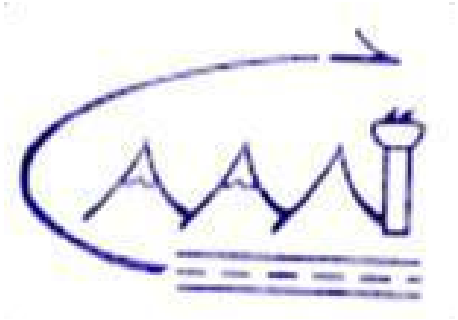
CIVIL AVIATION AUTHORITY OF NEPAL

ATM DEPARTMENT



AIR TRAFFIC SERVICES OPERATION MANUAL

SIMARA CIVIL AVIATION OFFICE

(ATSOM, SICAO)

First Edition

April, 2017

FOREWORD

Pursuant to the Introduction A (i) of Manual of Standard Air Traffic Services (MATS) Nepal Second Edition 2014, this Air Traffic Services Operations Manual referred herein after ATSOM has been developed by ATM Department, CAAN in coordination with Simara Civil Aviation Office (SICAO). This ATSOM incorporates the provisions of MATS Nepal, relevant Civil Aviation Requirements, and provision of related ICAO Annexes and Documents.

This ATSOM prescribes the detail processes and procedures for Air Traffic Services under the jurisdiction of Simara Tower for the safety, regularity and efficiency of air navigation applicable for Simara Airport. ATS personnel are required to comply with the provisions of this manual to perform their operational responsibilities.

This manual is approved by Director General of Civil Aviation Authority of Nepal and issued under his authority which comes into effect from ....11th...May, 2017

Director General

Civil Aviation Authority of Nepal

Babar Mahal, Kathmandu

Amendment Record

Amendments and Corrigenda to this "Air Traffic Services Operations Manual, SICAO" are regularly issued by Director General of CAAN, Nepal. The space below is provided to keep a record of such amendments.

RECORD OF AMENDMENTS AND CORRIGENDA

AMENDMENT					**CORRIGENDA**			
No.	DATE APPLICABLE	DATE ENTERED	ENTERED BY		No.	DATE APPLICABLE	DATE ENTERED	ENTERED BY

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CHAPTER 1

INTRODUCTION

1.1. Background

1.1.1. This "Air Traffic Services (ATS) Operation Manual for Simara Civil Aviation Office", made under the provision of Manual of Standard Air Traffic Services Nepal (MATS Nepal) Second Edition 2014, Chapter Introduction, Para (A) (i), refers to the Procedures and methods to be used in Simara Civil Aviation Office in providing Air Traffic Services. This document is referred as ATSOM, SICAO in short.

1.1.2. In the circumstance where there is any inconsistency between the provision of MATS Nepal and the ATSOM, SICAO, the MATS Nepal prevails.

1.2. Related Documents

The provisions in this document should be read in conjunction with:

a) Civil Aviation Requirements (CAR-11) –Air traffic Services
b) Civil Aviation Requirements (CAR-2) –Rules of the Air.
c) Civil Aviation Requirements (CAR-12) – Search and Rescue
d) Civil Aviation Requirements (CAR-15) – Aeronautical Information Services;
e) Civil Aviation Requirements (CAR-19) – Safety Management
f) Manual of Standard Air Traffic Services,(MATS. Nepal)
g) ICAO Air Traffic Services Planning Manual (Doc 9426);
h) ICAO Procedures for Air Navigation Services – Air Traffic Management (PANS-ATM) (Doc 4444);
i) ICAO Regional Supplementary Procedures (Doc 7030);
j) AIP Nepal, AICs, AIP Supplement, DGCA Directives and Advisory Circulars.
k) ICAO Annex 10 – Aeronautical Telecommunications, Volume I – Radio Navigation Aids, Volume II –Communications Procedures;
l) ICAO Safety Management Manual Doc 9859
m) Manual of Standard Licensing/ Rating of Air Traffic Control Personnel, Third edition, 2015

1.3. Differences Published in AIP

Differences from ICAO Standards, Recommended Practices and Procedures are published in AIP Nepal.

1.4. ATSOM, SICAO Documentation Change Management

1.4.1. Simara Civil Aviation Office has the responsibility for the technical contents of this ATSOM which can be amended and issued after the approval from the Director General, CAAN.

1.4.2. The need to change procedures in this ATSOM can arise for any of the following reasons:

a) To ensure safety
b) To ensure standardization
c) To respond to changes in MATS, Nepal.
d) To respond to changes in other safety standards of CAAN.
e) To respond to ICAO prescription.
f) To accommodate proposed initiatives or new technologies.

CHAPTER 2

DEFINITIONS

When the following terms are used in the present document they have the following meanings:

Accepting unit/controller. Air traffic control unit /air traffic controller next to take control of an aircraft.

Note - See definition of "transferring unit/controller".

Aerodrome. A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

Note — The term "aerodrome" where used in the provisions relating to flight plans and ATS messages is intended to cover also sites other than aerodromes which may be used by certain types of aircraft, e.g. helicopters or balloons.

Aerodrome control service. Air traffic control service for aerodrome traffic.

Aerodrome control tower. A unit established to provide air traffic control service to aerodrome traffic.

Aerodrome elevation. The elevation of the highest point of the landing area.

Aerodrome traffic. All traffic on the manoeuvring area of an aerodrome and all aircraft flying in the vicinity of an aerodrome.

Note.— An aircraft is in the vicinity of an aerodrome when it is in, entering or leaving an aerodrome traffic circuit.

Aerodrome traffic circuit. The specified path to be flown by aircraft operating in the vicinity of an aerodrome.

Aeronautical Information Publication (AIP). A publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation.

Airborne collision avoidance system (ACAS). An aircraft system based on secondary surveillance radar (SSR) transponder signals which operates independently of ground-based equipment to provide advice to the pilot on potential conflicting aircraft that are equipped with SSR transponders.

Aircraft. Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

Aircraft proximity. A situation in which, in the opinion of a pilot or air traffic services personnel, the distance between aircraft as well as their relative positions and speed have been such that the safety of the aircraft involved may have been compromised. An aircraft proximity is classified as follows:

Risk of collision: The risk classification of an aircraft proximity in which serious risk of collision has existed.

Safety not assured: The risk classification of an aircraft proximity in which the safety of the aircraft may have been compromised.

No risk of collision: The risk classification of an aircraft proximity in which no risk of collision has existed.

Risk not determined: The risk classification of an aircraft proximity in which insufficient information was available to determine the risk involved, or inconclusive or conflicting evidence precluded such determination.

AIRPROX. The code word used in an air traffic incident report to designate aircraft proximity.

Air-report. A report from an aircraft in flight prepared in conformity with requirements for position, and operational and/or meteorological reporting.

Air-taxiing. Movement of a helicopter/VTOL above the surface of an aerodrome, normally in ground effect and at a ground speed normally less than 37 km/h (20 kt).

Note – The actual height may vary, and some helicopters may require air-taxiing above 8 m (25 ft) AGL to reduce ground effect turbulence or provide clearance for cargo sling loads.

Air Navigation Service Provider (ANSP). An Air Navigation Service Provider is an organization that provides the air navigation services for managing the aircraft in flight or on the manoeuvering area of an aerodrome vested in it and which is the legitimate holder of that responsibility.

Note 1.- Civil Aviation Authority of Nepal, as an ANSP, is the responsible for the provision of Air Traffic Services, CNS Services and Aeronautical Information Services in Nepal.

Air traffic. All aircraft in flight or operating on the manoeuvering area of an aerodrome.

Air traffic advisory service. A service provided within advisory airspace to ensure separation, in so far as practical, between aircraft which are operating on IFR flight plans.

Air traffic control clearance. Authorization for an aircraft to proceed under conditions specified by an air traffic control unit.

Note 1.— For convenience, the term "air traffic control clearance" is frequently abbreviated to "clearance" when used in appropriate contexts.

Note 2.— The abbreviated term "clearance" may be prefixed by the words "taxi", "take-off", "departure", "en-route", "approach" or "landing" to indicate the particular portion of flight to which the air traffic control clearance relates.

Air traffic control instruction. Directives issued by air traffic control for the purpose of requiring a pilot to take a specific action.

Air traffic controller schedule. A plan for allocating air traffic controller duty periods and non-duty periods over a period of time otherwise referred to as a roster.

Air traffic control service. A service provided for the purpose of:

a) Preventing collisions:

1) between aircraft, and
2) on the manoeuvring area between aircraft and obstructions; and

b) Expediting and maintaining an orderly flow of air traffic.

Air traffic control unit. A generic term meaning variously, area control centre, approach control unit or Control tower.

Air traffic management (ATM). The dynamic, integrated management of air traffic and airspace including air traffic services, airspace management and air traffic flow management—safely, economically and efficiently — through the provision of facilities and seamless services in collaboration with all parties and involving airborne and ground-based functions.

Air traffic service (ATS). A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service).

Air traffic services airspaces. Airspaces of defined dimensions alphabetically designated, within which specific types of flights may operate and for which air traffic services and rules of operation are specified.

Note.— ATS airspaces are classified as Class A to G as shown in CAR 11, Appendix 4.

Air traffic services unit. A generic term meaning variously, air traffic control unit, flight information centre or air traffic services reporting office.

Airway. A control area or portion thereof established in the form of a corridor.

ALERFA. The code word used to designate an alert phase.

Alerting service. A service provided to notify appropriate organizations regarding aircraft in need of search and rescue aid, and assist such organizations as required.

Alert phase. A situation wherein apprehension exists as to the safety of an aircraft and its occupants.

Alternate aerodrome. An aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing. Alternate aerodromes include the following:

Take-off alternate: An alternate aerodrome at which an aircraft can land should this become necessary shortly after take-off and it is not possible to use the aerodrome of departure.

En-route alternate: An aerodrome at which an aircraft would be able to land after experiencing an abnormal or emergency condition while en route.

Destination alternate: An alternate aerodrome to which an aircraft may proceed should it become either impossible or inadvisable to land at the aerodrome of intended landing.

Note.— The aerodrome from which a flight departs may also be an en-route or a destination alternate aerodrome for that flight.

Altitude. The vertical distance of a level, a point or an object considered as a point, measured from mean sea level (MSL).

Approach control service. Air traffic control service for arriving or departing controlled flights.

Approach control unit. A unit established to provide air traffic control service to controlled flights arriving at, or departing from, one or more aerodromes.

Approach sequence. The order in which two or more aircraft are cleared to approach to land at the aerodrome.

Appropriate ATS authority. The relevant authority designated by the State responsible for providing air traffic services in the airspace concerned.

Apron. A defined area, on a land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers, mail or cargo, fuelling, parking or maintenance.

Apron management service. A service provided to regulate the activities and the movement of aircraft and vehicles on an apron.

Area control centre (ACC). A unit established to provide air traffic control service to controlled flights in control areas under its jurisdiction.

Area control service. Air traffic control service for controlled flights in control areas.

ATS route. A specified route designed for channeling the flow of traffic as necessary for the provision of air traffic services.

Note 1— The term "ATS route" is used to mean variously, airway, advisory route, controlled or uncontrolled route, arrival or departure route, etc.
Note 2— An ATS route is defined by route specifications which include an ATS route designator, the track to or from significant points (waypoints), distance between significant points, reporting requirements and, as determined by the appropriate ATS authority, the lowest safe altitude.

Broadcast. A transmission of information relating to air navigation that is not addressed to a specific station or stations.

Ceiling. The height above the ground or water of the base of the lowest layer of cloud below 6000 m (20 000 ft) covering more than half the sky.

Circling Approach. An extension of an instrument approach procedure which provides for visual circling of the aerodrome prior to landing.

Clearance limit. The point to which an aircraft is granted an air traffic control clearance.

Common point. A point on the surface of the earth common to the paths of two aircraft, used as a basis for describing longitudinal separation minima (e.g. significant point, waypoint, navigation aid, fix).

Note.— Common point is not used for operational purposes or in pilot-controller communications.

Control area. A controlled airspace extending upwards from a specified limit above the earth.

Controlled aerodrome. An aerodrome at which air traffic control service is provided to aerodrome traffic.

Note.— The term "controlled aerodrome" indicates that air traffic control service is provided to aerodrome traffic but does not necessarily imply that a control zone exists.

Controlled airspace. An airspace of defined dimensions within which air traffic control service is provided in accordance with the airspace classification.

Note.— Controlled airspace is a generic term which covers ATS airspace Classes A, B, C, D and E as described in CAR 11, 2.6.

Controlled flight. Any flight which is subject to an air traffic control clearance.

Control zone. A controlled airspace extending upwards from the surface of the earth to a specified upper limit.

Cruising level. A level maintained during a significant portion of a flight.

Current flight plan (CPL). The flight plan, including changes, if any, brought about by subsequent clearances.

Note.— When the word "message" is used as a suffix to this term, it denotes the content and format of the current flight plan data sent from one unit to another.

Danger area. An airspace of defined dimensions within which activities dangerous to the flight of aircraft may exist at specified times.

DETRESFA. The code word used to designate a distress phase.

Distress phase. A situation wherein there is reasonable certainty that an aircraft and its occupants are threatened by grave and imminent danger or require immediate assistance.

Duty. Any task that an air traffic controller is required by the air traffic services provider to perform. These tasks include those performed during time-in-position, administrative work and training.

Duty period. A period which starts when an air traffic controller is required by an air traffic services provider to report for or to commence a duty and ends when that person is free from all duties.

Elevation. The vertical distance of a point or a level, on or affixed to the surface of the earth, measured from mean sea level.

Emergency phase. A generic term meaning, as the case may be, uncertainty phase, alert phase or distress phase.

Estimated elapsed time. The estimated time required to proceed from one significant point to another.

Estimated off-block time. The estimated time at which the aircraft will commence movement associated with departure.

Estimated time of arrival. For IFR flights, the time at which it is estimated that the aircraft will arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation aid is associated with the aerodrome, the time at which the aircraft will arrive over the aerodrome. For **VFR** flights, the time at which it is estimated that the aircraft will arrive over the aerodrome.

Expected approach time. The time at which ATC expects that an arriving aircraft, following a delay, will leave the holding fix to complete its approach for a landing.

Note.— The actual time of leaving the holding fix will depend upon the approach clearance

Expected on ward clearance time. The time at which it is expected that an aircraft held en-route, will leave the holding point to continue on its flight.

Filed flight plan (FPL). The flight plan as filed with an Control tower by the pilot or a designated representative, without any subsequent changes.

Note.— When the word "message" is used as a suffix to this term, it denotes the content and format of the filed flight plan data as transmitted.

Final approach. That part of an instrument approach procedure which commences at the specified final approach fix or point, or where such a fix or point is not specified,

a) at the end of the last procedure turn, base turn or inbound turn of a racetrack procedure, if specified; or

b) at the point of interception of the last track specified in the approach procedure; and ends at a point in the vicinity of an aerodrome from which:

1) a landing can be made; or
2) a missed approach procedure is initiated

Flight crew member. A licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period.

Flight information centre. A unit established to provide flight information service and alerting service

Flight information region (FIR). An airspace of defined dimensions within which flight information service and alerting service are provided.

Flight information service. A service provided for the purpose of giving advice and information useful for the safe and efficient conduct of flights.

Flight level. A surface of constant atmospheric pressure which is related to a specific pressure datum, 1 013.2 hectopascals (hPa), and is separated from other such surfaces by specific pressure intervals.

Note 1.— A pressure type altimeter calibrated in accordance with the Standard Atmosphere:
a) when set to a QNH altimeter setting, will indicate altitude;
b) when set to QFE altimeter setting, will indicate height above the QFE reference datum;
c) when set to a pressure of 1 013.2 hPa, may be used to indicate flight levels.

Note 2.— The terms "height" and "altitude", used in Note 1 above, indicate altimetric rather than geometric heights and altitudes.

Flight plan. Specified information provided to air traffic services units, relative to an intended flight or portion of a flight of an aircraft.

Note.- Specifications of flight plan and the Model Flight Plan Form are contained in Appendix 2.

Flight visibility. The visibility forward from the cockpit of an aircraft in flight.

Force landing. Landing performed not in accordance with flight plan, as a result of engine failure/or malfunctioning.

Forecast. A statement of expected meteorological conditions for a specified time or period, and for a specified area or portion of airspace.

Ground effect. A condition of improved performance (lift) due to the interference of the surface with the airflow pattern of the rotor system when a helicopter or other VTOL aircraft is operating near the ground.

Note.— Rotor efficiency is increased by ground effect to a height of about one rotor diameter for most helicopters.

Ground visibility. The visibility at an aerodrome, as reported by an accredited observer or by automatic systems.

Hazard. A condition or an object with the potential to cause injuries to personnel, damaged to equipment or structures, loss of material, or reduction of ability to perform a prescribed function.

Heading. The direction in which the longitudinal axis of an aircraft is pointed, usually expressed in degrees from North (true, magnetic, compass or grid).

Height. The vertical distance of a level, a point or an object considered as a point, measured from a specified datum.

Holding fix. A geographical location that serves as a reference for a holding procedure.

Holding procedure. A predetermined maneuvers which keeps an aircraft within a specified airspace while awaiting further clearance.

Hot spot. A location on an aerodrome movement area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary.

Human Factors principles. Principles which apply to aeronautical design, certification, training, operations and maintenance and which seek safe interface between the human and other system components by proper consideration to human performance.

Human performance. Human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations.

IFR. The symbol used to designate the instrument flight rules.

IFR flight. A flight conducted in accordance with the instrument flight rules.

IMC. The symbol used to designate instrument meteorological conditions.

INCERFA. The code word used to designate an uncertainty phase.

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

Initial approach segment. That segment of an instrument approach procedure between the initial approach fix and the intermediate approach fix or, where applicable, the final approach fix or point.

Instrument approach procedure (IAP). A series of predetermined maneuvers by reference to flight instruments with specified protection from obstacles from the initial approach fix, or where applicable, from the beginning of a defined arrival route to a point from which a landing can be completed and thereafter, if a landing is not completed, to a position at which holding or en-route obstacle clearance criteria apply. Instrument approach procedures are classified as follows:

Non-precision approach (NPA) procedure: An instrument approach procedure which utilizes lateral guidance but does not utilize vertical guidance.

Approach procedure with vertical guidance (APV): An instrument procedure which utilizes lateral and vertical guidance but does not meet the requirements established for precision approach and landing operations.

Precision approach (PA) procedure: An instrument approach procedure using precision lateral and vertical guidance with minima as determined by the category of operation.

Note.— Lateral and vertical guidance refers to the guidance provided either by:

a) a ground-based navigation aid; or

b) computer-generated navigation data.

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.

Note 1. — The specified minima for visual meteorological conditions are contained in Chapter 3 of CAR 2.

Note 2.— In a control zone, a VFR flight may proceed under instrument meteorological conditions if and as authorized by air traffic control.

International NOTAM of Office. An office designed by a State for the exchange of NOTAM internationally.

Known traffic. Traffic which is in communication with or the current flight details and intentions of which are known to the controller concerned.

Landing area. That part of a movement area intended for the landing or take-off of aircraft.

Landing sequence. The order in which arriving aircraft are positioned for landing.

Level. A generic term relating to the vertical position of an aircraft in flight and meaning variously, height, altitude or flight level.

Manoeuvring area. That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, excluding aprons.

Meteorological information. Meteorological report, analysis, forecast, and any other statement relating to existing or expected meteorological conditions.

Minimum fuel. The term used to describe a situation in which an aircraft's fuel supply has reached a state where little or no delay can be accepted.

Note.— This is not an emergency situation but merely indicates that an emergency situation is possible, should any undue delay occur.

Minimum sector altitude. The lowest altitude which may be used under emergency conditions which will provide a minimum clearance of 300 meters above all objects located in an area contained within a sector of a circle of 46 km (25 nm) radius centered on a radio aid to navigation.

Missed approach procedure. The procedure to be followed if the approach cannot be continued.

Movement area. That part of an aerodrome to be used for the take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and the apron(s).

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.

Obstacle clearance altitude (OCA) or obstacle clearance height (OCH). The lowest altitude or the lowest height above the elevation of the relevant runway threshold or the aerodrome elevation as applicable, used in establishing compliance with appropriate obstacle clearance criteria.

Note 1.— Obstacle clearance altitude is referenced to mean sea level and obstacle clearance height is referenced to the threshold elevation or in the case of non-precision approaches to the aerodrome elevation or the threshold elevation if that is more than 2 m (7 ft) below the aerodrome elevation. An obstacle clearance height for a circling approach is referenced to the aerodrome elevation.

Note 2.— For convenience when both expressions are used they may be written in the form "obstacle clearance altitude/height" and abbreviated "OCA/H".

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

Pilot-in-command. The pilot designated by the operator, or in the case of general aviation, the owner, as being in command and charged with the safe conduct of a flight.

Positive radio fix.
(a) NDB or locator station (when propagation is normal); or
(a) VOR station

Pressure-altitude. An atmospheric pressure expressed in terms of altitude which corresponds to that pressure in the Standard Atmosphere.

Procedural control. Term used to indicate that information derived from an ATS surveillance system is not required for the provision of air traffic control service.

Procedural separation. The separation used when providing procedural control.

Procedure turn. A manoeuvers in which a turn is made away from a designated track followed by a turn in the opposite direction to permit the aircraft to intercept and proceed along the reciprocal of the designated track.

Note 1.— Procedure turns are designated "left" or "right" according to the direction of the initial turn.

Note 2.— Procedure turns may be designated as being made either in level flight or while descending, according to the circumstances of each individual procedure.

Profile. The orthogonal projection of a flight path or portion thereof on the vertical surface containing the nominal track.

Prohibited area. An airspace of defined dimensions above the land areas or territorial waters of a state within which the flight of aircraft is prohibited.

Quadrantal cruising. Specified cruising levels determined in relation to magnetic track within quadrants of the compass.

Radiotelephony. A form of radio-communication primarily intended for the exchange of information in the form of speech.

Read-back. A procedure whereby a receiving station repeat a received message or an appropriate thereof back to the transmitting station so as to obtain confirmation of correct reception.

Receiving unit/controller. Air traffic services unit/air traffic controller to which a message is sent.

Reporting point. A specified geographical location in relation to which the position of an aircraft can be reported.

Runway. A defined rectangular area on a land aerodrome prepared for the landing and take-off of aircraft.

Safety management system (SMS). A systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.

Sending unit/controller. Air traffic services unit/air traffic controller transmitting a message.

Significant point. A specified geographical location used in defining an ATS route or the flight path of an aircraft and for other navigation and ATS purposes.

Special VFR flight. A VFR flight cleared by air traffic control to operate within a control zone in meteorological conditions below VMC.

Standard instrument arrival (STAR). A designated instrument flight rule (IFR) arrival route linking a significant point, normally on an ATS route, with a point from which a published instrument approach procedure can be commenced.

Standard instrument departure (SID). A designated instrument flight rule (IFR) departure route linking the aerodrome or a specified runway of the aerodrome with a specified significant point, normally on a designated ATS route, at which the en-route phase of a flight commences.

