ft above the highest fixed object within 2000ft of the helicopter;

7.2.3 Nothing in this Rule shall prohibit an aircraft from flying in such a manner as is necessary for the purpose of saving life.

7.2.4 Nothing in this Rule shall prohibit an aircraft from flying in accordance with normal aviation practice, for the purpose of taking off from, landing at or practising approaches to landing at, or checking the navigational aids or procedures at an aerodrome owned or managed by DoAT or a licensed aerodrome in Bhutan.

7.2.5 Nothing in this Rule shall apply to any captive balloon or kite.

7.3 *Cruising Levels*.
The cruising levels at which a flight or portion of a flight is to be conducted shall be in terms of:

a) Flight levels, for flights at or above the lowest usable flight level or, where applicable, above the transition altitude;

c) Altitudes, for flights below the lowest usable flight level or, where applicable, at or below the transition altitude.

7.4 *Dropping or Spraying*.
Nothing shall be dropped or sprayed from an aircraft in flight except under conditions prescribed by HoA, BCAA and as indicated by relevant information, advice and/or clearance from the appropriate air traffic services unit.

7.5 *Towing*
No aircraft or other object shall be towed by an aircraft, except in accordance with requirements prescribed by the HoA, BCAA and as indicated by relevant information, advice and/or clearance from the appropriate air traffic services unit.

7.6 *Parachute Descents.*
Parachute descents, other than emergency descents, shall not be made except under conditions prescribed by the HoA, BCAA and as indicated by relevant information, advice and/or clearance from the appropriate air traffic services unit.

7.7 *Aerobatic Flight.*
No aircraft shall be flown aerobatically except under conditions prescribed by the HoA, BCAA and as indicated by relevant information, advice, and/or clearance from the appropriate air traffic services unit.

7.8 *Formation Flights.*
Aircraft shall not be flown in formation except under conditions prescribed by the HoA, BCAA and by pre-arrangement among the pilots-in-command of the aircraft taking part in the flight.

7.9 *Prohibited and Restricted Areas*.
Aircraft shall not be flown in a prohibited area, or in a restricted area, the particulars of which have been duly published, except in accordance with the conditions of the restrictions or by permission of the State over whose territory the areas are established.

8. Avoidance of Collisions.
Notwithstanding that the flight is being made with air traffic control clearance it shall remain the duty of the commander for an aircraft to take all possible measures to ensure that this aircraft does not collide with any other aircraft.

8.1 *Proximity.*
An aircraft shall not be flown in such proximity to other aircraft as to create a collision hazard.

8.2 *Right of Way*.
The aircraft that has the right-of-way shall maintain its heading and speed but nothing in these rules shall relieve the pilot-in-command of an aircraft from the responsibility of taking such action, including collision avoidance manoeuvres based on resolution advisories provided by ACAS equipment, as will best avert collision.

8.3 An aircraft that is obliged by these Rules to keep out of the way of another shall avoid passing over, under or in front of the other, unless it passes well clear and takes into account the effect of aircraft wake turbulence.

8.4 *Approaching head-on.*
When two aircraft are approaching head-on or approximately so in air and there is danger of collision, each shall alter its heading to the right.

8.5 *Converging*.
When two aircraft are converging at approximately the same level, the aircraft that has the other on its right shall give way, except as follows:

a) Power-driven heavier-than-air aircraft shall give way to airships, gliders and balloons;

b) Airships shall give way to gliders and balloons;

c) Gliders shall give way to balloons;

d) Power-driven aircraft shall give way to aircraft which are seen to be towing other aircraft or objects.

8.6.1 *Overtaking*.
An overtaking aircraft is an aircraft which approaches another from the rear on a line forming an angle of less than 70 degrees with the plane of symmetry of the latter, i.e. is in such a position with reference to the other aircraft that at night it should be unable to see either of the aircraft's left (port) or right (starboard) navigation lights. An aircraft that is being overtaken has the right-of-way and the overtaking aircraft, whether climbing, descending or in horizontal flight, shall keep out of the way of the other aircraft by altering its heading to the right, and no subsequent change in the relative positions of the two aircraft shall absolve the overtaking aircraft from this obligation until it is entirely past and clear.

8.7 *Landing*.
8.7.1 An aircraft in flight, or operating on the ground or water, shall give way to aircraft landing or in the final stages of an approach to land.

8.7.2 When two or more heavier-than-air aircraft are approaching an aerodrome for the purpose of landing, aircraft at the higher level shall give way to aircraft at the lower level, but the latter shall not take advantage of this rule to cut in in front of another which is in the final stages of an approach to land, or to overtake that aircraft. Nevertheless, power-driven heavier-than-air aircraft shall give way to gliders.