Stop-way. A defined rectangular area on the ground at the end of take-off run available prepared as a suitable area in which an aircraft can be stopped in the case of an abandoned take-off.

Taxiing. Movement of an aircraft on the surface of an aerodrome under its own power, excluding take-off and landing.

Taxiway. A defined path on a land aerodrome established for the taxiing of aircraft and intended to provide a link between one part of the aerodrome and another, including:

a) **Aircraft stand taxi-lane**. A portion of an apron designated as a taxiway and intended to provide access to aircraft stands only.

b) **Apron taxiway**. A portion of a taxiway system located on an apron and intended to provide a through taxi route across the apron.

c) **Rapid exit taxiway**. A taxiway connected to a runway at an acute angle and designed to allow landing aeroplanes to turn off at higher speeds than are achieved on other exit taxiways thereby minimizing runway occupancy times.

Terminal control area (TMA). A control area normally established at the confluence of ATS routes in the vicinity of one or more major aerodromes.

Threshold. The beginning of that portion of the runway usable for landing.

Total estimated elapsed time. For IFR flights, the estimated time required from take-off to arrive over that designated point, defined by reference to navigation aids, from which it is intended that an instrument approach procedure will be commenced, or, if no navigation

aid is associated with the destination aerodrome, to arrive over the destination aerodrome. For VFR flights, the estimated time required from take-off to arrive over the destination aerodrome.

Touchdown. The point where the nominal glide path intercepts the runway.

Note.— "Touchdown" as defined above is only a datum and is not necessarily the actual point at which the aircraft will touch the runway.

Track. The projection on the earth's surface of the path of an aircraft, the direction of which path at any point is usually expressed in degrees from North (true, magnetic or grid).

Traffic avoidance advice. Advice provided by an air traffic services unit specifying manoeuvres to assist a pilot to avoid a collision.

Traffic information. Information issued by an air traffic services unit to alert a pilot to other known or observed air traffic which may be in proximity to the position or intended route of flight and to help the pilot avoid a collision.

Transfer of control. Transfer of responsibility for providing air traffic control service.

Transfer of control point. A defined point located along the flight path of an aircraft, at which the responsibility for providing air traffic control service to the aircraft is transferred from one control unit or control position to the next.

Transferring unit/controller. Air traffic control unit/air traffic controller in the process of transferring the responsibility for providing air traffic control service to an aircraft to the next air traffic control unit/air traffic controller along the route of flight.

Transition altitude. The altitude at or below which the vertical position of an aircraft is controlled by reference to altitudes.

Transition layer. The airspace between the transition altitude and the transition level.

Transition level. The lowest flight level available for use above the transition altitude.

Uncertainty phase. A situation wherein uncertainty exists as to the safety of an aircraft and its occupants.

Unlawful interference. An unlawful attempt, successful or otherwise, being made to take over control of an aircraft, or nay act of violence against an aircraft being committed, attempted or threatened.

Unmanned free balloon. A non-power-driven, unmanned, lighter-than-air aircraft in free flight.

Note.— Unmanned free balloons are classified as heavy, medium or light in accordance with specifications contained in CAR 2, Appendix 4.

VFR. The symbol used to designate the visual flight rules.

VFR flight. A flight conducted in accordance with the visual flight rules.

Visibility. Visibility for aeronautical purposes is the greater of:

a) the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognized when observed against a bright background;
b) the greatest distance at which lights in the vicinity of 1 000 candelas can be seen and identified against an unlit background.

Note 1.— The two distances have different values in air of a given extinction coefficient, and the latter b) varies with the background illumination. The former a) is represented by the meteorological optical range (MOR).

Note 2.— The definition applies to the observations of visibility in local routine and special reports, to the observations of prevailing and minimum visibility reported in METAR and SPECI and to the observations of ground visibility.

Visual approach. An approach by an IFR flight when either part or all of an instrument approach procedure is not completed and the approach is executed in visual reference to terrain.

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

Note.— The specified minima are contained in CAR 2, Chapter 4.

VMC. The symbol used to designate visual meteorological conditions.

Wake turbulence conditions. The disturbance to the surrounding atmosphere created by an operating aircraft and may be used to refer to any or all of the following:

(a) jet-engine blast
(b) prop wash
(c) wing-tip vortices
(d) rotor vortices

Wind shear. A change in wind speed and/or direction in space, including updrafts and downdrafts.

CHAPTER – 3

ABBREVIATIONS

Unless otherwise stated, abbreviations in this ATSOM have the meanings as follows:

A

ACAS	Airborne Collision Avoidance System
ACC	Area Control Centre
ACCID	Initial Notification of Aircraft accident
ACFT	Aircraft
AD	Aerodrome
ADF	Automatic direction-finding equipment
ADIZ	Air Defense Identification Zone
AFIS	Aerodrome Flight Information Service
AFS	Aeronautical Fixed Service
AFTN	Aeronautical Fixed Telecommunication Network
AGL	Above ground level
AIC	Aeronautical Information Circular
AIP	Aeronautical Information Publication
AIRAC	Aeronautical Information Regulation and Control
AIREP	Air-report
AIS	Aeronautical Information Service
ALERFA	Alert Phase
ALS	Approach Lighting System
AMHS	Automatic Message Handling System
ANSSSD	Air Navigation Service Safety Standards Department
AP	Airport
APCH	Approach
APP	Approach Control Office or Approach control or Approach Control Service or Approach Control Center
ARP	Aerodrome Reference Point
ASDA	Accelerate-stop distance available

ASAP	As Soon As Possible
ATA	Actual time of arrival
ATC	Air Traffic Control (in general)
ATCO	Air Traffic Control Officer
ATD	Actual Time of Departure
ATIS	Automatic Terminal Information Service
ATM	Air Traffic Management
ATS	Air Traffic Service(s)
ATSOM	Air Traffic Services Operations Manual
ATZ	Aerodrome Traffic Zone
AVASIS	Abbreviated visual approach slope indicator system
AWY	Airway

B

BCN	Beacon (aeronautical ground light)
BKN	Broken

C

CAAN	Civil Aviation Authority of Nepal
CAR	Civil Aviation Requirement
CB	Cumulonimbus
CNS	Communications, Navigation and Surveillance
COM	Communications
CPL	Current flight plan (message type designator)
CTA	Control area
CTR	Control zone
CWY	Clearway

D

D	Danger area (followed by identification)
DA	Decision altitude
DAEP	Domestic Airport Emergency Plan
DEP	Depart or departure

DGCA	Director General of Civil Aviation
DH	Decision height
DME	Distance measuring equipment
DR	Dead reckoning
DVOR	Doppler VOR

E

EAT	Estimated approach time
EET	Estimated elapse time
ELT	Emergency locator transmitter
EOBT	Estimated off-block time
ETA	Estimated time of arrival or estimating arrival
ETD	Estimated time departure or estimating departure

F

F	Degree Fahrenheit
FAC	Facilities
FAF	Final approach fix
FAP	Final approach point
FAX	Facsimile transmission
FIC	Flight information center
FIR	Flight information region
FIS	Flight information service
FL	Flight level
FOB	Fuel on Board.
FPL	Filed flight plan (message type designator)

G

GMT	Greenwich mean time
GND	Ground
GPWS	Ground Proximity Warning System
GS	Ground seed

H

H24	Continuous day and night service
HDG	Heading
HJ	Sunrise to sunset
HN	Sunset to sunrise
HR	Hours
HS	Service available during hours of scheduled operations

I

IAF	Initial approach fix
IAP	Instrument Approach Procedure
IAS	Indicated air speed
INCID	Incident
ISDN	Integrated Service Digital Network
LLV	Last Landing VFR (time)
IMC	Instrument meteorological condition
INCERFA	Uncertainty phase
INTST	Intensity
ISA	International standard atmosphere

J

JTST	Jet stream

K

KHZ	Kilohertz
KT	Knots

L

LAT	Latitude
LCN	Load classification number
LDA	Landing distance available

LDG	Landing
LDI	Landing direction indicator
LGT	Light or lighting
LMT	Local mean time
LONG	Longitude

M

M	Mach Number (Followed by figures)
MAP	Aeronautical maps and charts
MAPT	Missed approach point
MB	Millibar
MDA	Minimum descent altitude
MDH	Minimum descent height
MEA	Minimum en-route altitude
METAR	Aviation routine weather report
MHZ	Megahertz
MSA	Minimum safe altitude
MSAW	Minimum safe altitude warning
MSL	Mean sea level
MWO	Meteorological watch office

N

NAV	Navigation
NDB	Non-directional radio beacon
NIL	None or I have nothing to send
NM	Nautical miles
NOF	International NOTAM Office
NOSIG	No significant change (used in trend type landing forecast)
NOTAM	A notice 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.
NPA	Non Precision Approach

O

OAS	Obstacle assessment surface
OCA	Obstacle Clearance Altitude
OCH	Obstacle Clearance Height
OCS	Obstacle clearance surface
OJT	On-the-Job Trainee
OJTI	On-the-Job Trainee Instructor

P

PAPI	Precision Approach Path Indicator
PCN	Pavement classification number
PELR	Personnel Licensing Requirements
PIC	Pilot- in- Command
POB	Person on board

Q

QFE	Atmospheric pressure at aerodrome elevation (or runway threshold)
QNH	Altimeter sub-scale setting to obtain elevation when on the ground

R

R	Restricted area (followed by identification)
RA	Resolution Advisory
RCC	Rescue co-ordination center
RCF	Radio communication failure (message type designator)
RCL	Runway center line
RDL	Radial
REILS	Runway end illumination light system
RFCE	Request level change en-route)
RMK	Remark
RNAV	Area navigation

RODA	Removal of Disable Aircraft
R/T	Radiotelephony(RTF)
RWY	Runway

S

SARPS	Standard and Recommended Practices (ICAO)
STDBY	Stand by
SELCAL	Selective calling system
SICAO	Simara Civil Aviation Office
SID	Standard Instrument Departure
SR	Sunrise
SS	Sunset
SSB	Single side band
STAR	Standard (Instrument) Arrival
STOL	Short Take-Off and Landing
SVFR	Special Visual Flight Rules
SWY	Stop way

T

TAF	Aerodrome forecast
TAS	True Airspeed
TCAS	Traffic Alert and Collision Avoidance System
TDZ	Touch Down Zone
TFC	Traffic
THTHR	Threshold
TKOF	Take-off
TMA	Terminal control area
TODA	Take-Off Distance Available
TORA	Take-Off Runway Available
TR	Track
TS	Thunderstorm
TWR	Control tower

TWY	Taxiway
TXT	Text
TYP	Type of aircraft

U

UNL	Unlimited
U/S	Unserviceable
UTC	Coordinated Universal Time
UTP	Unit Training Plan

V

VASIS	Visual Approach Slope Indicator System
VFR	Visual Flight Rules
VHF	Very High Frequency (30 to 300 MHz)
VIP	Very Important Persons
VMC	Visual Meteorological Conditions
VOR	Very High Frequency Omni-directional Radio Range
VTOL	Vertical Take-Off and Landing

W

WDI	Wind Direction Indicator
WX	Weather

Y

YES	Yes (affirmative)

Z

Z	Coordinated Universal Time (in meteorological messages)

CHAPTER 4

4.1. **ORGANISATION STRUCTURE OF SIMARA CIVIL AVIATION OFFICE**

4.1.1. Simara Civil Aviation Office (SICAO) is an entity directly under Air Navigation Service Directorate, Civil Aviation Authority of Nepal (CAAN). It's main goal is to ensure safe, efficient and orderly movement of air traffic operating within Kathmandu FIR under its jurisdiction

(For jurisdiction of Simara tower see 5.4)

Organization structure of SICAO is presented in Appendix-K

4.1.2. Aerodrome Control Tower

4.1.2.1 Aerodrome control tower has been established at Simara Airport and is designated as **Simara Tower**.

4.1.2.2. Simara Aerodrome Control Tower provides Aerodrome Control Service and Approach Control Service together with flight information service and alerting service within control zone under its jurisdiction and within the area of responsibility as given in 5.5.3 and 5.5.4

4.1.3. The Hours of Operation

Jan, Feb, Nov Dec0100-1215 UTC
Mar, ,Apr, Sept, Oct 0030-1245 UTC
May, June, July, Aug 0015-1300 UTC

Note: Any changes or amendments are notified through NOTAM and subsequently through AIP amendment. Refer Appendix J for Sunset time at Simara.

4.3.1. Airport Manager (AM) of the SICAO will also play supervisory role that has the sole responsibility for safe, efficient conduct of flight operation in Simara Tower.

4.3.2. Airport Manager will determine the number of operational staff required for two shifts on the basis of total number of working positions, rest period, duty period and weekly off period. Number of operational staff in ATS Simara Tower is shown in the organization chart as specified in Appendix K *(ATS Section)*

4.3.3. Before proceeding with the actual work of ATC it is necessary to know the administrative procedures associated with the provision of ATC. When prior instructions have not been issued, the administrative rules included in this manual are applicable.

4.4. **CONTROL OF MOVEMENT OF PERSON AND VEHICLE MANOEUVRING AREA**

The movement of persons or vehicles including towed aircraft on the manoeuvring area of an aerodrome is controlled by the Control tower as necessary to avoid hazard to them or to aircraft landing, taxiing or taking off. Refer 19.4.8.

4.5. **DETERMINATION OF ATS ROUTE, PROCEDURES, FACILITIES AND AIRSPACE STRUCTURE**

4.5.1. ATS routes have been identified, established and designated as per provisions under Para 2.12 of CAR 11.

4.5.2. SICAO will ensure to carryout safety assessment and incorporate controllers' suggestion before new ATS procedure, technology or facilities are introduced or airspace structure is reviewed.

CHAPTER 5

GENERAL PROVISIONS FOR AIR TRAFFIC SERVICES

5.1. OBJECTIVES OF THE AIR TRAFFIC SERVICES

5.1.1. **The objectives of the air traffic services will be to:**

a) prevent collisions between aircraft;

b) prevent collisions between aircraft on the manoeuvring area and obstructions on that area;

c) expedite and maintain an orderly flow of air traffic;

d) provide advice and information useful for the safe and efficient conduct of flights;

e) notify appropriate organizations regarding aircraft in need of search and rescue aid, and assist such organizations as required.

5.2. DIVISION OF THE AIR TRAFFIC SERVICES

5.2.1. The air traffic services comprise of three services identified as follows:

5.2.1.1. Air traffic control service

5.2.1.1.1. The air traffic control service is provided to accomplish following objectives:

a) prevent collisions between aircraft;

b) prevent collisions between aircraft on the manoeuvring area and obstructions on that area;

c) expedite and maintain an orderly flow of air traffic;

5.2.1.1.2. Air traffic control services have been divided in three parts as follows:

5.2.1.1.2.1. Area control service

The function of Area control is to establish the safe, orderly and expeditious flow of air traffic in control areas under its jurisdiction.

5.2.1.1.2.2. Approach control service

The function of approach control is to ensure the safe, orderly and expeditious flow of air traffic in the control zone and in those portions of controlled areas, which are under its jurisdiction.

5.2.1.1.2.3. Aerodrome control service

The function of aerodrome control is to:
a) To authorize aerodrome traffic to taxi, take-off or land, and
b) To ensure the safe, orderly and expeditious flow of aerodrome traffic.

5.2.1.2 Flight information service

5.2.1.2.1 The flight information service, to accomplish following objective:

Provide advice and information useful for the safe and efficient conduct of flights.

5.2.1.3 Alerting service

5.2.1.3.1 The alerting service to accomplish following objective:

Notify appropriate organizations regarding aircraft in need of search and rescue aid and assist such organizations as required.

5.3 CLASSIFICATION OF AIRSPACES

5.3.1. ATS airspaces within the jurisdiction of Simara TWR are classified and designated as following:

Class C: IFR and VFR flights are permitted, IFR flights are provided with air traffic control service, VFR flights are provide with air traffic control service for separation from IFR, IFR flights are separated from other IFR and VFR flights, VFR and VFR receive traffic information.

Simara Control Zone (CTR) and Aerodrome Traffic Zone (ATZ) have been classified and designated as Class C airspace.

5.3.2 Requirements for flights within each class of airspace will be as shown in following table:

Class	Type of flight	Separation provided	Services Provided	Speed Limitation	Radio Communication Requirement	Subject to an ATC Clearance
C	IFR	IFR from IFR IFR from VFR IFR from SVFR	Air traffic control service	NA	Continuous two-way	Yes
	VFR	NIL	Air traffic control service for separation from IFR VFR/ VFR Traffic information (and traffic avoidance advice on request)	250 KTS IAS below 10000 ft	Continuous two-way	Yes
			Separation will be provided between SVFR Flights.			
G	IFR	NIL	Flight information service	250 KTS IAS Below 10000 ft	Continuous two-way	No
	VFR	NIL	Flight information service	250 KTS IAS below 10000 ft	Continuous two-way	No

Note: The Area of jurisdiction of Simara TWR other than Simara CTR and ATZ has been delegated as per Letter of agreement (LOA) between Simara TWR and Kathmandu APP. LOA between Simara Tower and Kathmandu APP is attached in Appendix A.

5.4 JURISDICTION OF SIMARA TOWER

5.4.1 The jurisdiction of Simara Control Tower will be as follows:

a. Control Zone (*CTZ*):

An area bounded by YNSM boundary to the south and an arc of a circle 20 NM in radius centered at NMF VOR (270951 N, 0845856 E) Vertical limit from Ground Level to 7500ft AMSL.

b. Aerodrome Traffic Zone (*ATZ*):

An area of a circle of radius 5NM centered at Airport Reference Point (*ARP*) and to the south bounded by YNSM boundary. Vertical limit from ground Level to 2000ft AGL.

5.5 APPLICATION OF AIR TRAFFIC CONTROL SERVICE

5.5.1 Air traffic control service will be provided:

a) to all IFR flights in airspace Classes C ;
b) to all VFR flights in airspace Classes C;

c) to all special VFR flights;
d) to all aerodrome traffics

5.52 Simara control tower is providing aerodrome control service and approach control service as combined under the responsibility of one unit.

5.5.3 The responsibility for the provision of air traffic control service will be provided by Simara tower under the area of its jurisdiction mentioned in 5.4.1. a) & b).

5.5.4 The responsibility for the provision of Flight information service and alerting service will be provided by Control Tower within the jurisdiction of its airspace mentioned in 5.4.1.

5.6 FLIGHT RULES

5.6.1 VFR Flights

5.6.1.1 VFR flights will not be authorized to take off or land at any controlled aerodrome or enter the aerodrome traffic zone or traffic pattern.

a) When the ceiling is less than 1500ft. (450m) or,

b) When the ground visibility is less than 5 Km

Note: For the purpose of permitting VFR flight, weather observations may be made over the entire horizon or only in the sector used by the flight.

5.6.1.2 Weather observation

It will be noted that all the assessments of weather conditions made for the purpose of opening or closing aerodrome are the responsibility of the aerodrome controller and will be made as required by visual observation from the control tower.

5.7 PROVISION OF SEPARATION

5.7.1 Responsibility for separation

5.7.1.1 In Simara control zone and aerodrome traffic zone ATC will provide separation between:

a) IFR flights
b) IFR and VFR flights
c) Special VFR flights
d) IFR and special VFR flights

5.7.1.1.1. By the application of the prescribed separation standards and procedures. Greater standards will be applied if considered necessary and specifically

a) For the avoidance of wake turbulence, or
b) Exceptional circumstances.

5.7.1.2 Separation minima may be reduced in the vicinity of aerodromes if:

a) Adequate separation can be provided by the aerodrome controller when each aircraft is continuously visible to the controller, or

b) Each aircraft is continuously visible to pilot-in-command of the other aircraft concerned and the pilots report that they can maintain their own separation, or

c) In the case of one aircraft following another, the pilot-in-command of the succeeding aircraft reports that he has the other aircraft in sight and can maintain separation.

5.7.1.3 VFR traffic will be provided with

a) Separation from IFR traffic

b) Traffic information of other VFR traffic and on request, traffic avoidance advice.

5.7.1.4 Where a separation standard does not exist, a controller will issue traffic information when in his opinion, traffic proximity warrants it. The traffic information provided will contain sufficient of the following to assist the pilot in identifying the other aircraft.

a) Call sign of the aircraft

b) Direction of flight

c) Type of the aircraft

d) Cruising level of aircraft and estimated time over the reporting point nearest to where the level will be crossed.

5.7.1.5 Traffic sequencing and separation will be provided between all aircraft in the circuit and landing and taking off.

5.7.1.6 The separation of military aircraft will be maintained in the same manner as for civil aircraft, except that when required by relevant military authority, different standards as specified by that authority will be applied between military aircraft.

5.8 FLIGHT PLANING

5.8.1. Procedure for the submission of the flight plan.

5.8.1.1 A flight plan will be submitted to the Simara Tower in respect of the following flights,

a) All VFR/IFR flights operating from Simara Airport.

b) Any flight or portion thereof, to be provided with air traffic control service;

5.8.1.2. The flight plan submitted to Simara Tower will be signed and filed by the pilot-in-command or authorized representative at least sixty minutes prior to departure (the estimated off block time) using the ICAO flight plan form.

5.8.1.3 In the event of delay of 60 minutes for domestic flights in excess of EOBT, the flight plan will be amended or a new flight be submitted and old flight plan canceled, whichever is applicable.

5.8.1.4. Flights in compliance with VFR flights will insert VFR (V) and during on en-route, if the flight initially will be operated under the IFR, followed by one or more subsequent changes of flight Rules , insert Y and if under the VFR, followed by one or more subsequent changes of flight Rules , insert Z.

5.8.1.5 The total number of persons on board (passengers plus crew) will be stated in the flight plan or through radio telephony.

5.8.1.6 In addition, pilots are required to pass the total number of persons (POB) to the concerned ATC unit when requesting engine start-up during departure.

5.8.1.7 No flight plans will be filed for routes deviating from the published ATS route structure unless prior permission has been obtained from the appropriate ATS unit.

5.8.1.8 When a flight is planned to operate in aerodrome traffic circuit or local/ training flight, flight plan will be submitted to ATS units.

5.8.1.9 Whenever a flight, for which a flight plan has been submitted, is cancelled, Simara Tower will be informed immediately.

5.8.1.10 Changes to a current flight plan for a controlled flight during flight will be reported or requested, subject to the provisions in CAR 2, 3.6.2.1(Adherence to flight plan).

5.8.1.11 while conducting a flight of a military nature like a group flight or para-drop or dummy drop, the pilot in command will always file a flight plan to the appropriate ATS unit and obtain an ATC clearance before conducting the operation.

5.9 AIR TRAFFIC CONTROL CLEARANCES

5.9.1 Scope and purpose

5.9.1.1 Clearances are issued solely for expediting and separating air traffic and are based on known traffic conditions which affect safety in aircraft operation. Such traffic conditions include not only aircraft in the air and on the manoeuvring area over which control is being exercised, but also any vehicular traffic or other obstructions not permanently installed on the manoeuvring area in use.

5.9.1.2 If an air traffic control clearance is not suitable to the pilot-in-command of an aircraft, the flight crew may request and, if practicable, obtain an amended clearance.

5.9.1.3 The issuance of air traffic control clearances by air traffic control units constitutes authority for an aircraft to proceed only in so far as known air traffic is concerned. ATC clearances do not constitute authority to violate any applicable regulations for promoting the safety of flight operations or for any other purpose; neither do clearances relieve a pilot-in-command of any responsibility whatsoever in connection with a possible violation of applicable rules and regulations.

5.9.1.4 Somara Control tower will issue such ATC clearances as are necessary to prevent collisions and to expedite and maintain an orderly flow of air traffic.

5.9.1.5 ATC clearances will be issued early enough to ensure that they are transmitted to the aircraft in sufficient time for it to comply with them.

5.9.2 Aircraft subject to ATC for part of flight

5.9.2.1 When a flight plan specifies that the initial portion of a flight will be uncontrolled, and that the subsequent portion of the flight will be subject to ATC, the aircraft will be advised to obtain its clearance from the Somara Control tower to operate within its jurisdiction.

5.9.2.2 When a flight plan specifies that the first portion of a flight will be subject to ATC, and that the subsequent portion will be uncontrolled, the aircraft will normally be cleared to the point at which the controlled flight terminates.

5.9.3 Flights through intermediate stops

5.9.3.1 When an aircraft files, at the departure aerodrome, flight plans for the various stages of flight through intermediate stops, the initial clearance limit will be the first destination aerodrome and new clearances will be issued for each subsequent portion of flight from the unit under whose area jurisdiction lies.

5.9.4 Contents of clearances

5.9.4.1 Clearances will contain positive and concise data and will, as far as practicable, be phrased in a standard manner.

5.9.4.2 Clearances will, except as provided for in Chapter 7, Section 7.4.2.3, concerning standard departure clearances, contain the following in the sequence:

a) Aircraft identification;

b) Clearance limit;

c) Route of flight;

d) Cleared level;

Note— If the clearance for the levels covers only part of the route, it is important for the Control tower to specify a point to which the part of the clearance regarding levels applies whenever necessary to ensure compliance with 3.6.5.8.2.a) of CAR 2.

e) Any necessary instructions or information on other matters such as SID, approach or departure maneuvers, change of frequency and the time of expiry of the clearance.

Note— The time of expiry of the clearance indicates the time after which the clearance will be automatically cancelled if the flight has not been started.

5.9.4.3 Instructions included in clearances relating to levels will consist of:

a) cruising level(s) or, for cruise climb, a range of levels, and, if necessary, the point to which the clearance is valid with regard to the level(s);

b) levels at which specified significant points are to be crossed, when necessary;

c) the place or time for starting climb or descent, when necessary;

d) the rate of climb or descent, when necessary;

e) Detailed instructions concerning departure or approach levels, when necessary.

5.10 EN-ROUTE AIRCRAFT

5.10.1 General

5.10.1 Control tower may request an adjacent ATC unit to clear aircraft to a specified point during a specified period.

5.10.1.2 After the initial clearance has been issued to an aircraft at the point of departure, it will be the responsibility of the Control tower to issue an amended clearance whenever necessary and to issue traffic information, if required.

5.10.2 Description of air traffic control clearances

5.10.2.1 Clearance Limit

5.10.2.1.1 A clearance limit will be described by specifying the name of the appropriate significant point, or aerodrome, or controlled airspace boundary.

5.10.2.1.2 When prior coordination has been effected with units under whose control the aircraft will subsequently come, or if there is reasonable assurance that it can be effected a reasonable time prior to their assumption of control, the clearance limit will be the destination aerodrome or, if not practicable, an appropriate intermediate point, and coordination will be expedited so that a clearance to the destination aerodrome may be issued as soon as possible.

5.10.2.1.3 When the destination aerodrome is outside controlled airspace, Control tower responsible for the last controlled airspace through which an aircraft will pass will issue the appropriate clearance for flight to the limit of that controlled airspace

5.10.2.2 Route of Flight

5.10.2.2.1 The route of flight will be detailed in each clearance when deemed necessary. The phrase "cleared via flight planned route" may be used to describe any route or portion thereof provided the route or portion thereof is identical to that filed in the flight plan and sufficient routing details are given to definitely establish the aircraft on its route. The phrases "cleared via (designation) departure" or "cleared via (designation) arrival" may be used when standard departure or arrival routes have been established and published in Aeronautical Information Publications (AIP) Nepal.

5.10.2.2.2 The phrase "cleared via flight planned route" will not be used when granting a re-clearance.

5.10.2.2.3 Subject to airspace constraints, ATC workload and traffic density, and provided coordination can be affected in a timely manner; an aircraft will whenever possible be offered the most direct routing.

5. 10. 2. 3 Levels

Except as provided for in Chapter 7.7.4.2.3 and 7.6.2.3, use of standard departure and arrival clearances, instructions will include in clearances.

5.10.2.4 Clearance of a Requested Change in Flight Plan

5.10.2.4.1 When issuing a clearance covering a requested change in route or level, the exact nature of the change will be included in the clearance.

5.10.2.4.2 When traffic conditions will not permit clearance of a requested change, the word "UNABLE" will be used. When warranted by circumstances, an alternative route or level will be offered.

5.10.2.5 Read back of Clearances

5.10.2.5.1 The flight crew will read back to the air traffic controller safety-related parts of ATC clearances and instructions which are transmitted by voice. The following items will always be read back:

a) ATC route clearances;
b) clearances and instructions to enter, land on, take off from, hold short of, cross, taxi and backtrack on any runway; and
c) runway-in-use, altimeter settings, level instructions, heading and speed instructions, transition levels.

Note.— If the level of an aircraft is reported in relation to standard pressure 1 013.2 hPa, the words "FLIGHT LEVEL" precede the level figures. If the level of the aircraft is reported in relation to QNH/QFE, the figures are followed by the word "FEET".

5.10.2.5.1 Other clearances or instructions, including conditional clearances, will be read back or acknowledged in a manner to clearly indicate that they have been understood and will be complied with.

5.10.2.5.2 The controller will listen to the read back to ascertain that the clearance or instruction has been correctly acknowledged by the flight crew and will take immediate action to correct any discrepancies revealed by the read back.

5.11 HORIZONTAL SPEED CONTROL INSTRUCTIONS

5.11.1 GENERAL

5.11.1.1 In order to facilitate a safe and orderly flow of traffic, aircraft may be instructed to adjust speed in a specified manner. Flight crews will be given adequate notice of planned speed control.

Note 1.— *Application of speed control over a long period of time may affect aircraft fuel reserves.*

5.11.1.2 Speed control instructions shall remain in effect unless explicitly cancelled or amended by the controller.
Note: Cancellation of any speed control instruction does not relieve the flight crew of compliance with speed limitations associated with airspace classification as specified in Annex 11-Air Traffic Services, Appendix 4.

5.11.1.3 Speed control will not be applied to aircraft entering or established in a holding pattern.

5.11.1.4 Speed adjustments will be limited to those necessary to establish and/or maintain a desired separation minimum or spacing. Instructions involving frequent changes of speed, including alternate speed increases and decreases will be avoided.

5.11.1.5 The flight crew will inform the Simara Control tower if at any time they are unable to comply with a speed instruction. In such cases, the controller

will apply an alternative method to achieve the desired spacing between the aircraft concerned.

5.11.1.6 Speed adjustments will be expressed in multiples of 10 kt based on indicated airspeed (IAS).

Note 1.— When an aircraft is heavily loaded and at a high level, its ability to change speed may, in cases, be very limited.

5.11.1.7 Aircraft will be advised when a speed control restriction is no longer required.

5.11.2 Methods of application

5.11.2.1 In order to establish a desired spacing between two or more successive aircraft, the controller will first reduce the speed of the last aircraft, or increase the speed of the lead aircraft, then adjust the speed(s) of the other aircraft in order.

5.11.2.2 In order to maintain a desired spacing using speed control techniques, specific speeds need to be assigned to all the aircraft concerned.

Note 1.— The true airspeed (TAS) of an aircraft will decrease during descent when maintaining a constant IAS. When two descending aircraft maintain the same IAS, and the leading aircraft is at the lower level, the TAS of the leading aircraft will be lower than that of the following aircraft. The distance between the two aircraft will thus be reduced, unless a sufficient speed differential is applied. For the purpose of calculating a desired speed differential between two succeeding aircraft, 6 kt IAS per 1 000 ft height difference may be used as a general rule. At levels below 3000 ft the difference between IAS and TAS is negligible for speed control purposes.

Note 2.— Time and distance required to achieve a desired spacing will increase with higher levels, higher speeds, and when the aircraft is in a clean configuration.

5.11.3 Descending and arriving aircraft

5.11.3.1 An aircraft will, when practicable, be authorized to absorb a period of notified terminal delay by cruising at a reduced speed for the latter portion of its flight.

5.11.3.2 An arriving aircraft may be instructed to maintain its "maximum speed", "minimum clean speed", "minimum speed", or a specified speed.

Note:— "Minimum clean speed" signifies the minimum speed at which an aircraft can be flown in a clean configuration, i.e. without deployment of lift-augmentation devices, speed brakes or landing gear.

5.11.3.3 Speed reductions to less than 250 kt IAS for turbojet aircraft during initial descent from cruising level will be applied only with the concurrence of the flight crew.

5.11.3.4 Instructions for an aircraft to simultaneously maintain a high rate of descent and reduce its speed will be avoided as such manoeuvres are normally not compatible. Any significant speed reductions during descent may require the aircraft to temporarily level off to reduce speed before continuing descent.

5.11.3.5 Arriving aircraft will be permitted to operate in a clean configuration for as long as possible. Below FL 150, speed reductions for turbojet aircraft to not less than 220 kt IAS, which will normally be very close to the minimum speed of turbojet aircraft in a clean configuration, may be used.

5.11.3.6 Only minor speed adjustments not exceeding plus/minus 20 kt IAS will be used for aircraft on intermediate and final approach.

5.11.3.7 Speed control will not be applied to aircraft after passing a point 4 NM from the threshold on final approach.

Note.— The flight crew has a requirement to fly a stabilized approach (airspeed and configuration) typically by 3 NM from the threshold .

5.12 VERTICAL SPEED CONTROL INSTRUCTIONS

5.12.1 GENERAL

5.12.1.1 In order to facilitate a safe and orderly flow of traffic, aircraft may be instructed to adjust rate of climb or rate of descent. Vertical speed control may be applied between two climbing aircraft or two descending aircraft in order to establish or maintain a specific vertical separation minimum.

5.12.1.2 Vertical speed adjustments will be limited to those necessary to establish or maintain the desired separation. Frequent instructions involving frequent changes of climb/descent rates will be avoided.

5.12.1.3 In case the flight crew informs the ATC unit concerned that he/she is unable to comply instruction given to carry out specified rate of climb or descent, the controller will apply an alternative method to achieve an appropriate separation minimum between aircraft, without delay.

5.12.1.4 Aircraft will be advised when a rate of climb/descent restriction is no longer required.

5.12.2 Methods of application

5.12.2.1 An aircraft may be instructed to expedite climb or descent as appropriate to or through a specified level, or may be instructed to reduce its rate of climb or rate of descent.

5.12.2.2 Climbing aircraft may be instructed to maintain a specified rate of climb, a rate of climb equal to or greater than a specified value or a rate of climb equal to or less than a specified value.

5.12.2.3 Descending aircraft may be instructed to maintain a specified rate of descent, a rate of descent equal to or greater than a specified value or a rate of descent equal to or less than a specified value.

5.12.2.4 In applying vertical speed control, the controller will ascertain to which level(s) climbing aircraft can sustain a specified rate of climb or, in the case of descending aircraft, the specified rate of descent which can be sustained, and will ensure that alternative methods of maintaining separation can be applied in a timely manner, if required.

Note— Controllers need to be aware of aircraft performance characteristics and limitations in relation to a simultaneous application of horizontal and vertical speed limitations.

5.13 CHANGE FROM IFR TO VFR FLIGHT

5.13.1 Change from instrument flight rules (IFR) flight to visual flight rules (VFR) flight is only acceptable when a message initiated by the pilot-in-command containing the specific expression "CANCELLING MY IFR FLIGHT", together with the changes, if any, to be made to the current flight plan, is received by an air traffic services unit. No invitation to change from IFR flight to VFR flight is to be made either directly or by inference.

5.13.2 No reply, other than the acknowledgment "IFR FLIGHT CANCELLED AT ... (time)", will be made by the controller.

5.13.3 When Control tower is in possession of information that instrument meteorological conditions are likely to be encountered along the route of flight, a pilot changing from IFR flight to VFR flight if practicable, will be advised.

5.13.4 An ATC unit receiving notification of an aircraft's intention to change from IFR to VFR flight shall, as soon as practicable thereafter, so inform all other ATS units to whom the IFR flight plan was addressed, except those units through whose regions or areas the flight has already passed.

5.14 WAKE TURBULENCE CATEGORIES

Note—The term "wake turbulence" is used in this context to describe the effect of the rotating air masses generated behind the wing tips of large jet aircraft. It is preference to the term "wake vortex" which describes the nature of the air masses.

5.14.1 Wake turbulence categories of aircraft

5.14.1.1 Wake turbulence separation minima will be based on a grouping of aircraft types into three categories according to the maximum certificated take-off mass as follows:

a)HEAVY (H) — all aircraft types of 136 000 kg or more;

b)MEDIUM (M) — aircraft types less than 136 000 kg but more than 7000 kg, and

c)LIGHT (L) — aircraft types of 7 000 kg or less.

5.14.1.2 Helicopters will be kept well clear of light aircraft when hovering or while air taxiing.

Note 1— Helicopters produce vortices when in flight and there is some evidence that, per kilogram of gross mass, their vortices are more intense than those of fixed-wing aircraft.

Note 2— The provisions governing wake turbulence separation minima are set forth in Chapter 8, Section 8.8

5.15 ALTIMETER SETTING PROCEDURES

5.15.1 For flights within Kathmandu FIR, the vertical position of aircraft will be expressed in terms of altitudes at or below the transition altitude and in terms of flight levels at or above the transition level. While passing through the transition layer, vertical position will be expressed in terms of flight levels when climbing and in terms of altitudes when descending.

5.15.2 A common transition altitude of 13500ft. has been established for the entire Kathmandu Flight Information Region.

5.15.3 A transition level of FL 150 has been established for the entire Kathmandu Flight Information Region.

5.15.4 All aircraft operating in Simara(SI) control zone will use SI QNH supplied by SI TWR.

5.15.5 Change of Altimeter setting from SI QNH to 1013.2 hpa during climb will be in the transition layer.

5.15.6 Change of Altimeter setting form 1013.2 HPA to SI QNH during descend will be in the transition layer.

5.15.7 Flight operating at or below transition altitude will change KT QNH to SI QNH and vice versa at Simara Control Zone boundry.

5.15. 8 Cruising within the transition layer is not permitted.

5.15.9 Flight level zero is located at the atmospheric pressure level of 1013.2 hpa. Consecutive flight levels are separated by a pressure level corresponding to 500ft. in the standard atmosphere, for example FL 150, FL 155, FL 160 etc.

FLIGHT LEVEL	ALTIMETER INDICATION
150	15,000
200	20,000
250	25,000
300	30,000
350	35,000
400	40,000
450	45,000

5.15.10 Take of and climb

5.15.10.1 A QNH altimeter setting will be made available to aircraft by approach/aerodrome control in the routine take off and climb instructions.

5.15.10.2 Vertical displacement of aircraft during climb will be effected by reference to altitude until reaching the transition altitude above which vertical displacement will be effected by reference to flight level.

5.15.10.3 A QFE altimeter setting will be provided on request if available but reports to ATC are to be made in altitude.

5.15.11 Vertical separation en-route

5.15.11.1 Aircraft en-route (irrespective of whether IFR or VFR) will be flown at flight levels or altitudes where appropriate.

5.15.11.2 It is the pilot's responsibility to select an appropriate level, which will give adequate terrain clearance using given pressure.

5.15.11.3 For the purposes of en-route vertical separation between IFR and VFR flights in controlled airspace and flights in uncontrolled airspace, reference should be made to the following:

a) Quadrantal system of cruising levels at or below 13,500ft

b) Semi-circular system of cruising levels at or above FL150

5.15.12 Approach and landing

5.15.12.1 A QNH altimeter setting will be made available in the routine approach and landing instructions.

5.15.12.2 A QFE altimeter setting will be available on request but reports to ATC are to be made in altitude.

5.15.12.3 Vertical displacement of aircraft during approach is effected by reference to flight level until reaching the transition level below which vertical displacement is effected by reference to altitude.

5.15.13 Missed approach

The appropriate portion of above mentioned paras should be applied in case of a missed approach

Note: Example of the relationship between flight levels and altimeter indications are given in the following table.

5.15.14 Cruising Levels

The semi circular system of cruising levels will be used at and above flight level 150. The quadrantal system of cruising levels will be applicable at and below 13500 feet.

Quadrantal System of Cruising Levels

5.15.15 Minimum cruising level for IFR flights

5.15.15.1 Except when specifically authorized, cruising levels below the minimum flight altitudes established will not be assigned.

Note 1.— Unless otherwise prescribed by the SICAO, the lowest usable flight level is that flight level which corresponds to, or is immediately above, the established minimum flight altitude.

Note 2:— The portion of a control area for which a particular lowest usable flight level applies is determined in accordance with air traffic services requirements.

Note 3: – The objectives of the air traffic control service as prescribed in CAR 11 do not include prevention of collision with terrain. The procedures prescribed in this document do not relieve pilots of their responsibility to ensure that any clearances issued by air traffic control units are safe in this respect.

5.15.16 Provision of altimeter setting information

5.15.16.1 Control tower will at all times have available for transmission to aircraft in flight, on request, the information required to determine the lowest flight level which will ensure adequate terrain clearance on routes or segments of routes for which this information is required.

5.15.16.2 A QNH altimeter setting will be included in the descent clearance when first cleared to an altitude below the transition level, in approach clearances or clearances to enter the traffic circuit, and in taxi clearances for departing aircraft, except when it is known that the aircraft has already received the information.

5.15.16.3 Altimeter settings provided to aircraft will be rounded down to the nearest lower whole HPA.

5.16 POSITION REPORTING

5.16.1 Transmission of position reports

5.16.1.1 On routes defined by designated significant points, position reports will be made by the aircraft when over, or as soon as possible after passing, each designated compulsory reporting point. Additional reports over other points may be requested by the Control tower.

5.16.1.2 On routes not defined by designated significant points, position reports will be made by the aircraft as soon as possible after the first half hour of flight and at hourly intervals. Additional reports at shorter intervals of time may be requested by the appropriate Control tower.

5.16.1.3 The controller responsible for obtaining the position report will also be responsible for checking its details and in particular the pilots estimate for the next position report.

5.16.1.4 If a position report is not received at the expected time, subsequent control will not be based on the assumption that the estimated time is accurate. Immediate action will be taken to obtain the report if it is likely to have any bearing on the control of other aircraft.

5.16.1.5 The estimate will be checked for two purposes:

a) To make sure that it is consistent with the time of receipt of the report as a whole, and

b) To compare the time interval used by the pilot, with a time interval based on the ground speed made good between the reporting point just passed and the previous reporting point.

5.16.1.6 If the second interval (b) above varies by not more than 3 minutes from that derived from the pilot's estimate, the pilot's estimate may be accepted for control purpose but if the variation is greater than 3 minutes then the pilot will be requested to check and advise his/her ground speed. An estimate based on his/her subsequently advised ground speed will then be used for control purpose.

5.16.1.7 Estimates for all subsequent reporting points within the jurisdiction of the unit concerned will be amended in accordance with the pilot's revised estimated ground speed.

5.16.1.8 If the controller is aware of any facts likely to be useful to the pilot in estimating ground speeds over any route segment e.g. head or tail wind components found by other aircraft, he/she will inform the pilot accordingly. If practicable, this should be done before the pilot makes his/ her estimates for the rout segment concerned.

5.16.1.9 The level in the position report will be in accordance with that authorized and if different, will be checked at once with the aircraft itself. If there is any doubt about the actual level occupied by the reporting aircraft, action will be taken immediately to safeguard other aircraft. If it is found that the aircraft is occupying a level different from that authorized, appropriate instructions will be issued to maintain separation standards.

Note: - A pilot is required to report his/her level with all frequency changes. These will be checked if omitted by the pilot.

5.16.2 Contents of voice position reports

5.16.2.1 The position reports required by 5.16.1.1 and 5.16.1.2 will contain the following elements of information, except that elements d), e) and f) may be omitted from position reports transmitted by radiotelephony:

a) aircraft identification;

b) position;

c) time;

d) flight level or altitude, including passing level and cleared level if not maintaining the cleared level;

e) next position and time over; and

f) ensuing significant point.

5.16.2.1.1 Element d), flight level or altitude, will, however, be included in the initial call after a change of air-ground voice communication channel.

5.16.2.2 When assigned a speed to maintain, the flight crew will include this speed in their position reports. The assigned speed will also be included in the initial call after a change of air-ground voice communication channel, whether or not a full position report is required.

Note.— Omission of element d) may be possible when flight level or altitude, as appropriate, derived from pressure-altitude information can be made continuously available to controllers in labels associated with the position indication of aircraft and when adequate procedures have been developed to guarantee the safe and efficient use of this altitude information.

5.16.3 Radiotelephony procedures for air-ground voice communication channel changeover

When so prescribed by SICAO, the initial call to Control tower after a change of air-ground voice communication channel will contain the following elements:

a) Simara Tower;

b) Call sign and, for aircraft in the heavy wake turbulence category, the word "Heavy";

c) Level, including passing and cleared levels if not maintaining the cleared level;

d) Speed, if assigned by ATC; and

e) Additional elements, as required by Simara control Tower

5.17 REPORTING OF OPERATIONAL AND METEOROLOGICAL INFORMATION

5.17.1 General

5.17.1.1 When operational and/or meteorological information is to be reported, by an aircraft en route at times where position reports are required in accordance with 5.16.1.1 and 5.16.1.2, the special aircraft observations will be reported as special air-reports as soon as practicable.

5.17.2 Contents of special air-reports

5.17.2.1 Special air-reports will be made by all aircraft whenever the following conditions are encountered or observed:

a) moderate or severe turbulence; or

b) moderate or severe icing; or

c) severe mountain wave; or

d) thunderstorms, without hail that are obscured, embedded, widespread or in squall lines; or

e) thunderstorms, with hail that are obscured, embedded, widespread or in squall lines; or

f) heavy duststorm or heavy sandstorm; or

g) volcanic ash cloud; or

h) pre-eruption volcanic activity or a volcanic eruption.