8.8 *Emergency Landing*.
An aircraft that is aware that another is compelled to land shall give way to that aircraft.

8.9 *Taking Off*.
An aircraft taxiing on the manoeuvring area of an aerodrome shall give way to aircraft taking off or about to take off.

8.10 *Right-hand Traffic Rule.*
An aircraft which is flying in sight of the ground and is following a line feature shall keep such line feature on its left.

8.11 *Surface Movement of Aircraft.*

8.11.1 In case of danger of collision between two aircraft taxiing on the movement area of an aerodrome the following shall apply:

a) When two aircraft are approaching head on, or approximately so, each shall stop or, where practicable, alter its course to the right so as to keep well clear;

b) When two aircraft are on a converging course, the one which has the other on its right shall give way;

c) An aircraft which is being overtaken by another aircraft shall have the right-of-way and the overtaking aircraft shall keep well clear of the other aircraft.

8.11.2 An aircraft taxiing on the manoeuvring area shall stop and hold at all taxi-holding positions unless otherwise authorised by the aerodrome control tower.

8.11.3 An aircraft taxiing on the manoeuvring area shall stop and hold at all lighted stop bars and may proceed further only when the lights are switched off.

9. Lights to be displayed by Aircraft

9.1 By day or night an aircraft fitted with an anti-collision light shall display such a light from immediately before engine start to immediately after engine shut-down.

9.2 From sunset to sunrise, or during any other period which may be prescribed by the appropriate authority, all aircraft in flight shall display:

a) Anti-collision lights intended to attract attention to the aircraft; and

b) Navigation lights intended to indicate the relative path of the aircraft to an observer and other lights shall not be displayed if they are likely to be mistaken for these lights;

9.3 Lights fitted for other purposes, such as landing lights and airframe floodlights, may be used in addition to the lights specified above to enhance aircraft conspicuity.

9.4 From sunrise to sunset, or during any other period prescribed by the appropriate authority:

a) All aircraft moving on the movement area of an aerodrome shall display navigation lights intended to indicate the relative path of the aircraft to an observer and other lights shall not be displayed if they are likely to be mistaken for these lights;

b) Unless stationary and otherwise adequately illuminated, all aircraft on the movement area of an aerodrome shall display lights intended to indicate the extremities of their structure;

c) All aircraft operating on the movement area of an aerodrome shall display lights intended to attract attention to the aircraft; and

d) All aircraft on the movement area of an aerodrome whose engines are running shall display lights which indicate that fact

9.5 Notwithstanding the provisions of this section of these Rules the commander of an aircraft may switch off or reduce the intensity of any flashing light fitted to the aircraft if such a light does or is likely to:

a) Adversely affect the satisfactory performance of the duties of any member of the flight crew; or

b) Subject an outside observer to unreasonable dazzle.

9.6 The systems of lights referred to in paragraph 9.1.2 of this Rule are as follows:

a) A steady green light of at least five candela showing to the starboard side through an angle of 110^{o} from the dead ahead in the horizontal plane; and

b) A steady red light of at least five candela showing to the port side through an angle of 110^{o} from dead ahead in the horizontal plane; and

c) A steady white light of at least five candela showing through angles of 70° from dead astern to each side in the horizontal plane.

10. Simulated instrument flight

An aircraft shall not be flown in simulated instrument conditions unless:

a) No passengers are carried; and

b) Fully functioning dual controls are installed in the aircraft; and

c) a qualified pilot occupies a control seat to act as safety pilot for the person who is flying under simulated instrument conditions. The safety pilot shall have adequate vision forward and to each side of the aircraft, or a competent observer in communication with the safety pilot shall occupy a position in the aircraft from which the observer's field of vision adequately supplements that of the safety pilot.

For the purpose of this Rule the expression "simulated instrument conditions" means a flight during which mechanical or optical devices are used in order to reduce the field of vision of the person flying.

11. Practice instrument approaches.

11.1 Within Bhutan an aircraft shall not carry out instrument approach practice when flying in Visual Meteorological Conditions unless:-

a) the appropriate air traffic control unit has previously been informed that the flight is to be made for the purpose of instrument approach practice; and

b) if the flight is being carried out in simulated instrument conditions, a safety pilot and, if required, a competent observer is carried.

12 Time.

12.1 Co-ordinated Universal Time (UTC) shall be used and shall be expressed in hours and minutes and, when required, seconds of the 24-hour day beginning at midnight.

12.2 A time check shall be obtained prior to operating a controlled flight and at such other times during the flight as may be necessary.

12.3 Wherever time is utilised in the application of data link communications, it shall be accurate to within 1 second of UTC.