5.17.3 Forwarding of meteorological information

5.17.3.1 When receiving special air-reports by voice communications, air traffic services units will forward them without delay to their associated meteorological watch offices and concerned flights.

5.18 VVIP MOVEMENT HANDLING PROCEDURE

5.18.1 GENERAL

5.18.1.1 In order to facilitate the movement of VVIP aircraft into and out of Kathmandu FIR and to conform to the times shown in the Ceremonial Reception Schedule, Simara control Tower is authorized to provide special priority for all VVIP flights over all other normal traffic within their areas of responsibility,

5.18.1.2 The term "VVIP FLIGHT" over Nepal refers to the flight carrying on-board the under mentioned:

a) The President

b) The Vice President

c) The Prime Minister

5.18.1.3 Flights within Nepal of other reigning sovereigns, Head of the States and the Prime Minister of foreign countries designated by the Government of Nepal to be VVIP may also be afforded "VVIP Flight" status.

5.18.1.4 The Airport Manager, and/or Air Traffic Services Chief, SICAO will inform all concerned relating to VVIP flight some or all of the following details:
a) Period and area of restrictions imposed on other flights.

b) Call sign and type of aircraft,

c) Point of departure/destination

d) Embarkation/disembarkation site

e) EOBT and ETA

f) Ceremonial details

g) Any other pertinent information

5.18.1.5 Message received from VVIP on-board will be kept highly confidential and will reported to Airport Manager.

5.18.1.6 The following procedures will be enforced when a VVIP FLIGHT is notified:

a) A NOTAM based on the schedule of the VVIP flight movement will be issued in advance.

b) No aircraft except in emergency be allowed to land or depart from the aerodrome or operate in the aerodrome traffic circuit for the period specified in the NOTAM.

Note: The airport Manager/ATS chief may adjust the timing to ensure that there are no disturbances during ceremonial period at the airport

5.18.1.7 Operation within Controlled Airspace

Standard separation will be provided in controlled airspaces. Vertical separation minimum will be 1000ft at all levels.

5.18.1.8 Operation outside Controlled Airspace

No other aircraft will be cleared to operate in the block of uncontrolled airspaces 1000ft below and above the cruising level and 10NM on either side of the intended route of the VVIP flight.

CHAPTER 6

PROCEDURES FOR AERODROME CONTROL SERVICE

SIMARA AERODROME CONTROL TOWER	
CALL SIGN	SIMARA TOWER
FREQUENCY (ADC)	118.3 MHZ
SSB	5805.5 KHZ

6.1 FUNCTIONS OF AERODROME CONTROL TOWERS

6.1.1 RESPONSIBILITY

Aerodrome control service and approach control service are provided by Simara tower to all aerodrome traffics in ATZ and within Control zone.

6.1.2 GENERAL

6.1.2.1 Simara tower will issue information and clearances to aircraft under its control to achieve a safe, orderly and expeditious flow of air traffic on and in the vicinity of an aerodrome with the object of preventing collision(s) between:

a) aircraft flying within the designated area of its responsibility;
b) aircraft operating on the manoeuvring area;
c) aircraft landing and taking-off;
d) aircraft, vehicles and personnel operating on the manoeuvring area;
e) aircraft on the manoeuvring area and obstructions on that area.

6.1.2.2 Simara Tower will maintain a continuous watch on all flight operating on or in the vicinity as well as vehicles and personnel on the manoeuvring area of Simara aerodrome. Watch will be maintained by visual observation. Traffic will be controlled in accordance with the procedures set forth herein and all applicable traffic rules specified by the Civil Aviation Authority of Nepal.

6.1.2.3 The functions of an Simara Aerodrome Control tower is as follows:

a) Simara aerodrome controller, normally responsible for operations on runway and aircraft flying within the area of responsibility of the Simara Control tower;

b) Simara aerodrome controller, normally responsible for traffic on the manoeuvring area of Simara aerodrome.

c) Aerodrome controller, normally responsible for delivery of start-up and ATC clearances to all flights operating in Simara aerodrome ;

6.1.2.4 Simara Tower Controllers will maintain a continuous watch on all appropriate radio frequencies and conduct all air-ground communications in accordance with these instructions and those contained in the AIP.

6.1.2.5 Company messages concerned with the safety of the aircraft will be accepted for transmission. The transmission of other company messages will be at the discretion of the Simara controller. Messages unless concerned with the immediate safety of the aircraft will not be passed to the aircraft which has been cleared for take-off and has entered the runway. Transmission of these messages will be delayed until the aircraft is airborne.

6.1.2.6 An aircraft operating locally may be required to report Simara Tower at specified time or position at nominated reporting points.

6.1.2.7 **Alerting service provided by Simara tower**

Simara tower is responsible for alerting the rescue and fire-fighting services whenever:

a) an aircraft accident has occurred on or in the vicinity of the aerodrome; or,

b) information is received that the safety of an aircraft which is or will come under the jurisdiction of the Simara tower may have or has been impaired; or

c) requested by the flight crew; or

d) when otherwise deemed necessary or desirable

6.1.2.7.1 Aircraft which fail to report after having been transferred to Simara tower, or, having once reported, cease radio contact and in either case fail to land within five minutes of the expected landing time will be reported to the Kathmandu ACC and/or to the Rescue Coordination Centre.

6.1.2.8 **Failure or irregularity of navigation aids and equipment**

6.1.2.8.1 Simara tower will have provision to monitor the current operational status of radio navigation services and visual aids essential for takeoff, departure, approach and landing procedures within it's area of responsibility and those radio navigation services and visual aids essential for such movement.

6.1.2.8.2 Simara tower will immediately report in accordance with local instructions any failure or irregularity of operation in any equipment, light or other device established at an aerodrome for the guidance of aerodrome traffic and flight crews or required for the provision of air traffic control service, The maintenance of communication equipment, Navigation aid is

performed by in coordination with Communication and Navigation Aid Department and lighting and mechanical system by Electro Mechanical Department.

6.1.3 SELECTION OF RUNWAY-IN-USE

6.1.3.1 The term "runway-in-use" will be used to indicate the runway at a particular time is considered by the Simara tower to be the most suitable for maximum use by the types of aircraft expected to land or take-off at the aerodrome.

6.1.3.1.1 Normally, an aircraft will land and take off into the wind unless safety, the runway configuration, meteorological conditions and air traffic conditions determine that a different direction is preferable. In selecting the runway-in-use, however, Simara Tower will take into consideration, besides surface wind speed and direction, other relevant factors such as the aerodrome traffic circuits, the length of runways, and the approach and landing aids available.

6.1.3.1.2 If the runway-in-use is not considered suitable for the operation involved, the flight crew may request Simara ATC for permission to use another runway and, if circumstances permit, will be cleared accordingly.

6.1.3.1.3 Simara Tower controller will nominate for use, the runway which appears to be most suitable, taking into consideration:

a) type of aircraft
b) effective length of the runway
c) wind velocity / downwind component
d) weather phenomena including such things as wind gradients turbulence effects and position of sun
e) disposition of the traffic
f) if work load and traffic conditions permit, local instructions on "preferred runways". in particular wind conditions to avoid noise nuisance and runway deterioration.

6.1.3.2 Simara Tower controller may authorize a departure from a runway intersection when requested by the pilot or may offer an intersection departure to assist traffic flow for those type of aircraft not exceeding STOL Type aircrafts. The pilot will be advised of the remaining runway length if such information is not readily available to the pilot.

6.1.4 SELECTION OF CIRCUIT DIRECTION

6.1.4.1 The turn and circuit direction will be specified by the Simara aerodrome controller for particular traffic needs.

6.1.4.2 The pilot in command is responsible for advising the Simara controller when a change in turn is essential to the safety of the aircraft for any reason. This does not necessarily preclude the issue of instructions in anticipation of a pilot's advice

6.1.5 ENTRY OF TRAFFIC CIRCUIT

6.1.5.1 The clearance to enter the traffic circuit will be issued to an aircraft approaching the landing area in accordance with current traffic circuits but traffic conditions do not yet allow a landing clearance to be issued. Depending on the circumstances and traffic conditions, an aircraft may be cleared to join at any position in the traffic circuit.

6.1.5.2 An arriving aircraft executing an instrument approach will normally be cleared to land straight in unless visual manoeuvring to the landing runway is required.

6.1.6 INFORMATION TO AIRCRAFT BY SIMARA TOWER

6.1.6.1 Flight information service

Simara Tower will provide Fight information service to all aircraft which are likely to be affected by the information and which are:

a) provided with air traffic control service;
b) Otherwise known to the relevant air traffic services units

6.1.6.2 Flight information service will include the provision of pertinent:

a) METAR and SPECI information;
b) information on changes in the serviceability of navigation aids;
c) information on changes in condition of aerodromes and associated facilities, including information on the state of the aerodrome movement areas when they are affected by snow ice or significant depth of water;
d) weather conditions reported or forecast at departure, destination and alternate aerodromes;
e) any other information likely to affect safety.

6.1.7 AERODROME AND METEOROLOGICAL INFORMATION

6.1.7.1 Prior to taxing for take-off, Simara Tower aircraft will advise all traffic about the following elements of information, in the order listed, with the exception of such elements which it is known the aircraft has already received:

a) the runway to be used;
b) the surface wind direction and speed, including significant variations;
c) the QNH altimeter setting
d) the air temperature
e) the correct time.

6.1.7.2 Prior to take-off aircraft will be advised of:

a) any significant changes in the surface wind direction and speed, the air temperature, and the visibility.

b) significant meteorological conditions in the take-off and climb-out area, except when it is known that the information has already been received by the aircraft.

Note.— Significant meteorological conditions in this context include the occurrence or expected occurrence of cumulonimbus or thunderstorm, moderate or severe turbulence, wind shear, hail, moderate or severe icing, severe squall line, freezing precipitation, sand storm, dust storm, blowing snow, tornado or waterspout in the take-off and climb-out area.

6.1.7.3 Prior to entering the traffic circuit or commencing its approach to land, Simara Tower will provide all aircraft with the following elements of information, in the order listed, with the exception of such elements which it is known the aircraft has already received:
a) the runway to be used;
b) the surface wind direction and speed, including significant variations there from;
c) the QNH altimeter setting

6.1.8 AERODROME WEATHER OBSERVATIONS

6.1.8.1 Simara Aerodrome Controller will be the sole authority responsible for opening or closing an aerodrome to arrivals and departures. Pilots will be advised of observed weather conditions necessary for the purpose of landing and take-off and of significant weather, i.e. any weather phenomenon which might affect flight visibility or presence of a hazard to an aircraft.

6.1.8.2 Simara Aerodrome controller will use his own observations for determining whether the prevailing conditions are above or below the minima prescribed for aircraft operations.

6.1.8.3 When observing weather conditions, Simara aerodrome controller may either make his observations over the whole of the visual horizon (general observations) or restrict the area considerations to that enclosing the runway(s) and the climb to the aircraft (sector observations). Sector observations may be made in any direction in order to accommodate both fixed and rotary wing operations.

6.1.8.4 In the specific cases covered by the following subparagraphs, the aerodrome controller will make either sector or general observations as specified:

a. Observations for the purpose of closing the aerodrome and for authorizing a flight will be sector observations.

b. Observations made in response to a request by another unit will be general observations.

6.1.8.5 Weather observation for departure and landing will include such of the following items as are significant to the circumstance:
a) Wind Velocity.

b) Altimeter setting
c) Temperature
d) Dew point subject to its availability.
e) Low could.
f) Visibility in meters.
g) Intensity of rain, reported or known wind shear, turbulence, etc.

6.1.8.6. Final decision on whether analysis, closure and open of aerodrome rests on aerodrome controller on duty.

6.1.9. ESSENTIAL LOCAL TRAFFIC INFORMATION

6.1.9.1 Information on essential local traffic will be issued in a timely manner in the judgment of the aerodrome controller, such information is necessary in the interests of safety, or when requested by aircraft.

6.1.9.2 Essential local traffic will be considered to consist of any aircraft, vehicle or personnel on or near the manoeuvring area or traffic operating in the vicinity of the aerodrome, which may constitute a hazard to the aircraft concerned.

6.1.9.3 Essential local traffic will be described so as to be easily identified.

6.1.10 RUNWAY INCURSION OR OBSTRUCTED RUNWAY

6.1.10.1 In the event Simara aerodrome controller, after a take-off clearance or a landing clearance has been issued, becomes aware of a runway incursion or the imminent occurrence thereof, or the existence of any obstruction on or in close proximity to the runway likely to impair the safety of an aircraft taking off or landing, appropriate action will be taken as follows:

a) cancel the take-off clearance for a departing aircraft;

b) instruct a landing aircraft to execute a go-around;

6.1.10.2 In all cases inform the aircraft of the runway incursion or obstruction and its location in relation to the runway.

Note. — Animals and flocks of birds may constitute an obstruction with regard to runway operations. In addition, an aborted take-off or a go-around executed after touchdown may expose the aeroplane to the risk of overrunning the runway. Moreover, a low altitude go-around may expose the aeroplane to the risk of a tail strike. Pilots may, therefore, have to exercise their judgment in accordance with CASN CAR-2, Para 2.4 concerning the authority of the pilot-in-command of an aircraft.

6.1.10.3 Following any occurrence involving an obstruction on the runway or a runway incursion, pilots and controllers will complete an air traffic incident report in accordance with the ICAO model air traffic incident report form (Appendix G).

6.1.11 **HELICOPTERS OPERATION AND WAKE TURBULENCE**

Helicopters will be kept well clear of light aircraft when hovering or while air taxing.

Note—Helicopters produce vortices when in flight and there is some evidence that per kilogram of gross mass, their vortices are more intense than those of fixed-wing aircraft.

6.1.11.1 General Caution

In issuing clearances or instructions, Simara controllers will take into account the hazards caused by propeller slipstream to taxiing aircraft, to aircraft taking off or landing, particularly when intersecting runways are being used, and to vehicles and personnel operating on the aerodrome.

Note— The propeller slipstream can produce localized wind velocities of sufficient strength to cause damage to other aircraft, vehicles and personnel operating within the affected area.

6.1.12 ABNORMAL AIRCRAFT CONFIGURATION AND CONDITION

6.1.12.1 Whenever an abnormal configuration or condition of an aircraft, including conditions such as landing gear not extended or only partly extended, or unusual smoke emissions from any part of the aircraft, is observed by or reported to the Simara aerodrome controller, the aircraft concerned will be advised without delay.

6.1.12.2 When requested by the flight crew of a departing aircraft suspecting damage to their aircraft, the departure runway used will be inspected by Simara Controller without delay and the flight crew be advised in the most expeditious manner as to whether any aircraft debris or bird or animal remains have been found or not.

6.1.13 ESSENTIAL INFORMATION ON AERODROME CONDITIONS

6.1.13.1 Essential information on aerodrome conditions is information necessary to safety in the operation of aircraft, which pertains to the movement area or any facilities usually associated therewith. For example, construction work on a taxi strip not connected to the runway-in-use would not be essential information to any aircraft except one that might be taxied in the vicinity of the construction work. As another example, if all traffic will be confined to runways, that fact will be considered as essential aerodrome information to any aircraft not familiar with the aerodrome.

6.1.13.2 Essential information on aerodrome conditions will include information relating to the following:

a) construction or maintenance work on, or immediately adjacent to the movement area;

b) rough or broken surfaces on a runway, a taxiway or an apron, whether marked or not;

c) water on a runway, a taxiway or an apron;

d) other temporary hazards, including parked aircraft and birds on the ground or in the air;

e) failure or irregular operation of part or all of the aerodrome lighting system;

f) any other pertinent information.

Note. — Up-to-date information on the conditions on aprons may not always be available to the Simara aerodrome control tower. The responsibility of the aerodrome control tower in relation to aprons is limited to the transmission to aircraft of the information which is provided to it by the authority responsible for the aprons i.e the airline operators.

6.1.13.3 Essential information on Simara aerodrome conditions will be given to every aircraft, except when it is known that the aircraft already has received all or part of the information from other sources. Simara Tower will give these information in sufficient time for the aircraft to make proper use of it, and the hazards will be identified as distinctly as possible.

Note.— "Other sources" include NOTAM and the display of suitable signals.

6.1.13.4 When a previously non-notified condition pertaining to the safe use by aircraft of the manoeuvring area is reported to or observed by the Simara controller, the Airport Manager will be informed and operations on that part of the manoeuvring area terminated until otherwise advised.

6.1.14 MESSAGES CONTAINING INFORMATION ON AERODROME CONDITIONS

6.1.14.1 Whenever information is provided on aerodrome conditions, this will be done in a clear and concise manner so as to facilitate appreciation by the pilot of the situation described. It will be issued whenever deemed necessary by Simara controller on duty in the interest of safety, or when requested by an aircraft.

6.1.14.2 Information that water is present on a runway will be transmitted to each aircraft concerned, on the initiative of the controller, using the following terms:

DAMP - the surface shows a change of color due to moisture.

WET - the surface is soaked but there is no standing water.

WATER PATCHES - patches of standing water are visible.

FLOODED - extensive standing water is visible.

6.1.15 CONTROL OF AERODROME TRAFFIC

6.1.15.1 GENERAL

As the view from the flight deck of an aircraft is normally restricted, Simara Controller will ensure that instructions and information which require the flight crew to employ visual detection, recognition and observation are phrased in a clear, concise and complete manner.

6.1.15.2 Designated positions of aircraft in the aerodrome traffic and taxi circuits

The following positions of aircraft in the traffic and taxi circuits are the positions where the aircraft normally receive Tower clearances. The aircraft will be watched closely as they approach these positions so that proper clearances may be issued without delay.

Where practicable, all clearances will be issued without waiting for the aircraft to initiate the call.

Position 1 Aircraft initiates call to taxi for departing flight. Runway-in-use information and taxi clearances are given.

Position 2 Aircraft initiates call to taxi for departing flight. Runway-in-use at this position. Engine run-up will, when required, normally be performed here.

Position 3 Take-off clearance is issued here, if not practicable at position 2

Position 4 Clearance to land is issued here as practicable.

Position 5 Clearance to taxi to apron is issued here.

Position 6 Parking information issued here, if necessary.

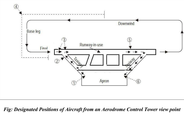


Fig: Designated Positions of Aircraft from an Aerodrome Control Tower view point

6.1.15.3 TRAFFIC ON THE MANOEUVRING AREA

6.1.15.3.1 CONTROL OF TAXIING AIRCRAFT

6.1.15.3.1.1 TAXI CLEARANCE

6.1.15.3.1.1.1. Prior to issuing a taxi clearance, Simara Tower controller will determine where the aircraft concerned is parked. Taxi clearances will contain concise instructions and adequate information so as to assist the flight crew to follow the correct taxi routes with appropriate designators, to avoid collision with other aircraft or objects and to minimize the potential for the aircraft inadvertently entering an active runway.

6.1.15.3.1.1.2 When a taxi clearance contains a taxi limit beyond a runway, it will contain an explicit clearance to cross or an instruction to hold short of that runway.

6.1.15.3.1.1.3 TAXIING ON RUNWAY-IN-USE

6.1.15.3.1.1.4 For the purpose of expediting air traffic, aircraft may be permitted to taxi on the runway-in-use, provided no delay or risk to other aircraft will result.

6.1.15.3.1.1.5 If Simara control tower is unable to determine that a vacating or crossing aircraft has cleared the runway, the aircraft will be requested to report when it has vacated the runway. The report will be made when the entire aircraft is beyond the relevant runway-holding position.

6.1.15.3.1.2 USE OF RUNWAY-HOLDING POSITIONS

6.1.15.3.1.2.1 Aircraft will not be held closer to a runway-in-use than at a runway-holding position.

6.1.15.3.1.2.2 Aircraft will not be permitted to line up and hold on the approach end of a runway-in-use whenever another aircraft is affecting a landing, until the landing aircraft has passed the point of intended holding.

Method of holding aircraft

6.1.15.3.1.3 HELICOPTER TAXIING OPERATIONS

6.1.15.3.1.3.1 In Simara Airport, when necessary for a wheeled helicopter or vertical take-off and landing (VTOL) aircraft to taxi on the surface, the following provisions are applicable.

Note. — Ground taxiing uses less fuel than air-taxiing and minimizes air turbulence. However, under certain conditions, such as rough, soft or uneven terrain, it may become necessary to air-taxi for safety considerations. Helicopters with articulating rotors (usually designs with three or more main rotor blades) are subject to "ground resonance" and may, on rare occasions, suddenly lift off the ground to avoid severe damage or destruction.

6.1.15.3.1.3.2 When it is requested or necessary for a helicopter to proceed at a slow speed above the surface, normally below 37 km/h (20 kts) and in ground effect, air taxiing may be authorized except for the larger and heavier helicopters (e.g. MI8).

6.1.15.3.1.3.3 Instructions which require small aircraft or helicopters to taxi in close proximity to taxiing helicopters will be avoided and consideration will be given to the effect of turbulence from taxiing helicopters on arriving and departing light aircraft.

Note. — Most light helicopters are flown by one pilot and require the constant use of both hands and feet to maintain control during low-altitude/low-level flight. Although flight control friction devices assist the pilot, changing frequency near the ground could result in inadvertent ground contact and consequent loss of control.

6.1.15.3.2 CONTROL OF OTHER THAN AIRCRAFT TRAFFIC

6.1.15.3.2.1 ENTRY TO THE MANOEUVRING AREA

The movement of pedestrians or vehicles on the manoeuvring area will be subject to authorization by the Simara control tower. Hence they will be required to obtain authorization from the Simara control tower to enter the manoeuvring area. Notwithstanding such an authorization, entry to a runway or runway strip or change in the operation authorized will be subject to a further specific authorization.

6.1.15.3.2.2 PRIORITY ON THE MANOEUVRING AREA

All vehicles and pedestrians will give way to aircraft which are landing, taxiing or taking off, except that emergency vehicles proceeding to the assistance of an aircraft in distress will be accorded priority over all other surface movement traffic. In the latter case, all movement of surface traffic will, to the extent practicable, be halted until it is determined that the progress of the emergency vehicles will not be impeded.

6.1.15.3.2.2.1 When an aircraft is landing or taking off, vehicles will not be permitted to hold closer to the runway-in-use than:

a) at a taxiway/runway intersection — at a runway holding position; and
b) at a location other than a taxiway/runway intersection — at a distance equal to the separation distance of the runway-holding position.

6.1.15.3.2.3 COMMUNICATION REQUIREMENTS AND VISUAL SIGNALS

6.1.15.3.2.3.1. All vehicles employed on the manoeuvring area will be capable of maintaining two-way radio communication with the Simara control tower, except when the vehicle is only occasionally used on the manoeuvring area and is:

a) accompanied by a vehicle with the required communications capability, or
b) employed in accordance with a pre-arranged plan established with the Simara control tower.

6.1.15.3.2.3.2. When employed in accordance with a plan pre-arranged with Simara control tower, constructional and maintenance personnel will normally required to be capable of maintaining two-way radio communication via walkie-Talkie set with the Simara tower.

In the case of radio communication failure, the signals given below will have the meaning indicated therein:

Light signals to aircraft from tower

Light	**From Aerodrome Control tower 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 aerodrome and proceed to apron*	Return to starting point on the aerodrome

* Clearance to land and taxi will be given in due course

Ground signals to aircraft

ROUND SIGNAL	WHERE DISPLAYS	MEANINGS
Two white cross	Adjacent to windsock	Aerodrome completely unserviceable
	On manoeuvring area	An area marked by a cross or Crosses with the limits delineated by markers, is unfit for use by aircraft

6.1.16 PRIORITY FOR LANDING

6.1.16.1 If an aircraft enters an aerodrome traffic circuit without proper authorization Simara Tower, it will be permitted to land if its actions indicate that it so desires. If circumstances warrant, aircraft which are in contact with the Simara controller, may be instructed to give way so as to remove the hazard introduced by such unauthorized operation as soon as possible. In no case will permission to land be withheld indefinitely

6.1.16.2 In cases of emergency, it may be necessary, in the interests of safety, for an aircraft to enter a traffic circuit and affect a landing without proper authorization. Simara Controllers will recognize the possibilities of emergency action and render all assistance possible.

6.1.16.3 Priority will be given to:

a) an aircraft which anticipates being compelled to land because of factors affecting the safe operation of the aircraft (engine failure, shortage of fuel, etc.);
b) hospital aircraft or aircraft carrying any sick or seriously injured persons requiring urgent medical attention;
c) aircraft engaged in search and rescue operations; and
d) other aircraft as may be determined by SICAO.

6.1.17 ORDER OF PRIORITY FOR ARRIVING AND DEPARTING AIRCRAFT

An aircraft landing or in the final stages of an approach to land will normally have priority over an aircraft intending to depart from the same or an intersecting runway.

6.1.18 CONTROL OF DEPARTING AIRCRAFT

6.1.18.1 Departure sequence

Departures will normally be cleared in the order in which they are ready for take-off; except that deviations may be made from this order of priority to facilitate the maximum number of departures with the least average

delay. Factors which will be considered in relation to the departure sequence include, inter alias:

a) types of aircraft and their relative performance;
b) routes to be followed after take-off;
c) any specified minimum departure interval between take-offs;
d) any specified minimum longitudinal separation minima.
e) Aircraft which will be affected priority.

6.1.18.1.1 Departing aircraft may be expedited by suggesting a take-off direction which is not into the wind. It is the responsibility of the pilot-in-command of an aircraft to make a take-off or wait for take-off in a preferred direction.

6.1.18.2 **General Procedures for Departing Aircraft**

6.1.18.2.1 Clearances for departing aircraft will specify, when necessary for the separation of aircraft, direction of take-off and turn after take-off; heading or track to be maintained before taking up the cleared departure track; level to maintain before continuing climb to assigned level; climb gradient or rate at which a level change will be made; and any other necessary manoeuver consistent with safe operation of the aircraft.

6.1.18.2.2 Standard clearances for departing aircraft (refer to Chapter 5)

Separation of departing aircraft: A departing aircraft will not normally be permitted to commence take-off until the preceding departing aircraft has crossed the end of the runway-in-use or has started a turn or until all preceding landing aircraft are clear of the runway-in-use. *Note: See Figure below:*

Position limits to be reached by a landed aircraft (A) or a departing aircraft (B or C) before an arriving aircraft may be cleared to cross the threshold of the runway-in-use or a departing aircraft may be cleared to take off, unless otherwise prescribed by the appropriate ATS authority

Fig: Separation between departing and arriving aircraft

6.1.18.3 **Engine starting procedures**

6.1.18.3.1 In order to maintain an orderly flow of traffic, the pilots of departing aircraft request a startup clearance to Simara Tower. When requesting a startup clearance, a pilot will indicate the runway he/she requires to use if limited to a particular runway and name of destination airport.

6.1.18.3.2 If it is anticipated that traffic conditions may cause a delay before issuance of a taxi clearances of more than 6 minutes, pilots will be issued with a recommended startup time.

6.1.18.3.3 Clearance delivery

Simara Tower will deliver standard ATC clearance to all departing aircraft prior to issue taxi clearance.

6.1.18.4 TAXI CLEARANCE AND PROVISION OF INFORMATION

6.1.18.4.1 Clearance

Taxi clearance will be issued for the purpose of

a) providing the pilot with guidance to the appropriate runway.
b) providing routes which will involve the minimum of conflict with other traffic.
c) protecting other aircraft from the jet blast of heavy jets, helicopter downwash.

6.1.18.4.2 Taxi information

6.1.18.4.2.1 Prior to taxi for takeoff aircraft will be advised of the elements in the order listed in Para 6.1.18.5.1, with the exception of such elements which it is known that the aircraft has already received.

6.1.18.4.2.2 At the discretion of the Simara aerodrome controller, pilots in command of aircraft requesting permission to run up on the runway in use may be permitted. However when a suitable alternate is available, aircraft will normally be required to use this area, and will only be permitted to run up on the runway if it is certain that this will not delay arriving or other departing aircraft.

6.1.18.4.2.3 An aircraft operating on the ground will be warned of jet blast or downwash of helicopters.

6.1.18.4.3 **Take off information**

6.1.18.4.3.1 Simara Tower controller will provide to each aircraft under his/her control, the following information for take-off purposes as required:

a) The mean and maximum crosswind components;
   i. when the mean component equals or exceeds 8 knots for single-engine aircraft and 12 knots for multi-engine aircraft; or
   ii. when requested by the pilot.
b) The cross wind component may be interpolated by use of the following table:

6.1.18.4.3.2 Cross wind components will be calculated as shown in below:

Divergence from Take-off/Landing Direction	Fraction of Wind Speed
15 degrees	3/10
30 degrees	5/10
45 degrees	7/10
60 degrees	9/10
75 degrees	1

6.1.18.4.4 Taxiing Aircraft

6.1.18.4.4.1 Simara Tower Controllers will not issue conditional taxi instructions that are dependent upon the movement of an arriving aircraft on or approaching the runway or a departing aircraft established on a take-off roll, e.g., do not say "cleared to line up and hold behind the landing traffic or line up and hold after departing traffic except when the aircraft or vehicles concerned are seen by the appropriate controller and pilot.

6.1.18.4.5 Intersection Departure

6.1.18.4.5.1 An intersection departure is a departure from a point of intersection of a runway or taxiway with the active runway.

6.1.18.4.5.2 A pilot wishing to use less than the available full length of the runway will nominate his/her intentions whilst taxiing. Intersection departure may be initiated by the controller to expedite traffic for those type of aircraft not exceeding STOL type of aircrafts keeping in mind the type of aircraft, runway length available and wind condition etc. In any intersection departure, the controller will advise the pilot of the remaining length available before issuing take-off clearance. The responsibility for accepting an intersection departure rest solely on the pilot in command.

6.1.18.4.5.3 Phraseology will be as follows:

(Aircraft identification) RUNWAY (runway designator) INTERSECTION DEPARTURE FROM TAXIWAY INTERSECTION (taxiway designator) AVAILABLE or APPROVED, REMAINING LENGTH (feet) AVAILABLE.

6.1.18.4.6 **Take-off clearance**

6.1.18.4.6.1 An aircraft will be cleared to enter the runway and take-off in accordance with the priorities and maintaining the separation specified in this manual.

6.1.18.4.6.2 The take-off clearance will be issued when the aircraft is ready for take-off and at or approaching the departure runway and the traffic situation

permits. To reduce the potential for misunderstanding, the take-off clearance will include the designator of the departure runway.

6.1.18.4.6.3 In the interest of expediting traffic, a clearance for immediate take-off may be issued to an aircraft before it enters the runway. On acceptance of such clearance the aircraft will taxi out to the runway and take off in one continuous movement.

6.1.18.4.6.4 Any requirement after departure will be communicated to the pilot before Takeoff.

6.1.18.4.6.5 When a taxing aircraft of heavier weight is followed by an aircraft of lesser weight, Simara Tower controller will not issue a line up immediate departure clearance that will require the aircraft of heavier weight to use more than normal taxing power to enter the runway.

6.1.18.4.6.6 Before clearing an aircraft for take-off, and immediately before it commences to take-off the aerodrome controller will make a visual check from the control tower to determine, as far as practicable, whether obstructions exist on or near the take-off area (runway strip). If there is any obstruction in respect of which continued operation has not been authorized or is not possible, Simara Tower controller will withhold or cancel the clearance until the obstruction is removed.

6.1.18.4.6.7 When departure separation is based on the position of a preceding landing aircraft and conditions preclude the Simara Tower controller from clearly observing that the landing aircraft vacated and is taxing away from the runway, confirmation of this manoeuver will be obtained from the pilot in command prior to issuance of the take-off clearance.

6.1.18.4.6.8 Operation will normally be confined to the runway most suitable for the majority of the current traffic.

6.1.18.4.6.9 The word "TAKE-OFF" will be used in clearing an aircraft for take-off or canceling a take-off clearance; they will be used as the last word of the take-off clearance except that an instruction specifying a turn or circuit direction to be made after departure will be placed after the words "TAKE-OFF".

6.1.18.4.6.10 Before Authorizing a Take-off, Simara aerodrome controller will, by his/her own visual observations, be reasonably satisfied that the weather conditions in the sector of airspace enclosing the normal path of a civil aircraft taking off and initial climb are not below the minima applicable to the particular flight.

6.1.18.4.6.11 An aircraft will not be cleared for take-off when weather conditions do not meet the requirement or when in the opinion of the Tower controller, the cumulative effects of small amounts of cloud at various levels below the minimum ceiling constitute a hazard in regard to obstructions in the take-off and initial climb area.

6.1.18.4.6.12 An aircraft will also not be cleared for take-off when hazardous weather conditions are expected to exist. Such conditions might be a violent wind

change, a heavy rain storm, or known sever convective turbulence observing over the runway during take-off or affecting the flight path after airborne.

6.1.19 CONTROL OF ARRIVING AIRCRAFT

6.1.19.1 **Determining of aircraft position**

6.1.19.1.1 As necessary, aircraft will be requested to report their positions by reference to navigation aids, by a distance and direction (e.g. 5 miles NE) from the aerodrome, or by reference to one of the legs of a traffic circuit. Locally known place names will be used which are readily discernible on the appropriate aeronautical chart. Where established, Visual fix points may be used for position reporting purposes.

6.1.19.1.2 In addition to a radio watch, the Simara aerodrome controller will maintain, as far as practicable, a continuous watch with the unaided eye and, if necessary with binoculars, for the purpose of determining the position and ensuring the safety of aircraft. In particular, attention will be paid to an aircraft suffering radio failure.

6.1.19.1.3 A controller's visual determination of the relative distance of aircraft close to each other can be seriously in error, even to the extent of reversing the position of the two aircraft. This is particularly so when two aircraft of similar sizes are being considered.

6.1.19.1.3.1 In providing visual separation, Simara Aerodrome controllers will rely primarily on separation in azimuth, and not by distance or height. Visual separation by judgment of relative distance or height will be used only when the margins are so wide that there is no possibility of the aircraft being close to each other. Corroborative evidence from the pilot of one aircraft of the relative position of another aircraft will be obtained whenever possible before the application of visual separation.

6.1.19.1.4 Visual determination of position is not complete until aircraft identity has been established to the extent required for the adequate provision of traffic information or visual separation. Positive identifying action will be taken by the controller before providing visual separation between arriving aircraft during the hours of daylight as follows:

a) Identification by type, or distinguished markings if the same type; or

b) Change the heading of one the aircraft concerned.

6.1.19.1.5 The Simara Tower controller may instruct a following aircraft to sight-and-follow a preceding aircraft. In exercising such control, it is essential that the pilot of the following aircraft correctly identifies the aircraft he/she is to follow. To assist pilot in proper identification, the controller will;

a. Specify the type if the aircraft to be followed and if an unfamiliar type a brief description of the aircraft;

b. Provide accurate position information on the preceding aircraft using direction and distance or position in the circuit; geographical features will only be used if depicted on relevant charts or the feature is regularly used in the control of locally operating aircraft; and

c. Advise the pilot of the following aircraft of his number in the landing sequence.

6.1.19.1.6 In the case of formation flights by military operation, the controller will advise only the leader of the formation, and he individual aircraft will be responsible for landing.

6.1.19.1.7 When issuing a control clearance requiring that the pilot of one aircraft keep another in sight, the aerodrome controller will bear in mind the following limitations to the pilot's ability to do this:

a) the field view from the cockpit:
b) the contrast formed by an aircraft with its background;
c) glare from the sun;
d) restriction on visibility which may not be currently apparent to the pilot e.g. loss of forward visibility following descent into a haze layer.

6.1.19.1.7 Simara aerodrome controller will issue an alternative clearance if there is any doubt about the ability of the pilot to see the position of the other aircraft for the duration of the originally proposed clearance.

6.1.19.2 **Regulation of circuit traffic**

6.1.19.2.1 Arriving aircraft will enter the traffic circuit in a landing sequence as instructed by Simara aerodrome controller.

For each type of aircraft engaged in airline operation, there is a normal circuit pattern which is largely dictated by the operating characteristics of the particular type. Thus, in spacing arriving aircraft during a landing sequence, controllers will pay due regard to these different circuit patterns. Nevertheless, to prevent cumulative delays to following aircraft, a pilot may be requested to make a short approach. Circuit diagram is mentioned in AIP.

6.1.19.2.2 If an aircraft suffering radio failure enters the traffic circuits in such a manner that the aerodrome controller is doubtful whether sufficient spacing from another aircraft can be maintained, Simara Tower controller will request the radio equipped aircraft to give way.

6.1.19.3 **Landing information and landing clearances**

6.1.19.3.1 Landing information

6.1.19.3.1.1 Simara aerodrome controller will provide each aircraft under his/her control the following information as applicable for landing purposes with the exception of such elements, which o is known, the aircraft have already received:
a) runway;

b) wind velocity, QNH and temperature;

c) known significant weather information;

d) aerodrome surface conditions and the presence of birds;

e) the mean and maximum crosswind components:

when the mean component equals or exceeds 8 knots for single-engine aircraft or 12 knots for multi-engine aircraft; or when requested by the pilot,

f) any discernible downwind component;

g) possibility of wake turbulence

6.1.19.3.1.2 Calculation of cross-wind component: See table (6.1.18.4.3.2.)

6.1.19.3.1.2.1 Aircraft flying at low speed, especially near the point of take-off and landing, create turbulence in their wake. The severity of the turbulence created is proportional to the weight of the aircraft, and the degree to which a following aircraft will be affected is proportional to the difference in weights involved. This turbulence may have very serious effects upon succeeding aircraft, particularly those of significantly lesser weight. Whenever practicable, the aerodrome controller will advise aircraft of the expected occurrence of hazards caused by turbulence wake, by use of the phrase "CAUTION- WAKE TURBULANCE" however, as the occurrence and persistence of turbulent wake hazards cannot be predicated accurately it may not be possible to issue advice on such hazards at all times. Nevertheless, the prescribed separation standards for wake turbulence avoidance will always be applied as per this manual.

6.1.19.3.2 Landing Clearance

6.1.19.3.2.1 Except as provided in para 6.1.19.3.2.3 Landing clearance will be issued to a pilot when the separation required has been established but not before either of the following conditions:

a) The aircraft has been sighted by the aerodrome controller, either approaching the end of the downwind leg, on base leg, or on the final leg of the circuit pattern, alternatively,

b) if a circling approach has been made, in an approximately equivalent position to the foregoing.

6.1.19.3.2.2 Before clearing an aircraft to land, and before the aircraft is committed to a landing, Simara aerodrome controller will make a visual check from the control tower to determine, as far as practicable whether obstructions exist on or near the landing area (runway strip).

6.1.19.3.2.2.1 An aircraft will also not be cleared to land when hazardous weather conditions are expected to exist.

6.1.19.3.2.2.2 Simara Aerodrome controller will advise aircraft of any discernible down wind. This will be done at a time, which permits the pilot in command to reconsider and land on another runway.

6.1.19.3.2.3 When the landing area is occupied by another aircraft, or is obstructed, the pilot of the approaching aircraft will be instructed as follows:

a) if it is assessed that the landing area will become available but a landing clearance cannot be issued immediately. CONTINUE APPROACH (follow later with the appropriate clearance) ; or

b) a landing aircraft will not be permitted to cross the beginning of the RWY on its final approach until the preceding departing aircraft crosses the end of the runway-in-use or has started a turn or until a preceding landing aircraft is clear of the runway in use; or

c) an aircraft may be cleared to land when there is reasonable assurance that the separation in (6.1.19.3.2.3.b) will exist. To reduce the potential for misunderstanding, the landing clearance will include the designator of landing runway.

d) if it is apparent that the landing area will not be available GO ROUND or, if in a position to do so, ORBIT. (Instructions to commence a second approach or hold will follow).

6.1.19.3.2.4 When separation is based on the position of a preceding landing aircraft and conditions preclude the Simara aerodrome controller from clearly observing that the landing aircraft has vacated and is taxiing away from the runway, conformation of this manoeuver will be obtained from the pilot in command prior to issuance of the clearance to land.

6.1.19.3.2.5 Any special clearance or information relating to vacating off the runway after landing will, if practicable, be given with the landing clearance. The phraseology will be followed by "if feasible".

6.1.19.4 **Taxi after landing**

6.1.19.4.1 Taxi clearance and provision of information

6.1.19.4.1.1 Taxi clearance will be issued governing entry to and movement on the taxiway for the purpose of:

a) applying priorities as laid down in this manual;

b) providing the pilot with guidance to the apron area;

c) providing routes which would involve the minimum of conflict with other traffic;

d) protecting other aircraft from the jet blast of heavy jets and downwash of helicopters;

6.1.19.4.2 An aircraft known or believed to be the subject of unlawful interference or which for other reasons needs isolation from normal aerodrome activities will be cleared to designated isolated parking position. In Simara Airport, isolated parking position has not been assigned, the aircraft will be cleared to a position in an area or areas as advised by the Airport Manager or in his absence by designated Tower Duty Officer. The taxi clearance will specify the taxi route to be followed up to the parking position. This route will be selected with a view to minimizing any security risks to the public, other aircraft and installations at the aerodrome. A pilot-in-command who is unfamiliar with the aerodrome may request "GUIDANCE TO TERMINAL". In providing this guidance, the controllers will issue specific instructions relating to taxiing of the aircraft. The taxi route to be followed will be progressively described, each section being specified in sufficient time for the pilot to recognize turning points, etc. and to take the required action. Taxiway numbers or local designator, e.g. "Southern taxiway" will not be used.

6.1.19.4.3 Taxi clearances will not relate to movement on the apron areas, nevertheless, available essential information referring to her aircraft entering or leaving the same apron area will be given to an aircraft approaching the apron area.

6.1.19.4.4 An aircraft operating on the ground will be warned of helicopter downwash as appropriate.

6.1.19.5 **Landing and roll-out manoeuvers**

6.1.19.5.1 When necessary or desirable in order to expedite traffic, a landing aircraft may be requested to:

a. land beyond the touchdown zone of the runway;
b. vacate the runway at a specified exit taxiway;
c. expedite vacating the runway.

6.1.19.5.2 In requesting a landing aircraft to perform a specific landing and/or roll-out manoeuvre, the type of aircraft, runway length, location of exit taxiways, reported braking action on runway and taxiway, and prevailing meteorological conditions will be considered.

6.1.19.5.3 If the pilot-in-command considers that he or she is unable to comply with the requested operation, the controller will be advised without delay.

6.1.19.5.4 When necessary or desirable, e.g. due to low visibility conditions, a landing or a taxiing aircraft may be instructed to report when a runway has been vacated. The report will be made when the aircraft is well clear of the runway.

6.1.20 RUNWAY CLOSURE

6.1.20.1 If the effect of any conditions (e.g. weather, navigation aids availability, airspace restrictions, etc.) creates the situation where no approach to land can be made, then the Runway will be closed for landing.

6.1.20.2 Similarly, when special circumstance exist which in the opinion of the aerodrome controller on duty, would make a landing or take-off hazardous, the controller will close the Runway to landing, take-off or all operations as appropriate.

6.1.20.3 The decisions to make a landing or take- off in cross wind or down wind conditions, wet runway or when the presence of birds has been notified, rest solely with the pilot- in -command.

6.1.20.4 When the Simara aerodrome is closed to aircraft for landing, take-off or all operations, the Simara aerodrome controller will notify all aircraft which are affected and which are listening on the appropriate tower frequency.

6.1.21 USE OF CLOSED RUNWAY IN EMERGENCY

6.1.21.1 When the Simara Runway is closed, and if a pilot declares an emergency or after advice from the aerodrome controller of any known alternatives courses of action, states that it will be safer to land than to adopt alternative action; all assistance to land at the aerodrome will be afforded to him and the incident will be reported as an Incident Report.

6.1.21.2 In the situation as mentioned in 6.1.22 1 ATC phraseology that can be used are: RUNWAY (runway number) CLOSED/UNSAFE. UNABLE TO ISSUE LANDING CLEARANCE. LANDING WILL BE AT YOUR OWN RISK.

6.1.22 SUSPENSION OF VISUAL FLIGHT RULES OPERATIONS.

6.1.22.1 Any or all VFR operations within control zone may be suspended by Simara Tower or as and when instructed by Chief of Simara Airport *whenever safety requires such action.*

6.1.22.2 All such suspensions of VFR operations will be accomplished through Simara Tower.

6.1.22.3 The following procedures will be observed by Simara tower whenever

VFR operations are suspended:

- hold all VFR departures;
- recall all local flights operating under VFR or obtain approval for special VFR operations;
- notify all concerned ATS units as appropriate of the action taken;
- notify all operators, or their designated representatives, of the reason for taking such action, if necessary or requested.

6.1.23 SPECIAL VFR FLIGHT

6.1.23.1 SPECIAL VFR FLIGHT PROCEDURE

Special VFR flights in a VFR flights cleared by ATC to operate within Simara control zone in meteorological conditions below VMC provided

a) traffic conditions permit.

b) the ground visibility is not less than:

c) 1000 meters for rotary wing aircraft

d) 2500 meters for fixed-wing aircraft.

e) between sunrise to sunset at the request of the pilot

6.1.23.1 The aircraft will be flown clear of cloud and in-sight of surface.

6.1.23.1.1 AUTHORIZATION OF SPECIAL VFR FLIGHTS

6.1.23.1.2 The request for Special VFR flights will be approved by Simara Tower. Request for such authorization will be handled individually.

6.1.23.1.3 Separation will be effected between Special VFR flights in accordance with prescribed separation minima.

6.1.23.1.4 Special VFR flight will not be authorized if there is any doubt to the Simara ATC that an aircraft may not be able to fly clear of clouds and in sight of surface.

6.1.23.1.5 Weather observations made for the purpose of authorizing a flight to be conducted under special VFR will be general observations.