13. Air Traffic Control Service.

13.1 *Air Traffic Control Clearances.*

An air traffic control clearance shall be obtained prior to operating a controlled flight, or a portion of a flight as a controlled flight. Such clearance shall be requested through the submission of a flight plan to an air traffic control unit.

13.2 Whenever an aircraft has requested a clearance involving priority, a report explaining the necessity for such priority shall be submitted, if requested by the appropriate air traffic control unit.

13.3 *Potential Re-clearance in Flight.*

If prior to departure it is anticipated that, depending on fuel endurance and subject to reclearance in flight, a decision may be taken to proceed to a revised destination aerodrome, the appropriate air traffic control units shall be so notified by the insertion in the flight plan of information concerning the revised route (where known) and the revised destination.

13.4 An aircraft operated on a controlled aerodrome shall not taxi on the manoeuvring area without clearance from the aerodrome control tower and shall comply with any instructions given by that unit.

14. Adherence to Flight Plan

14.1 An aircraft shall adhere to the current flight plan or the applicable portion of a current flight plan submitted for a controlled flight unless a request for a change has been made and clearance obtained from the appropriate air traffic control unit, or unless an emergency situation arises which necessitates immediate action by the aircraft, in which event as soon as circumstances permit, after such emergency authority is exercised, the appropriate air traffic services unit shall be notified of the action taken and that this action has been taken under emergency authority.

14.2 Unless otherwise authorised or directed by the appropriate air traffic control unit, controlled flights shall, in so far as possible:

a) When on an established ATS route, operate along the defined centre line of that route; or

b) When on any other route, operate directly between the navigation facilities and/or points defining the route.

14.3 Subject to the overriding requirement in 14.2, and aircraft operating along an ATS route segment defined by reference to a very high frequency omnidirectional radio ranges (VOR) shall change over for its primary navigation guidance from the facility behind the aircraft to that ahead of it at, or as close as operationally feasible to, the change-over point, where established.

14.4 Deviation from the requirements in 14.2 shall be notified to the appropriate air traffic services unit.

14.5 *Inadvertent Changes.*
In the event that a controlled flight inadvertently deviates from its current flight plan, the following action shall be taken:

a) *Deviation from track.* If the aircraft is off track, action shall be taken forthwith to adjust the heading of the aircraft to regain track as soon as practicable.

b) *Variation in True Airspeed.* If the average true airspeed at cruising level between reporting points varies or is expected to vary by plus or minus 5 per cent of the true airspeed, from that given in the flight plan, the appropriate air traffic services unit shall be so informed.

c) *Change in Time Estimate.* If the time estimate for the next applicable reporting point, flight information region boundary or destination aerodrome, whichever comes first, is found to be in error in excess of three minutes from that notified to air traffic services, or such other period of time as is prescribed by the appropriate ATS authority or on the basis of air navigation regional agreements, a revised estimated time shall be notified as soon as possible to the appropriate air traffic services unit.

14.6 Additionally when an ADS agreement is in place, the air traffic services unit (ATSU) shall be informed automatically via data link whenever changes occur beyond the threshold values stipulated by the ADS event contract.

14.7 *Intended Changes*. Requests for flight plan changes shall include information as indicated hereunder:

a) *Change of Cruising Level:*.
- Aircraft identification;
- Requested new cruising level and cruising speed at this level; and
- Revised time estimates (when applicable) at subsequent flight information region boundaries.

b) *Change of Route:*
1) *Destination Unchanged:*
- Aircraft identification;
- Flight rules;
- Description of new route of flight including related flight plan data beginning with the position from which requested change of route is to commence;
- Revised time estimates; and
- Any other pertinent information.

2) *Destination Changed:*
- Aircraft identification;
- Flight rules;
- Description of revised route of flight to revised destination aerodrome including related flight plan data, beginning with the position from which the requested change of route is to commence;
- Revised time estimates;
- Alternate aerodrome(s); and
- Any other pertinent information.

14.8 *Weather Deterioration Below VMC.* When it becomes evident that flight in VMC in accordance with its current flight plan will not be practicable, a VFR flight operated as a controlled flight shall:

a) Request an amended clearance enabling the aircraft to continue in VMC to destination or to an alternative aerodrome or to leave the airspace within which an ATC clearance is required; or

b) If no clearance in accordance with a) can be obtained, continue to operate in VMC and notify the appropriate ATC unit of the action being taken either to leave the airspace concerned or to land at the nearest suitable aerodrome; or

c) If operated within a control zone, request authorisation to operate as a special VFR flight; or

d) Request clearance to operate in accordance with the instrument flight rules.