6.1.23.1.6 Only one SVFR flight will be authorized to operate within a specified sector (east sector and west sector)

Note: Due to the topographical feature of the kingdom of Nepal, Controllers, during the monsoon season, will consider the monsoon factor before clearing the flight in special VFR conditions.

6.1.24 AERONAUTICAL GROUND LIGHTS

6.1.24.1 GENERAL

6.1.24.1.1 All aeronautical ground lights will be operated:

a) continuously during the hours of darkness or during the time the centre of the sun's disc is more than 6 degrees below the horizon, whichever requires the longer period of operation, unless otherwise provided hereafter or otherwise required for the control of air traffic;

b) at any other time when their use, based on meteorological conditions, is considered desirable for the safety of air traffic.

6.1.24.1.2 Lights on and in the vicinity of aerodrome that are not intended for en-route navigation purposes may be turned off, subject to further provisions hereafter, if no likelihood of either regular or emergency operation exists, provided that they can be again brought into operation at least one hour before the expected arrival of an aircraft.

6.1.24.2 Approach lighting

Note: Approach lighting includes such lights as simple approach lighting systems, precision approach lighting systems, visual approach slope indicator systems, circling guidance lights, approach light beacons and runway alignment indicators.

6.1.24.2.1 In addition to 6.1.23.1.1 approach lighting will also be operated:

a) By day when requested by an approaching aircraft;
b) When the associated runway lighting is operated.

6.1.24.2.2 The lights of a precision approach path indicator system will be operated during the hours of daylight as well as of darkness and irrespective of the visibility conditions when the associated runway is being used.

6.1.24.3 Runway lighting

Note: In Simara aerodrome, runway lighting includes: as edge, threshold, , end lights.

6.1.24.3.1 Runway lighting will not be operated if that runway is not in use for landing, take-off or taxiing purposes, unless required for runway inspections or maintenance.

6.1.24.3.2 If runway lighting is not operated continuously, lighting following a take-off will be provided as specified below:

a) when lights are centrally controlled, the lights of runway will remain lighted after take-off as long as is considered necessary for the return of the aircraft due to an emergency occurring during or immediately after take-off;

Note: When obstacle lighting is operated simultaneously with runway lighting, particular care should be taken to ensure that it is not turned off until no longer required by the aircraft.

6.1.24.4 Taxiway lighting

Note: Taxiway lighting in Simara includes: edge lights only.

Where required to provide taxi guidance, taxiway lighting will be turned on in such order that a continuous indication of the taxi path is presented to taxiing aircraft. Taxiway lighting or any portion thereof may be turned off when no longer needed.

6.1.24.5 Monitoring of visual aids

6.1.24.5.1 Simara aerodrome controllers will make use of automatic monitoring facilities, when provided, to ascertain whether the lighting is in good order and functioning according to selection

6.1.24.5.2 In the absence of an automatic monitoring system or to supplement such a system, the aerodrome controller will visually observe such lighting as can be seen from the aerodrome control tower and use information from other sources such as visual inspections or reports from aircraft to maintain awareness of the operational status of the visual aids.

6.1.24.5.3 On receipt of information indicating a lighting fault, the aerodrome controller will take such action as is warranted to safeguard any affected aircraft or vehicles, and initiate action to have the fault rectified.

6.1.25 SECTOR VISIBILITY PROCEDURES

a) Because of the prescribed ground visibility of 5 km, most of the VFR flights are likely to be delayed or cancelled due fog, mist, haze, smoke and dust. To minimize this situation, the concept of sector visibility has been introduced.

b) The term sector visibility is understood by a controller on duty, to be the slant visibility within the limits of the airspace above the ground encompassing the climb-out/ approach path of an aircraft.

c) Aircraft will be cleared for take-off or to land if the duty controller feels that the climb out/ approach path along the relevant sector is clear although the prevailing visibility is less 5 km.

d) Determination of sector visibility will be based on personnel observation of the duty controller.

Note: Sector Visibility Procedures will be accomplished in Simara Aerodrome as accordance with procedures mentioned in Appendix L

6.1.26 STRIP MARKING

6.1.26.1 Simara Control is using paper strip for individual flight.

6.1.26.2 The progress strip for all outbound departure flights will be maintained in yellow color and arrival flights in blue color.

6.1.26.3 Strip marking will be accomplished in accordance with procedures detailed in *Appendix D*

CHAPTER 7

PROCEDURE FOR APPROACH CONTROL SERVICE

7.1 RESPONSIBILITY

The responsibility of the Simara Tower for the provision of approach control service is to provide air traffic control service to controlled flights arriving at, or departing from Simara Airport under the area of its jurisdiction 5.4.1. a) & b)

7.2 RADIO COMMUNICATION

Controllers will maintain a continuous watch on all appropriate radio frequencies and conduct all air ground communications in accordance with the instructions contained in the AIP. An aircraft operating locally may be required to report at scheduled times or at nominated reporting points. An aircraft holding at a holding point serving a destination airport which is closed to landing will be required to report at intervals not exceeding 15 minutes.

7.3 REDUCTION IN SEPARATION MINIMA IN THE VICINITY OF AERODROMES

In addition to the circumstances mentioned in Chapter 8, the separation minima detailed in Chapter 8, 8.5.1 and 8.4.2, may be reduced in the vicinity of aerodromes if:

a) adequate separation can be provided by the aerodrome controller when each aircraft is continuously visible to this controller, or

b) each aircraft is continuously visible to flight crews of the other aircraft concerned and the pilots thereof report that they can maintain their own separation; or

c) in the case of one aircraft following another, the flight crew of the succeeding aircraft reports that the other aircraft is in sight and separation can be maintained

7.4 PROCEDURES FOR DEPARTING AIRCRAFT

7.4.1 The Simara controller will undertake separation between arriving and departing aircraft within the area of his/her responsibility. For this purpose, the controller will issue the release clearance, SID and additional restriction(s) within his/her area of responsibility to towers

7.4.2 A clearance expiry time will be specified by the area control center if a delayed departure would conflict with traffic not released to the unit

providing approach control service. If for traffic reason of its own, a unit providing approach control service has to specify in addition its own clearance expiry time, this will be in no case be later than that specified by Kathmandu ACC.

7.4.3 Control of departing aircraft may be transferred to the area control unit sooner than its arrival at control boundary if further control of it can be exercised without reference to the position of arriving aircraft.

7.4.4 Before applying lateral separation the controller will obtain a report from a departing aircraft that it has established flight on the assigned departure track.

7.4.5 Clearance issued by controller will specify the following as applicable.

a) direction of turn after take-off if other than normal.
b) track to be made good before proceeding on desired heading.
c) SID to be made.
d) altitude to maintain before continuing climb to assigned crushing level.
e) time or point at which altitude change will be made.
f) any other necessary manoeuvres consistent with the safe operation of the aircraft

7.4.6 To be commensurate with the orderly flow of air traffic, every effort should be made to permit aircraft departing on long distance flights to proceed on a healing with a few turn or other manoeuvers as possible, and climb to crushing level without restriction. Heavy take-off loads render the early portion of flight very critical and this factor should be considered in the control of departing aircraft.

7.4.7 Departing aircraft may be expedited by suggesting a take-off direction which is not in to the wind. It is the responsibility of the pilot-in-command of an aircraft to decide between making such a take-off and waiting for normal take-off in preferred direction.

7.4.8 If departures are delayed to avoid excessive holding at destination, delayed flights will normally be cleared in an order based on their estimate time of departure, except that deviation from this order may be made to facilitate the maximum number of departures with least average delay.

7.4.9 ATC units should advise aircraft operators or their designated representatives when anticipated delays due traffic conditions are likely to be substantial and in any event when they are expected to exceed 30 minutes.

7.5 INFORMATION FOR DEPARTING AIRCRAFT

7.5.1 Meteorological conditions

Information regarding significant changes in the meteorological conditions in the take-off or climb-out area will be transmitted to the aircraft without delay, except when it is known that the aircraft already has received the information.

Note.— Significant changes in this context include those relating to surface wind direction or speed, visibility, runway visual range or air temperature (for turbine-engined aircraft), and the occurrence of thunderstorm or cumulonimbus, moderate or severe turbulence, wind shear, hail, moderate or severe icing, severe squall line, freezing precipitation, severe mountain waves, sandstorm, dust storm, blowing snow, tornado or waterspout.

7.5.2 Operational status of visual or non-visual aids

Information regarding changes in the operational status of visual or non-visual aids essential for take-off and climb will be transmitted without delay to a departing aircraft, except when it is known that the aircraft already has received the information.

7.6 PROCEDURES FOR ARRIVING AIRCRAFT

7.6.1 General

7.6.1.1 Before authorizing an instrument approach, the controller on duty will be reasonably satisfied that prevailing weather condition is not less than the specified weather minima for the instrument approach.

7.6.1.2 An aircraft will not be cleared to descend below the lowest holding altitude when the weather condition does not meet the requirements of Para 7.6.1.1 or when frequent occurrence of heavy rain squall, in the opinion of controller, warrant the closure of the aerodrome.

7.6.1.3 When weather conditions are marginal or fluctuating about the relevant minimum and the Tower controller is in doubt that the provisions of Para. 7.6.1.1 can be met, the controller will advise each aircraft of the prevailing conditions and permit operation to continue.

7.6.1.4 An aircraft will also not be cleared to continue an instrument descent below the lowest holding altitude when hazardous weather conditions are expected to exist.

7.6.1.5 When it becomes evident that delays will be encountered by arriving aircraft, operators or designated representatives will, to the extent practicable, be notified and kept currently informed of any changes in such expected delays.

7.6.1.6 Arriving aircraft may be required to report when leaving or passing a significant point or navigation aid, or when starting procedure turn or base turn, or to provide other information required by the controller, to expedite departing and arriving aircraft.

7.6.1.7 An IFR flight will not be cleared for an initial approach below the appropriate minimum altitude as specified in this manual and AIP nor to descend below that altitude unless:

a) the pilot has reported passing an appropriate point defined by a navigation aid or as a waypoint; or
b) the pilot reports that the aerodrome is and can be maintained in sight; or
c) the aircraft is conducting a visual approach; or

7.6.1.8 Arriving aircraft will normally be cleared to follow the appropriate STAR. The aircraft will be informed of the type of approach to expect and runway-in-use as early as possible.

7.6.2 Standard clearances for arriving aircraft

7.6.2.1 Contents

Standard clearances for arriving aircraft will contain the following items:

a) aircraft identification;

b) designator of the assigned STAR;

c) runway-in-use, except when part of the STAR description;

d) initial level, except when this element is included in the STAR description; and

e) any other necessary instructions or information not contained in the STAR description, e.g. change of communications.

7.6.3 Visual approach

7.6.3.1 Subject to the conditions in 7.6.3.3, clearance for an IFR flight to execute a visual approach may be requested by a flight crew or initiated by the controller. In the latter case, the concurrence of the flight crew will be required.

7.6.3.2 Controllers will exercise caution in initiating a visual approach when there is reason to believe that the flight crew concerned is not familiar with the aerodrome and its surrounding terrain. Controllers will also take into consideration the prevailing traffic and meteorological conditions when initiating visual approaches.

7.6.3.3 An IFR flight may be cleared to execute a visual approach provided the pilot can maintain visual reference to the terrain and

a) the reported ceiling is at or above the level of the beginning of the initial approach segment for the aircraft so cleared; or

b) the pilot reports at the level of the beginning of the initial approach segment or at any time during the instrument approach procedure that the meteorological conditions are such that with reasonable assurance a visual approach and landing can be completed.

7.6.3.4 Separation will be provided between an aircraft cleared to execute a visual approach and other arriving and departing aircraft.

7.6.3.5 For successive visual approaches, separation will be maintained by the controller until the pilot of a succeeding aircraft reports having the preceding aircraft in sight. The aircraft will then be instructed to follow and maintain own separation from the preceding aircraft. When both aircraft are of a heavy wake turbulence category, or the preceding aircraft is of a heavier wake turbulence category than the following, and the distance between the aircraft is less than the appropriate wake turbulence minimum, the controller will issue a caution of possible wake turbulence. The pilot-in-command of the aircraft concerned will be responsible for ensuring that the spacing from a preceding aircraft of a heavier wake turbulence category is acceptable. If it is determined that additional spacing is required, the flight crew will inform the Control tower accordingly, stating their requirements.

7.6.3.6 Transfer of communications to the aerodrome controller will be effected at such a point or time that information on essential local traffic, if applicable, and clearance to land or alternative instructions can be issued to the aircraft in a timely manner.

7.6.4 Instrument approach

7.6.4.1 The control tower will specify the instrument approach procedure to be used by arriving aircraft. A flight crew may request an alternative procedure and, if circumstances permit, will be cleared accordingly.

7.6.4.2 If a pilot reports or it is clearly apparent to the ATC unit that the pilot is not familiar with an instrument approach procedure, the initial approach level, the point (in minutes from the appropriate reporting point) at which base turn or procedure turn will be started, the level at which the procedure turn will be carried out and the final approach track will be specified, except that only the last-mentioned need be specified if the aircraft is to be cleared for a straight-in approach. The frequency(ies) of the navigation aid(s) to be used as well as the missed approach procedure will also be specified when deemed necessary.

7.6.4.3 If visual reference to terrain is established before completion of the approach procedure, the entire procedure will nevertheless be executed unless the aircraft requests and is cleared for a visual approach.

7.6.5 Holding

7.6.5.1 In the event of extended delays, aircraft will be advised of the anticipated delay as early as possible and, when practicable, be instructed or given the option to reduce speed en route in order to absorb delay.

7.6.5.2 When delay is expected, the Control tower will clear aircraft to the holding fix, and for including holding instructions, and expected approach time or onward clearance time, as applicable, in such clearances.

7.6.5.5 Holding and holding pattern entry will be accomplished in accordance with procedures published in AIPs. If entry and holding procedures have not been published or if the procedures are not known to a flight crew, the Control tower will specify the designator of the location or aid to be used, the inbound track, radial or bearing, direction of turn in the holding pattern as well as the time of the outbound leg or the distances between which to hold.

7.6.5.6 Aircraft will normally be held at a designated holding fix. The required minimum vertical, lateral or longitudinal separation from other aircraft will be provided. Criteria and procedures for the simultaneous use of adjacent holding patterns will be in accordance with the procedure published in AIP.

Note:— See MATX, Nepal 2014, Chapter 8, Section 8.5, concerning separation of aircraft holding in flight.

7.6.5.7 Levels at a holding fix or visual holding location will as far as practicable be assigned in a manner that will facilitate clearing each aircraft to approach in its proper priority. Normally, the first aircraft to arrive over a holding fix or visual holding location will be at the lowest level, with following aircraft at successively higher levels.

7.6.5.2 When extended holding is anticipated, turbojet aircraft will, when practicable, be permitted to hold at higher levels in order to conserve fuel, while retaining their order in the approach sequence.

7.6.5.9 If an aircraft is unable to comply with the published or cleared holding procedure, alternative instructions will be issued.

7.6.5.10 For the purpose of maintaining a safe and orderly flow of traffic, an aircraft may be instructed to orbit at its present or at any other position, provided the required obstacle clearance is ensured.

7.6.6 Approach sequence

7.6.6.1 General

The following procedures will be applied whenever approaches are in progress.

7.6.6.1.1 The approach sequence will be established in a manner which will facilitate arrival of the maximum number of aircraft with the least average delay. Priority will be given to:

a) an aircraft which anticipates being compelled to land because of factors affecting the safe operation of the aircraft (engine failure, shortage of fuel, etc.);

b) hospital aircraft or aircraft carrying any sick or seriously injured person requiring urgent medical attention;

c) aircraft engaged in search and rescue operations; and

d) other aircraft as may be determined by the appropriate authority.

Note.— An aircraft which has encountered an emergency is handled as outlined in Chapter 13.

7.6.6.1.2 Succeeding aircraft will be cleared for approach:

a) when the preceding aircraft has reported that it is able to complete its approach without encountering instrument meteorological conditions; or

b) when the preceding aircraft is in communication with and sighted by the Control tower, and reasonable assurance exists that a normal landing can be accomplished; or

c) when timed approaches are used, the preceding aircraft has passed the defined point inbound, and reasonable assurance exists that a normal landing can be accomplished.

Note — See 7.6.7.2.1 concerning timed approach procedures.

7.6.6.1.3 In establishing the approach sequence, the need for increased longitudinal spacing between arriving aircraft due to wake turbulence will be taken into account.

7.6.6.1.4 If the pilot of an aircraft in an approach sequence has indicated an intention to hold for weather improvement, or for other reasons, such action will be approved. However, when other holding aircraft indicate intention to continue their approach to land, the pilot desiring to hold will be cleared to an adjacent fix for holding awaiting weather change or re-routing. Alternatively, the aircraft will be given a clearance to place it at the top of the approach sequence so that other holding aircraft may be permitted to land. Coordination will be effected with any adjacent ATC unit or control sector, when required, to avoid conflict with the traffic under the jurisdiction of that unit or sector.

7.6.6.1.5 When establishing the approach sequence, an aircraft which has been authorized to absorb a specified period of notified terminal delay by cruising at a reduced speed en route, will, in so far as practicable, be credited with the time absorbed en route.

7.6.6.2 Sequencing and spacing of instrument approaches

7.6.6.2.1 Timed Approach procedures

7.6.6.2.1.1 The following procedure will be utilized as necessary to expedite the approaches of a number of arriving aircraft:

a) a suitable point on the approach path, which will be capable of being accurately determined by the pilot, will be specified, to serve as a checkpoint in timing successive approaches;

b) aircraft will be given a time at which to pass the specified point inbound, which time will be determined with the aim of achieving the desired interval between successive landings on the runway while respecting the applicable separation minima at all times, including the period of runway occupancy.

7.6.6.2.1.2 The time at which aircraft will pass the specified point will be determined by the control tower and notified to the aircraft sufficiently in advance to permit the pilot to arrange the flight path accordingly.

7.6.6.2.1.3 Each aircraft in the approach sequence will be cleared to pass the specified point inbound at the previously notified time, or any revision thereof, after the preceding aircraft has reported passing the point inbound.

7.6.6.2.2 Interval between successive approaches

In determining the time interval or longitudinal distance to be applied between successive approaching aircraft, the relative speeds between succeeding aircraft, the distance from the specified point to the runway, the need to apply wake turbulence separation, runway occupancy times, the prevailing meteorological conditions as well as any condition which may affect runway occupancy times will be considered.

Note 1.— Guidance material on factors to be taken into account when determining separation for timed approaches is contained in the Air Traffic Services Planning Manual (Doc 9426).

Note 2.— Wake turbulence categories and wake turbulence separation minima are contained in Chapter 5, Section 5.14, MATS, Nepal 2014, Chapter 8, Section 8.8.

Note 3.— Detailed characteristics of wake vortices and their effect on aircraft are contained in the Air Traffic Services Planning Manual *(Doc 9426), Part II, Section 5.*

7.6.7 Expected approach time

7.6.7.1 An expected approach time will be determined for an arriving aircraft that will be subjected to a delay of 10 minutes. The expected approach time will be transmitted to the aircraft as soon as practicable as and preferably not later than at the commencement of its initial descent from cruising level. A revised expected approach time will be transmitted to the aircraft without delay whenever it differs from that previously transmitted by 5 minutes or more.

7.6.7.2 An expected approach time will be transmitted to the aircraft by the most expeditious means whenever it is anticipated that the aircraft will be required to hold for 30 minutes or more.

7.6.7.3. The holding fix to which an expected approach time relates will be the identified together with ETA whenever this would circumstances are such that not otherwise be evident to the pilot.

7.6.8 Expected Onward Clearance time

In the event an aircraft is held en route or at a location or aid other than the initial approach fix, the aircraft concerned will, as soon as practicable,

be given an expected onward clearance time from the holding fix. The aircraft will also be advised if further holding at a subsequent holding fix is expected.

Note.— "Onward clearance time" is the time at which an aircraft can expect to leave the fix at which it is being held.

7.7 INFORMATION FOR ARRIVING AIRCRAFT

7.7.1 As early as practicable after an aircraft has established communication with the unit providing Simara tower service, the following elements of information, in the order listed, will be transmitted to the aircraft, with the exception of such elements which it is known the aircraft has already received:

a) type of approach and runway-in-use;

b) meteorological information, as follows:

1) surface wind direction and speed, including significant variations;
2) visibility
3) present weather;
4) cloud below 1 500 m (5 000 ft) or below the highest minimum sector altitude, whichever is greater; cumulonimbus; if the sky is obscured, vertical visibility when available;
5) air temperature;
6) dew point temperature, inclusion determined on the basis of a regional air navigation agreement;
7) altimeter setting(s);
8) any available information on significant meteorological phenomena in the approach area; and
9) Trend-type landing forecast, when available.

c) current runway surface conditions, in case of precipitants or other temporary hazards;

d) changes in the operational status of visual and non-visual aids essential for approach and landing.

7.7.2 In applying the provisions in 7.7.1, it will be recognized that information published by NOTAM or disseminated by other means may not have been received by the aircraft prior to departure or during en-route flight.

7.7.3 If it becomes necessary or operationally desirable that an arriving aircraft follow an instrument approach procedure or use a runway other than that initially stated, the flight crew will be advised without delay.

7.7.4 At the commencement of final approach, the following information will be transmitted to aircraft:

a) significant changes in the mean surface wind direction and speed;

Note.— Significant changes are specified in Annex 3, Chapter 4. However, if the controller possesses wind information in the form of components, the significant changes are:

- *Mean head-wind component: 19 km/h (10kt)*
- *Mean tail-wind component: 4 km/h (2kt)*
- *Mean cross-wind component: 9 km/h (5kt)*

b) the latest information, if any, on wind shear and/or turbulence in the final approach area;

c) the current visibility representative of the direction of approach and landing or, when provided, the current runway visual range value(s) and the trend.

7.7.5 During final approach, the following information will be transmitted without delay:

a) the sudden occurrence of hazards (e.g. unauthorized traffic on the runway);
b) significant variations in the current surface wind, expressed in terms of minimum and maximum values;
c) significant changes in runway surface conditions;
d) changes in the operational status of required visual or non-visual aids;

7.8 CONTROL OF AIRCRAFT AFTER MISSED APPROACH

7.8.1 A consecutive approach, following a missed approach, may be permitted at the discretion of the controller in circumstances justifying priority for the aircraft missing the approach e.g. low fuel state.

7.8.2 When a consecutive approach is likely to be required, appropriate lower levels in the holding pattern will be kept vacant until the approaching aircraft is assumed of a landing or is appropriately separated en-route its alternate.

7.8.3 When an aircraft will be authorized to make a second but not a consecutive approach, an altitude in the holding pattern will be reserved to accept the aircraft returning after missed approach. This altitude will be high enough in the holding aircraft sequence to allow the processing of the holding stack to continue without being interrupted by the return of the aircraft.

7.8.4 Such a reserved altitude will be released for other use as soon as the approaching aircraft is assured of a landing or is appropriately separated en-route to its alternate.

7.8.5 A following aircraft which has not commenced approach at the time a preceding aircraft initiates missed approach, will be held in the holding pattern until the controller is satisfied that he/she can readily separate the aircraft will it also miss its approach.

7.8.6 Appropriate clearance will be given to an aircraft which has initiated a missed approach to maintain separation and to direct is along the prescribed track and subsequently to a departure track to alternate or to return to the holding point and a new EAT will be advised as soon as practicable.

7.8.7 Will separation so require, an aircraft may be required to climb on track different from that prescribed in the instrument approach procedure, provided such tracks meet adequate terrain clearance.

7.9 TRAFFIC INFORMATION IN CONTROLLED AIRSPACE

7.9.1 Essential local traffic information

7.9.1.1 Information on essential local traffic known to the controller will be transmitted without delay to departing and arriving aircraft concerned.

Note 1— Essential local traffic in this context consists of any aircraft, vehicle or personnel on or near the runway to be used, or traffic in the take-off and climb-out area or the final approach area, which may constitute a collision hazard to a departing or arriving aircraft.

7.9.1.2 Essential local traffic will be described so as to be easily identified.

7.9.2 Significant traffic information will be issued by a controller to the pilots of aircraft concerned in the following situations:

a) When planned tracks of VFR flight with less than 1000ft vertical separation will cross

b) When opposite and same direction VFR flight are climbing and descending through the level of other VFR flight.

7.9.3 Traffic information will also be issued to pilots of aircraft concerned when:

a) the aircraft are operating with less than prescribed separation minima due to emergency or other cases.

b) any significant traffic advised by the appropriate ATS unit in respect of aircraft leaving controlled airspace.

7.9.4 Significant traffic information may contain any or all of the following items:

a) call sign of aircraft;
b) aircraft type;
c) levels;
d) direction of flight;
e) estimated or actual time at a position, a reporting point of flight path, or a point of passing or overtaking.

7.9.5 In restricted or danger areas, traffic information will not be provided to or in respect of aircraft using the area for the purpose for which it is established.

CHAPTER 8

SEPARATION METHODS AND MINIMA

8.1 INTRODUCTION

Note 1.— With the exceptions stated below, Chapter 8 contains procedures and procedural separation minima for use in the separation of aircraft in the en-route phase as well as aircraft in the arrival and departure phases of flight.

Note 2. — Procedures and separation minima applicable in the provision of aerodrome control service are contained in Chapter 6.

8.2 PROVISIONS FOR THE SEPARATION OF CONTROLLED TRAFFIC

8.2.1 General

8.2.1.1 Vertical or horizontal separation will be provided:

a) between IFR flights in Class C airspaces;

b) between IFR flights and VFR flights in Class C airspace;

c) between IFR flights and special VFR flights; and

d) between special VFR flights;

8.2.1.2 No clearance will be given to execute any manoeuvre that would reduce the spacing between two aircraft to less than the separation minimum applicable in the circumstances.

8.2.1.3 Larger separations than the specified minima will be applied whenever exceptional circumstances such as unlawful interference or navigational difficulties call for extra precautions. This will be done with due regard to all relevant factors so as to avoid impeding the flow of air traffic by the application of excessive separations.

Note.— Unlawful interference with an aircraft constitutes a case of exceptional circumstances which might require the application of separations larger than the specified minima, between the aircraft being subjected to unlawful interference and other aircraft.

8.2.1.4 Where the type of separation or minimum used to separate two aircraft cannot be maintained, another type of separation or another minimum will

be established prior to the time when the current separation minimum would be infringed.

8.2.2 Degraded aircraft performance

Whenever, flight crew report to the ATC unit about the failure or degradation of navigation, communications, altimetry, flight control or other systems, degradation of aircraft performance below the level required for the airspace in which it is operating, the controller will take action to establish another appropriate type of separation or separation minimum.

8.3 VERTICAL SEPARATION

8.3.1 Vertical separation application

Vertical separation is obtained by requiring aircraft using prescribed altimeter setting procedures to operate at different levels expressed in terms of flight levels or altitudes in accordance with the provisions in Chapter 5, Section 5.15.10.

8.3.2 Vertical separation minimum

The vertical separation minimum (VSM) will be a nominal 300 m (1000 ft)

8.3.3. Level Assignment

8.3.3.1 Assignment of cruising levels for controlled flights

8.3.3.1.1 Except when traffic conditions and coordination procedures permit authorization of cruise climb, an ATC unit will normally authorize only one level for an aircraft beyond its control area, i.e. that level at which the aircraft will enter the next control area whether contiguous or not. It is the responsibility of the accepting ATC unit to issue clearance for further climb as appropriate. When relevant, aircraft will be advised to request en route any cruising level changes desired.

8.3.3.1.2 Aircraft authorized to employ cruise climb techniques will be cleared to operate between two levels or above a level.

8.3.3.1.3 If it is necessary to change the cruising level of an aircraft operating along an established ATS route extending partly within and partly outside controlled airspace and where the respective series of cruising levels are not identical, the change will, whenever possible, be effected within controlled airspace.

8.3.3.1.4 When an aircraft has been cleared into a control area at a cruising level which is below the established minimum cruising level for a subsequent portion of the route, the ATC unit responsible for the area should issue a

revised clearance to the aircraft even though the pilot has not requested the necessary crossing level change.

8.3.3.1.5 An aircraft may be cleared to change crusing level at a specified time, place or rate.

8.3.3.1.6 In so far as practicable, cruising levels of aircraft flying to the same destination will be assigned in a manner that will be correct for an approach sequence at destination.

8.3.3.1.7 An aircraft at a cruising level will normally have priority over other aircraft requesting that cruising level. When two or more aircraft are at the same cruising level, the preceding aircraft will normally have priority.

8.3.3.1.8 The cruising levels, or, in the case of cruise climb, the range of levels, to be assigned to controlled flights will be selected from those allocated in the tables of cruising levels in this manual and AIP.

8.3.3.1.9 Subject to the provision of separation, the aircraft with the first priority will be given the lowest assignable level and higher levels will then be allocated in order to subsequent priority.

8.3.3.2 Assignment of level during climb or descent

An aircraft may be cleared to a level previously occupied by another aircraft after the latter has reported at or passing another level separated by the required minimum except when

a) severe turbulence is known to exist;

b) the higher aircraft is effecting a cruise climb; or

c) There is difference in aircraft performance.

8.4 HORIZONTAL SEPARATION

8.4.1 LATERAL SEPARATION

8.4.1.1 Lateral separation application

8.4.1.1.1 Lateral separation of aircraft is obtained by requiring operation on different routes or in different geographical locations as determined by visual observation, by the use of navigation aids.

8.4.1.1.2 When information is received indicating navigation equipment failure or deterioration below the navigation performance requirements, Simara controller will then, as required, apply alternative separation methods or minima.

8.4.1.2 LATERAL SEPARATION CRITERIA AND MINIMA.

8.4.1.2.1 Means by which lateral separation may be applied include the following:

8.4.1.2.1.1 *By reference to the same or different geographic locations*. By position reports which positively indicate the aircraft are over different geographic locations as determined visually or by reference to a navigation aid (see Figure 8-1).

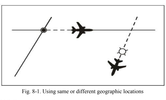


Fig. 8-1 Using same or different geographic locations

8.4.1.2.1.2 By *use of VOR*. By requiring aircraft to fly on specified tracks which are separated by a minimum amount appropriate to the navigation aid or method employed. Lateral separation between two aircraft exists when *VOR*:

Both aircraft are established on radials diverging by at least 15 degrees and at least one aircraft is at a distance of 28 km (15 NM) or more from the facility (see Figure 8-2, 8-3 and 8-4);

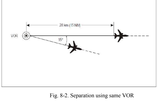


Fig. 8-2. Separation using same VOR

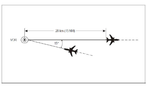


Fig. 8-3. Separation using same VOR

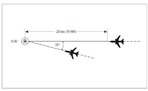


Fig. 8-4. Separation using same VOR

8.4.1.2.1.3 For intersecting tracks, the entry points to and the exit points from the area in which lateral distance between the tracks is less than the required minimum are termed lateral separation points.

8.4.1.2.1.4 Lateral separation exists between two aircraft when at least one of the aircraft is outside the area of conflict.

8.4.1.2.1.5 *Transitioning into airspace where a greater lateral separation minimum applies.*

Lateral separation will exist when aircraft are established on specified tracks which:
a) are separated by an appropriate minimum; and

b) diverge by at least 15 degrees until the applicable lateral separation minimum is established, providing that it is possible to ensure, by means approved by the appropriate ATS authority, that aircraft have the navigation capability necessary to ensure accurate track guidance.

8.4.2 LONGITUDINAL SEPARATION

8.4.2.1 Longitudinal separation application

8.4.2.1.1 Longitudinal separation will be applied so that the spacing between the estimated positions of the aircraft being separated is never less than a prescribed minimum. Longitudinal separation between aircraft following the same or diverging tracks may be maintained by application of speed control.

8.4.2.1.2 In applying a time- or distance-based longitudinal separation minimum between aircraft following the same track, care will be exercised to ensure that the separation minimum will not be infringed whenever the following aircraft is maintaining a higher airspeed than the preceding aircraft. When aircraft are expected to reach minimum separation, speed control will be applied to ensure that the required separation minimum is maintained.

8.4.2.1.3 Longitudinal separation may be established by requiring aircraft to depart at a specified time, to arrive over a geographical location at a specified time, or to hold over a geographical location until a specified time.

8.4.2.1.4 For the purpose of application of longitudinal separation, the terms *same track*, *reciprocal tracks* and *crossing tracks* will have the following meanings:

a) Same track (see Figure 8-5):

Same direction tracks and intersecting tracks or portions thereof, the angular difference of which is less than 45 degrees or more than 315 degrees, and whose protected airspaces overlap.

b) Reciprocal tracks (see Figure 8-6):

Opposite tracks and intersecting tracks or portions thereof, the angular difference of which is more than 135 degrees but less than 225 degrees, and whose protected airspaces overlap.

c) Crossing tracks (see Figure 8-7):

Intersecting tracks or portions thereof other than those specified in a) and b) above.

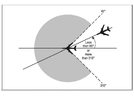


Fig. 8-5. Aircraft on same track

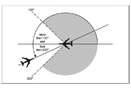


Fig. 8-6. Aircraft on reciprocal tracks

Fig. 8-7. Aircraft on crossing tracks

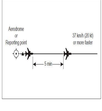
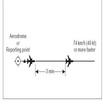
8.4.2.1.5 Simara tower applies separation provision within Aerodrome traffic zone and Control zone. The airspace and route outside this area is uncontrolled. Because of this limited control airspace, all longitudinal separation provisions mentioned in MATS Nepal may not be practicable to apply; so, Simara controllers will apply longitudinal separation provisions mentioned in MATS, Nepal whenever it is practicable. Some of the methods which may be or are more applicable are mentioned hereunder:

8.4.2.2 Longitudinal separation minima based on time

8.4.2.2.1 ***Aircraft maintaining the same level* and *aircraft flying on the same track:***

a) 5 minutes in the following cases, provided that in each case the preceding aircraft is maintaining a true airspeed of 37 km/h (20 kt) or more faster than the succeeding aircraft (see Figure 8-8):

b) 3 minutes in the cases listed under c) provided that in each case the preceding aircraft is maintaining a true airspeed of 74 km/h (40 kt) or more faster than the succeeding aircraft (see Figure 8-9).

Fig. 8-8. Five Min. Separation between aircraft on same track and same level	**Fig. 8-9. Three Min. Separation between aircraft on same track and same level**
	

8.4.2.3 Longitudinal separation minima based on distance using DME.

Note:— Where the term "on track" is used in the provisions relating to the application of longitudinal separation minima using DME, it means that the aircraft is flying either directly inbound to or directly outbound from the station.

8.4.2.3.1 Separation will be established by maintaining not less than specified distance(s) between aircraft positions as reported by reference to DME in conjunction with other appropriate navigation aids. This type of separation will be applied between two aircraft using DME; direct controller-pilot VHF voice communication will be maintained while such separation is used.

8.4.2.3.2 Aircraft at the same cruising level and same track

a) 37 km (20 NM), provided:

1) each aircraft utilizes:
   i. the same "on-track" DME station when both aircraft are utilizing DME; or
   ii. an "on-track" DME station and a collocated waypoint when one aircraft is utilizing DME and the other is utilizing GNSS; or
   iii. the same waypoint when both aircraft are utilizing GNSS; and

2) separation is checked by obtaining simultaneous DME and/or GNSS readings from the aircraft at frequent intervals to ensure that the minimum will not be infringed

b) 19 km (10 NM), provided:

1) the leading aircraft maintains a true airspeed of 37 km/h (20 kt) or more faster than the succeeding aircraft;
2) each aircraft utilizes the same "on-track" DME station when both aircraft are utilizing DME; or
3) separation is checked by obtaining simultaneous DME readings from the aircraft at such intervals as are necessary to ensure that the minimum is established and will not be infringed (see Figure 8-10).

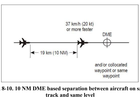


Fig. 8-10. 10 NM DME based separation between aircraft on same track and same level

8.4.2.3.3 Aircraft at the same cruising level and on crossing track

The longitudinal separation prescribed in 8.5.2.3.1 will also apply provided each aircraft reports distance from the DME station at the crossing point of the tracks and that the relative angle between the tracks is less than 90 degrees (see Figures 8-11).

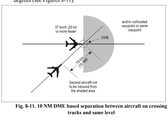


Fig. 8-11. 10 NM DME based separation between aircraft on crossing tracks and same level

8.4.2.3.4 ***Aircraft climbing and descending***

8.4.2.3.4.1 *Aircraft on the same track:* 19 km (10 NM) while vertical separation does not exist, provided:

a) each aircraft utilizes the same "on-track" DME station when both aircraft are utilizing DME; or

b) one aircraft maintains a level while vertical separation does not exist; and

c) separation is established by obtaining simultaneous DME (see Figures 8-12A and 8-12B).

Note.— To facilitate application of the procedure where a considerable change of level is involved, a descending aircraft may be cleared to some convenient level above the lower aircraft, or a climbing aircraft to some convenient level below the higher aircraft, to permit a further check on the separation that will be obtained while vertical separation does not exist.

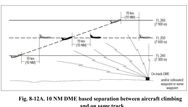


Fig. 8-12A. 10 NM DME based separation between aircraft climbing and on same track

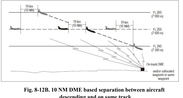


Fig. 8-12B. 10 NM DME based separation between aircraft descending and on same track

8.4.2.3.4.2 *Aircraft on reciprocal tracks.* Aircraft utilizing on-track DME may be cleared to climb or descend through the levels occupied by other aircraft

utilizing on-track DME, provided that it has been positively established that the aircraft have passed each other and are at least 10 NM apart.

8.5 SEPARATION OF AIRCRAFT HOLDING IN FLIGHT

8.5.1 Aircraft established in adjacent holding patterns will, except when lateral separation between the holding areas exists, be separated by the applicable vertical separation minimum.

8.5.2 Except when lateral separation exists, vertical separation will be applied between aircraft holding in flight and other aircraft, whether arriving, departing or en route, whenever the other aircraft concerned are within five minutes flying time of the holding area. (See Figure 8-13)

Fig. 8-13. Separation between holding aircraft and en-route aircraft

8.6 MINIMUM SEPARATION BETWEEN DEPARTING AIRCRAFT

Note — The following provisions are complementary to the longitudinal separation minima specified in Section 8.4.2.

8.6.1 One-minute separation is required if aircraft are to fly on tracks diverging by at least 45 degrees immediately after take-off so that lateral separation is provided (see Figure 8-14).

Note 1 — Wake turbulence categories of aircraft are contained in Chapter 3, Section 3.14 and longitudinal separation minima are contained in Section 8.8

Note 2 — Detailed characteristics of wake vortices and their effect on aircraft are contained in the Air Traffic Services Planning Manual (Doc 9426), Part II, Section 5.

8.6.2 Two minutes are required between take-offs when the preceding aircraft is 74 km/h (40 kt) or more faster than the following aircraft and both aircraft will follow the same track (see Figure 8-15).

8.6.3 Five-minute separation is required while vertical separation does not exist if a departing aircraft will be flown through the level of a preceding departing aircraft and both aircraft propose to follow the same track (see Figure 8-16). Action will be taken to ensure that the five-minute separation will be maintained or increased while vertical separation does not exist.

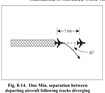


Fig. 8-14. One Min. separation between departing aircraft following tracks diverging by at least 45 degree

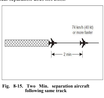


Fig. 8-15. Two Min. separation aircraft following same track

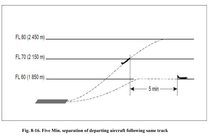


Fig. 8-16. Five Min. separation of departing aircraft following same track

8.7 SEPARATION OF DEPARTING AIRCRAFT FROM ARRIVING AIRCRAFT

8.7.1 Except as otherwise prescribed by the appropriate ATS authority, the following separation will be applied when take-off clearance is based on the position of an arriving aircraft.

8.7.1.1 If an arriving aircraft is making a complete instrument approach, a departing aircraft may take off:

a) in any direction until an arriving aircraft has started its procedure turn or base turn leading to final approach;

b) in a direction which is different by at least 45 degrees from the reciprocal of the direction of approach after the arriving aircraft has started procedure turn or base turn leading to final approach, provided that the take-off will be made at least 3 minutes before the arriving aircraft is estimated to be over the beginning of the instrument runway (see Figure 8-13).

8.7.1.2 If an arriving aircraft is making a straight-in approach, a departing aircraft may take off:

a) in any direction until 5 minutes before the arriving aircraft is estimated to be over the instrument runway;

b) in a direction which is different by at least 45 degrees from the reciprocal of the direction of approach of the arriving aircraft:

1) until 3 minutes before the arriving aircraft is estimated to be over the beginning of the instrument runway (see Figure 8-17); or

2) before the arriving aircraft crosses a designated fix on the approach track, the location of such fix to be determined by the appropriate ATM Department, Air Navigation Safety Directorate, CAAN after consultation with the operators.

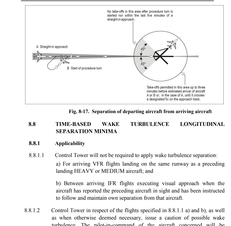


Fig. 8-17. Separation of departing aircraft from arriving aircraft

8.8 TIME-BASED WAKE TURBULENCE LONGITUDINAL SEPARATION MINIMA

8.8.1 Applicability

8.8.1.1 Control Tower will not be required to apply wake turbulence separation:

a) For arriving VFR flights landing on the same runway as a preceding landing HEAVY or MEDIUM aircraft; and

b) Between arriving IFR flights executing visual approach when the aircraft has reported the preceding aircraft in sight and has been instructed to follow and maintain own separation from that aircraft.

8.8.1.2 Control Tower in respect of the flights specified in 8.8.1.1 a) and b), as well as when otherwise deemed necessary, issue a caution of possible wake turbulence. The pilot-in-command of the aircraft concerned will be responsible for ensuring that the spacing from a preceding aircraft of a heavier wake turbulence category is acceptable. If it is determined that additional spacing is required, the flight crew will inform the Control Tower accordingly, stating their requirements.

8.8.2 Arriving aircraft

8.8.2.1 Except as provided for in 8.8.1.1 a) and b), the following separation minima will be applied.

8.8.2.1.1 The following minima will be applied to aircraft landing behind a HEAVY or a MEDIUM aircraft:

a) MEDIUM aircraft behind HEAVY aircraft — 2 minutes;
b) LIGHT aircraft behind a HEAVY or MEDIUM aircraft — 3 minutes.

8.8.3 Departing aircraft

8.8.3.1 A minimum separation of 2 minutes will be applied between a LIGHT or MEDIUM aircraft taking off behind a HEAVY aircraft or a LIGHT aircraft taking off behind a MEDIUM aircraft when the aircraft are using the same runway;

8.8.3.2 A separation minimum of 3 minutes will be applied between a LIGHT or MEDIUM aircraft when taking off behind a HEAVY aircraft or a LIGHT aircraft when taking off behind a MEDIUM aircraft from an intermediate part of the same runway.

8.8.4 Displaced landing threshold

A separation minimum of 2 minutes will be applied between a LIGHT or MEDIUM aircraft and a HEAVY aircraft and between a LIGHT aircraft and a MEDIUM aircraft when operating on a runway with a displaced landing threshold when:

a) a departing LIGHT or MEDIUM aircraft follows a HEAVY aircraft arrival and a departing LIGHT aircraft follows a MEDIUM aircraft arrival; or

b) an arriving LIGHT or MEDIUM aircraft follows a HEAVY aircraft departure and an arriving LIGHT aircraft follows a MEDIUM aircraft departure if the projected flight paths are expected to cross.

8.8.5 opposite direction

A separation minimum of 2 minutes will be applied between a LIGHT or MEDIUM aircraft and a HEAVY aircraft and between a LIGHT aircraft and a MEDIUM aircraft when the heavier aircraft is making a low or missed approach and the lighter aircraft is:

a) Utilizing an opposite-direction runway for take-off; or

Note.— See Figure 8-18.

b) landing on the same runway in the opposite direction,

Note.— See Figure 8-19.

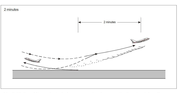


Fig. 8-18. Two Min. wake turbulence separation for opposite direction take-off

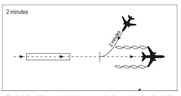


Fig. 8-19. Two Min. wake turbulence separation for opposite direction landing

8.9 REDUCTION IN SEPARATION MINIMA

Note. — See also Chapter 12, ATS Safety Management.

8.9.1 Provided an appropriate safety assessment has shown that an acceptable level of safety will be maintained, and after prior consultation with users, the separation minima detailed in 8.4.1 and 8.4.2 may be reduced as determined by the appropriate ATS authority

CHAPTER 9

COORDINATION

9.1 COORDINATION IN RESPECT OF THE PROVISION OF AIR TRAFFIC CONTROL SERVICE

9.1.1 To reduce the verbal communication, avoid conflicts and clarify area of responsibility of all adjacent control units, SICAO has signed letter of agreement(LOA) with Kathmandu Approach Control unit(APP) as per guidance of MATS Nepal.

Coordination between Kathmandu APP and Simara Control tower will be affected as specified in letter of agreement. *Refer Appendix - A*

9.1.1.1 Exchange of movement and control data

9.1.1.1.1 Control tower will keep the Kathmandu APP promptly advised of pertinent data on controlled traffic as specified in letter of agreement. Refer *Appendix - A*

9.1.1.1.2 The Kathmandu APP will keep the Simara Control tower promptly advised of pertinent data on controlled traffic as specified in letter of agreement. Refer *Appendix -A*

9.2 COORDINATION IN RESPECT OF THE PROVISION OF FLIGHT INFORMATION SERVICE AND ALERTING SERVICE

9.2.1 Coordination between Kathmandu APP, AFIS aerodrome and other Control towers which provides flight information service adjacent to Simara control zone will be effected, in order to ensure continued flight information service to such aircraft in specified areas or along specified routes. Such coordination will be effected in accordance with an agreement between the Control towers concerned.