15. Position Reports.

15.1 Unless exempted by the appropriate ATS authority or by the appropriate air traffic services unit under conditions specified by that authority, a controlled flight shall report to the appropriate air traffic services unit, as soon as possible, the time and level of passing each designated compulsory reporting point, together with any other required information. Position reports shall similarly be made in relation to additional points when requested by the appropriate air traffic services unit. In the absence of designated reporting points, position reports shall be made at intervals prescribed by the appropriate ATS authority or specified by appropriate air traffic services unit.

15.2 Controlled flights providing position information to the appropriate air traffic services unit via data link communications shall only provide voice position reports when requested.

16. Termination of Control.

A controlled flight shall, except when landing at a controlled aerodrome, advise the appropriate ATC unit as soon as it ceases to be subject to air traffic control service.

17. Communications.

17.1 An aircraft operated as a controlled flight shall maintain continuous air-ground voice communication watch on the appropriate communication channel of, and establish two-way communication as necessary with, the appropriate air traffic control unit, except as may be prescribed by the appropriate ATS authority in respect of aircraft forming part of aerodrome traffic at a controlled aerodrome.

17.2 SELCAL or similar automatic signalling devices satisfy the requirement to maintain an air-ground voice communications watch.

17.3 The requirement for an aircraft to maintain air-ground voice communication watch remains in effect after CPDLC has been established.

17.4 *Communication Failure.*

If a communication failure precludes compliance with 17.1.2, the aircraft shall comply with the communication failure procedures of Volume II of Annex 10 to the Convention on International Civil Aviation, and with such of the following procedures as are appropriate. In addition, the aircraft, when forming part of the aerodrome traffic at a controlled aerodrome, shall keep a watch for such instructions as may be issued by visual signals.

17.5 If in visual meteorological conditions, the aircraft shall:

a) Continue to fly in visual meteorological conditions;

b) Land at the nearest suitable aerodrome; and

c) Report its arrival by the most expeditious means to the appropriate air traffic control unit.

17.6 If in instrument meteorological conditions or when the pilot of an IFR flight considers it inadvisable to complete the flight in accordance with 17.5 the aircraft shall:

a) Unless otherwise prescribed on the basis of regional air navigation agreement, in airspace where radar is not used in the provision of air traffic control, maintain the last assigned speed and level, or minimum flight altitude if higher, for a period of 20 minutes following the aircraft's failure to report its position over a compulsory reporting point and thereafter adjust level and speed in accordance with the filed flight plan;

b) proceed according to the current flight plan route to the appropriate designated navigation aid or fix serving the destination aerodrome and, when required to ensure compliance with c) below, hold over this aid or fix until commencement of descent;

c) commence descent from the navigation aid or fix specified in b) at, or as close as possible to, the expected approach time last received and acknowledged; or, if no expected approach time has been received and acknowledged, at, or as close as possible to, the estimated time of arrival resulting from the current flight plan;

d) complete a normal instrument approach procedure as specified for the designated navigation aid or fix; and

e) land, if possible, within 30 minutes after the estimated time of arrival specified in c) or the last acknowledged expected approach time, whichever is later.

18. Visual Signals used to warn an unauthorised aircraft flying in, or about to enter, a Restricted, Prohibited or Danger Area.

18.1 By day and by night, a series of projectiles discharged from the ground at intervals of 10 seconds, each showing, on bursting, red and green lights or stars will indicate to an unauthorised aircraft that it is flying in or about to enter a restricted, prohibited or danger area, and that the aircraft is to take such remedial action as may be necessary.

19. Signals for Aerodrome Traffic.

19.1 *Light and pyrotechnic signals.* The following light and pyrotechnic signals will be used to aircraft in flight or on the ground:

Light	**From Aerodrome Control to:**	
	Aircraft in flight	**Aircraft on the ground**
Steady green	Cleared to land	Cleared for take-off
Steady red	Give way to other aircraft and continue circling.	Stop
Series of green flashes	Return for landing	Cleared to taxi
Series of red flashes	Aerodrome unsafe, do not land.	Taxi clear of landing area in use.
Series of white flashes	Land at this apron and proceed to apron.	Return to starting point on the aerodrome.
Red pyrotechnic	Notwithstanding any previous instructions, do not land for the time being.	

19.2 *Acknowledgement by an aircraft.*

a) When in flight:
   1) During the hours of daylight:
      - By rocking the aircraft's wings;
   2) During the hours of darkness:
      - By flashing on an off twice the aircraft's landing lights or, if not so equipped, by switching on and off twice its navigation lights.

b) When on the ground:
   1) During the hours of daylight:
      - By moving the aircraft's ailerons or rudder;

   2) During the hours of darkness;
      - By flashing on and off twice the aircraft's landing lights or, if not so equipped, by switching on and off