9.2.2 Where coordination of flights is effected in accordance with 9.2.1, this will include transmission of the following information on the flight concerned:

a) appropriate items of the current flight plan; and

b) the time at which last contact was made with the aircraft concerned.

9.2.3 This information will be forwarded to the concerned Control tower in which the aircraft will operate prior to the aircraft entering such unit.

9.2.4 As specified in the letter of agreement between the appropriate Control towers to assist in the identification of strayed or unidentified aircraft and thereby eliminate or reduce the need for interception, flight plan and flight progress information for flights along will be provided to the concerned Control towers or AFIS aerodromes.

9.2.5 In circumstances where an aircraft has declared minimum fuel or is experiencing an emergency or in any other situation wherein the safety of the aircraft is not assured, the type of emergency and/or the circumstances experienced by the aircraft will be reported by the transferring unit to the accepting unit and any other Control tower that may be concerned with the flight and to the associated rescue coordination centers, if necessary.

9.2.6. Coordination will be accomplished by Simara TWR with Meteorological station Office/ Airline Operators in accordance with procedures detailed in the appropriate Letter of Agreement (LOA) attached in appendices 8& C. Those LOAs will be affected immediately after getting approval from the DGCA.

CHAPTER 10

PHRASEOLOGIES

10.1 COMMUNICATIONS PROCEDURES

The communications procedures will be in accordance with Volume II of Annex 10 — *Aeronautical Telecommunications*, and pilots, ATS personnel and other ground personnel will be thoroughly familiar with the radiotelephony procedures contained therein.

10.2 GENERAL

Note.— Requirements for read back of clearances and safety-related information are provided in Chapter 5, 5.10.2.5.

10.2.1 Most phraseology contained in Section 10.3 of this Chapter show the text of a complete message without call signs. They are not intended to be exhaustive, and when circumstances differ, pilots, ATS personnel and other ground personnel will be expected to use plain language, which will be as clear and concise as possible, to the level specified in the ICAO language proficiency requirements contained in PELR, in order to avoid possible confusion by those persons using a language other than one of their national languages.

10.2.2 The phraseologies are grouped according to types of air traffic service for convenience of reference. However, users will be familiar with, and use as necessary, phraseologies from groups other than those referring specifically to the type of air traffic service being provided. All phraseologies will be used in conjunction with call signs (aircraft, ground vehicle, ATC or other) as appropriate. Provisions for the compilation of RTF messages, call signs and procedures are contained in Annex 10, Volume II, and Chapter 5.

10.2.3 Section 10.3 includes phrases for use by pilots, ATS personnel and other ground personnel.

10.2.6 Phraseologies for the movement of vehicles, other than tow-tractors, on the manoeuvring area will be the same as those used for the movement of aircraft, with the exception of taxi instructions, in which case the word "PROCEED" will be substituted for the word "TAXI" when communicating with vehicles.

10.2.7 Conditional phrases, such as "behind landing aircraft" or "after departing aircraft", will not be used for movements affecting the active runway(s), except when the aircraft or vehicles concerned are seen by the appropriate

controller and pilot. The aircraft or vehicle causing the condition in the clearance issued will be the first aircraft/vehicle to pass in front of the other aircraft concerned. In all cases a conditional clearance will be given in the following order and consist of:

a) identification;
b) the condition;
c) the clearance; and
d) brief reiteration of the condition, for example:

"BHA553, BEHIND JETSTREAM AIRCRAFT ON SHORT FINAL, LINE UP BEHIND".

Note.— This implies the need for the aircraft receiving the conditional clearance to identify the aircraft or vehicle causing the conditional clearance.

10.2.8 The phraseology in Section 10.3 does not include phrases and regular radiotelephony procedure words contained in Annex 10, Volume II.

10.2.9 Words in parentheses indicate that specific information, such as a level, a place or a time, etc., will be inserted to complete the phrase, or alternatively that optional phrases may be used. Words in square parentheses indicate optional additional words or information that may be necessary in specific instances.

10.2.10 Examples of the application of the phraseologies may be found in the *Manual of Radiotelephony* (Doc 9432).

10.3 ATS PHARASEOLOGIES

GENERAL

10.3.1. DESCRIPTION OF LEVELS (Subsequently Referred to as "Level")	a) **FLIGHT LEVEL** (number); or **b)** (number) **FEET.**
10.3.2. LEVEL CHANGES, REPORTS AND RATES …instruction that a climb (or descent) to a level within the vertical range defined is to commence	a) **CLIMB (or DESCEND);** followed as necessary by; **(i) TO (level)** (ii) **TO AND MAINTAIN BLOCK** (level) **TO** (level) (iii) **TO REACH** (level) **AT (or BY)** (time or significant point); **(iv) REPORT LEAVING (or REACHING, or PASSING)** (level) **(v) AT** (number) **FEET PER MINUTE (OR GREATER (OR LESS));** b) **MAINTAIN AT LEAST** (number) **FEET ABOVE (or BELOW)** (aircraft call sign) c) **REQUEST LEVEL (or FLIGHT LEVEL or ALTITUDE CHANGE FROM** (name of unit) [AT (time or significant point)] d) **STOP CLIMB (or DESCENT) AT** (level); e) **CONTINUE CLIMB (OR DESCENT) TO** (level) f) **EXPEDITE CLIMB (or DESCENT)[UNTIL PASSING** (level)]

...to require action at a specific time or place ... to require action when convenient ...to require an aircraft to climb or descend maintaining own separation and VMC ...when there is doubt that an aircraft can comply with a clearance or instruction ...when pilot is unable to comply with a clearance or instruction	g) **WHEN READY CLIMB (or DESCEND) TO (level)** h) **EXPECT CLIMB (or DESCENT) AT** (time or Significant point) i) *** REQUEST DESCENT AT (time)** j) **IMMEDIATELY;** k) **AFTER PASSING** (significant point) l) **AT** (time or significant point) m) **WHEN READY** (instruction); n) **MAINTAIN OWN SEPARATION AND VMC [FROM (level)] [TO (level)]** o) **MAINTAIN OWN SEPARATIN AND VMC** p) **IF UNABLE** (alternative instructions) **AND ADVISE**; q) *** UNABLE;** * Denotes pilot transmission.

.. after a flight crew starts to deviate from any ATC clearance or an instruction to comply with an ACAS resolution advisory (RA) (Pilot and controller interchange)	r) * **TCAS RA;** s) **ROGER** t) * **CLEAR OF CONFLICT RETURNING TO** (assigned clearance);
.. after the response to an ACAS RA is completed and a return to the ATC clearance or instruction is initiated (Pilot and controller interchange)	u) **ROGER** (or alternative instructions)
.. after the response to an ACAS RA is completed and the assigned ATC clearance or instruction has been resumed (Pilot and controller interchange)	v) ***CLEAR OF CONFLICT** (assigned clearance) **RESUMED**; w) **ROGER** (or alternative instructions);
.. after an ATC clearance or instruction contradictory to the ACAS RA is received, the flight crew will follow the RA and inform ATC directly (Pilot and controller interchange)	x) * **UNABLE, TCAS RA;** y) **ROGER**
.. Clearance to climb on a SID which has published level and/or speed restrictions, where the pilot is to climb to the cleared level and comply with published level restrictions, follow the lateral profile of the SID and comply with published speed restrictions or ATC issued speed control instructions as applicable.	z) **[CLIMB VIA SID TO** *(level)***], CANCEL LEVEL RESTRICTION(S);**
.. clearance to cancel level restriction(s) of the vertical profile of a SID during climb	aa) **[CLIMB VIA SID TO** *(level)***], CANCEL LEVEL RESTRICTION(S);**
.. clearance to cancel specific level restriction of the vertical profile of a SID during climb	bb)**[CLIMB VIA SID TO** *(level)***], CANCEL LEVEL RESTRICTION(S) AT** *(point(s))*;
.. clearance to cancel speed restrictions of a SID during climb	cc) **[CLIMB VIA SID TO** *(level)***], CANCEL SPEED RESTRICTION(S);**
.. clearance to cancel specific speed restrictions of a SID during climb	dd)**[CLIMB VIA SID TO** *(level)***], CANCEL SPEED RESTRICTION(S) AT** *(point(s))*;

.. clearance to climb and to cancel speed and level restrictions of a SID	ee) **CLIMB UNRESTRICTED TO** *(level)* (or) **CLIMB TO** *(level)*,
.. clearance to descend on a STAR which has published level and/or speed restrictions, where the pilot is to descend to the cleared level and comply with published level restrictions, follow the lateral profile of the STAR and comply with published speed restrictions or ATC issued speed control instructions.	ff) **DESCEND VIA STAR TO** *(level)*; **CANCEL LEVEL AND SPEED RESTRICTIONS;**
.. clearance to cancel level restriction(s) of the vertical profile of a STAR during descent.	gg) **[DESCEND VIA STAR TO** *(level)*], **CANCEL LEVEL RESTRICTION(S);**
.. clearance to cancel specific level restrictions of a STAR during descent	hh) **[DESCEND VIA STAR TO** *(level)*], **CANCEL LEVEL RESTRICTION(S) AT** *(point(s))*;
.. clearance to cancel speed restrictions of a STAR during descent	ii) **[DESCEND VIA STAR TO** *(level)*], **CANCEL SPEED RESTRICTION(S);**
.. clearance to cancel specific speed restrictions of a STAR during descent	jj) **[DESCEND VIA STAR TO** ***(level)*], CANCEL SPEED RESTRICTION(S) AT** *(point(s))*;
.. clearance to descend and to cancel speed and level restrictions of a STAR	kk) **DESCEND UNRESTRICTED TO** ***(level)* or DESCEND TO** *(level)*, **CANCEL LEVEL AND SPEED RESTRICTIONS,**
10.3.3 MINIMUM FUEL	**a) * MINIMUM FUEL;** **b) ROGER [NO DELAY EXPECTED or EXPECT** *(delay information)*].

10.2.4 TRANSFER OF CONTROL AND/OR FREQUENCY CHANGE *Note.— An aircraft may be requested to "STAND BY" on a frequency when it is intended that the ATS unit will initiate communications soon and to "MONITOR" a frequency when information is being broadcast thereon.*	a) **CONTACT** (unit call sign) (frequency) [**NOW**]; b) AT (or **OVER**) (time or place) [or **WHEN PASSING**/**LEAVING**/**REACHING**] (level) **CONTACT** (unit call sign) (frequency); c) **IF NO CONTACT** (instructions); d) **STAND BY FOR** (unit call sign) (frequency) ; e) * **REQUEST CHANGE TO** (frequency); f) **FREQUENCY CHANGE APPROVED;** g) **MONITOR** (unit call sign) (frequency); h) * **MONITORING** (frequency); i) **WHEN READY CONTACT** (unit call sign) (frequency); j) **REMAIN THIS FREQUENCY.**

10.2.5. CHANGE OF CALL SIGN ... to instruct an aircraft to change its type of call sign ... to advise an aircraft to revert to the call sign indicated in the flight plan	a) **CHANGE YOUR CALL SIGN TO** (new call sign) [**UNTIL FURTHER ADVISED**]; b) **REVERT TO FLIGHT PLAN CALL SIGN** (call sign) [**AT** (significant point)].

10.2.6. TRAFFIC INFORMATION ... to pass traffic information ... to acknowledge traffic information	a) **TRAFFIC** (information); b) **NO REPORTED TRAFFIC** c) ***LOOKING OUT;** d) *** TRAFFIC IN SIGHT;** e) ***NEGATIVE CONTACT** [reasons]; f) [**ADDITIONAL**] **TRAFFIC** (direction) **BOUND** g) (type of aircraft) (level) **ESTIMATED** (or **OVER**) (significant point) **AT** (time).
10.2.7. METEOROLOGICAL CONDITIONS	a) **[SURFACE] WIND** (number) **DEGREES** (speed) (units); b) **WIND AT** (level) (number) **DEGREES** (number) **KNOTS**; Note :- Wind is always expressed by giving the mean direction and speed and any significant variations thereof. c) **VISIBILITY** (distance) (units) [direction]; d) **PRESENT WEATHER** (details); e) **CLOUD** (amount,[type]) and height of base) (unit) (or **SKY CLEAR**); f) **CAVOK;** [Note :- CAVOK pronounced CAV-O-KAY] g) **TEMPERATURE** [**MINUS**] (number) (and/or **DEW-POINT** [**MINUS**] (number); h) **QNH** (number) [units]; i) (aircraft type) **REPORTED** (description) **ICING** (or **TURBULENCE**) **[IN CLOUD]** (area) (time). j) **REPORT FLIGHT CONDITIONS.**

10.2.8 POSITION REPORTING ... to omit position reports until a specific position	a) **NEXT REPORT AT** (significant point) b) **OMIT POSITION REPORTS** [UNTIL (specify)]; c) **RESUME POSITION REPORTING**
10.2.9. ADDITIONAL REPORTS ... to request a report at a specified place or distance ...to report at a specified place or distance ...to request a report of present position ... to report present position	a) **REPORT PASSING** (significant point) b) **REPORT** (distance) **MILES (GNSS or DME) FROM** (name of DME station) (or significant point); c) * (distance) **MILES (GNSS or DME) FROM** (name of DME station) (or significant point) d) **REPORT PASSING** (three digits) **RADIAL** (name of VOR) **VOR;** e) **REPORT (GNSS** or **DME) DISTANCE FROM** (significant point) or (name of DME station); f) * (distance) **MILES (GNSS** or **DME) FROM** (name of DME station) (or significant point)
10.2.10. AERODROME INFORMATION	a) [(location)] **RUNWAY SURFACE CONDITION RUNWAY** (number) (condition); b) [(location)] **RUNWAY SURFACE CONDITION RUNWAY** (number) **NOT CURRENT;** c) **LANDING SURFACE** (condition); d) **CAUTION CONSTRUCTION WORK** (location); e) **CAUTION (specify reasons) RIGHT** (or **LEFT),** (or **BOTH SIDES) OF RUNWAY** [number];

f) **CAUTION WORK IN PROGRESS** [or **OBSTRUCTION**] (position and any necessary advice);

g) **RUNWAY REPORT AT** (observation time) **RUNWAY** (number) (type of precipitant) **UP TO** (depth of deposit) **MILLIMETRES**, **BRAKING ACTION GOOD** [or **MEDIUM TO GOOD, or MEDIUM, or MEDIUM TO POOR**, or **POOR** or **UNREALIABLE**) [and/or **BRAKING COEFFICIENT** (equipment and number);

h) **BRAKING ACTION REPORTED BY** (aircraft type) **AT** (time) **GOOD** (or **MEDIUM** or **POOR**);

i) **BRAKING ACTION** [(location)] (measuring equipment used), **RUNWAY** (number), **TEMPERATURE** [**MINUS**] (number), **WAS** (reading) [**AT** (time);

j) **RUNWAY** (or **TAXIWAY**) (number) **WET** [or **DAMP, WATER PATCHES, FLOODED** (depth), or **SNOW REMOVED** (length and width as applicable), or **TREATED, or COVERED WITH PATCHES OF DRY SNOW (or WET SNOW, or COMPACTED SNOW, or SLUSH, or FROZEN SLUSH, or ICE, or ICE UNDERNEATH, or ICE AND SNOW,** or **SNOWDRIFTS**, or **FROZEN RUTS AND RIDGES**];

k) **TOWER OBSERVES** (weather information);

l) **PILOT REPORTS** (weather information).

10.2.11, OPERATIONAL STATUS OF VISUAL AND NON- VISUAL AIDS	a) (specify visual or non-visual aid) **RUNWAY** (number) (description of deficiency); b) (type) **LIGHTING** (unserviceability); c) **TAXIWAY LIGHTING** (description of deficiency); d) (type of visual approach slope indicator or other Approach aids) **RUNWAY** (number) (description of deficiency);
10.2.12, ISSUANCE OF A CLEARANCE	**a)** *(name of unit)* **CLEARS** *(aircraft call sign)*; b) (aircraft call sign) **CLEARED TO**; c) **RECLEARED** (amended clearance details) [**REST OF CLEARANCE UNCHANGED**]; d) **RECLEARED** (amended route portion) **TO** (significant point of original route) [**REST OF CLEARANCE UNCHANGED**]; e) **ENTER CONTROLLED AIRSPACE** (or **CONTROL ZONE**) [**VIA** (significant point or route)] **AT** (level) [**AT** (time)]; f) **LEAVE CONTROLLED AIRSPACE** (or **CONTROL ZONE**)[**VIA** (significant point or route)] **AT** (level) (or **CLIMBING**, or **DESCENDING**); g) **JOIN** (specify) **AT** (significant point) AT (level) [**AT** (time)].

10.3.13. INDICATION OF ROUTE AND CLEARANCE LIMIT	a) **FROM** (location) **TO** (location) b) **TO** (location) Followed as necessary by: I. **DIRECT** II. **VIA** (route and/or significant points); III. **FLIGHT PLANNED ROUTE**; IV. **VIA** (distance **DME ARC** (direction) **OF** (name of DME station) c) (route) **NOT AVAILABLE DUE** (reason) **ALTERNATIVE(S) IS/ ARE** (route) **ADVISE.**
10.3.14. MAINTENANCE OF SPECIFIED LEVELS	a) **MAINTAIN** (level) [**TO** (significant point)]; b) **MAINTAIN** (level) **UNTIL PASSING** (significant point); c) **MAINTAIN** (level) **UNTIL** (minutes) **AFTER PASSING** (significant point); d) **MAINTAIN** (level) **UNTIL** (time); e) **MAINTAIN** (level) **UNTIL ADVISED BY** (name of unit); f) **MAINTAIN** (level) **UNTIL FURTHER ADVISED**; g) **MAINTAIN** (level) **WHILE IN CONTROLLED AIRSPACE**; **MAINTAIN BLOCK** (level) TO (level) Note: - The term "**MAINTAIN**" is not to be used in lieu of "**DESCEND**" or "**CLIMB**" when instructing an aircraft to change level.

10.2.15. SPECIFICATION OF CRUISING LEVELS	a) **CROSS** (significant point) **AT** (or **ABOVE**, or **BELOW**) (level); b) **CROSS** (significant point) **AT** (time) **OR LATER** (or **BEFORE**) **AT** (level); c) **CRUISE CLIMB BETWEEN** (levels) (or **ABOVE** (levels); d) **CROSS** (distance) **MILES**, (GNSS or DME) [(direction)] **OF** (name of DME station) (or distance) [(direction)] OF (significant point) **AT** (or ABOVE, or BELOW) (level).

10.2.16. EMERGENCY DESCENT	a) ***EMERGENCY DESCENT** (intentions); b) **ATTENTION ALL AIRCRAFT IN THE VICINITY OF** (or **AT**) (significant point or location) **EMERGENCY DESCENT IN PROGRESS FROM** (level) (followed as necessary by specific instructions, clearance, traffic information etc.
10.2.17. IF CLEARANCE CANNOT BE ISSUED IMMEDIATELY UPON REQUEST	**EXPECT CLEARANCE** *(or type of clearance)* **AT** *(time).*
10.2.18. WHEN CLEARANCE FOR DEVIATION CANNOT BE ISSUED	**UNABLE, TRAFFIC** *(direction)* **BOUND** *(type of aircraft) (level)* **ESTIMATED** *(or* **OVER***) (significant point)* **AT** *(time)* **CALL SIGN** *(call sign)* **ADVISE INTENTIONS**

10.3.19 SEPARATION INSTRUCTIONS	a) **CROSS** (significant point) **AT** (time)[**OR LATER** or **OR BEFORE**] b) **ADVISE IF ABLE TO CROSS** (significant point) **AT** (time or level); c) **MAINTAIN** (number) **KNOTS** [**OR GREATER** (or **OR LESS**)] [**UNTIL** (significant point)] d) **DO NOT EXCEED** (number) **KNOTS**
10.3.20 DEPARTURE INSTRUCTIONS ...clearance to proceed direct with advance notice of a future instruction to rejoin the SID	a) [**AFTER DEPARUTE**] **TURN RIGHT** (or **LEFT**) **HEADING** (three digits) (or **CONTINUE RUNWAY HEADING**) (or **TRACK EXTENDED CENTRE LINE**) **TO** (level or signification point) (other instructions as required) b) **AFTER REACHING** (or **PASSING**) (level or significant point) (instruction) c) **TURN RIGHT** (or **LEFT**) **HEADING** (three digits) TO (level) [**TO INTERCEPT** (track, route, airway etc)] d) (standard departure name and number) **DEPARTURE** e) **TRACK** (three digits) **DEGREES** [**MAGNETIC** (or **TRUE**)] TO (or **FROM**) (significant point) **UNTIL** (time, or **REACHING** (fix or significant point or level)) [**BEFORE PROCEEDING ON COURSE**]. f) **CLEARED** (designation) **DEAPRTURE** g) **CLEARED DIRECT** *(waypoint)*, **CLIMB TO** *(level)*, **EXPECT TO REJOIN SID** *[(SID designator)]* **[AT** *(waypoint)*], *then*

	REJOIN SID *[(SID designator)]* **[AT** *(waypoint)*]; b) **CLEARED DIRECT** *(waypoint)*,**CLIMB TO** *(level), then* **REJOIN SID** *(SID designator)* **AT** *(waypoint).*

10.3.21. APPROACH INSTRUCTIONS ...clearance to proceed direct with advance notice of a future instruction to rejoin the STAR ...when cleared to initial holding fix before clearing approach ... when a pilot requests a visual approach ... to request if a pilot is able to accept visual approach	a) **CLEARED** (designation) **ARRIVAL** b) **CLEARED TO** (clearance limit) (designation); c) **CLEARED** (or **PROCEED**) (details of route to be followed); d) **CLEARED DIRECT** *(waypoint),* **DESCEND TO** *(level),* **EXPECT TO REJOIN STAR** *[(STAR designator)]* **AT** *(waypoint),* then **REJOIN STAR** *[(STAR designator)]* **[AT** *(waypoint)];* e) **CLEARED DIRECT** *(waypoint),* **DESCEND TO** *(level),* waypoint, then **REJOIN STAR** *[(STAR designator)]* **[AT** *(waypoint)],* f) **CLEARED** *(type of approach)* **APPROACH [RUNWAY** *(number)];* g) **CLEARED** *(type of approach)* **RUNWAY** *(number)* **FOLLOWED BY CIRCLING TO RUNWAY** *(number);* h) **CLEARED APPROACH [RUNWAY** *(number)];* i) **COMMENCE APPROACH AT** *time);* j) * **REQUEST STRAIGHT-IN** *[(type of approach)]* **APPROACH [RUNWAY** *(number)];* k) **CLEARED STRAIGHT-IN** *(type of approach)]* **APPROACH [RUNWAY** *(number)];* l) **REPORT VISUAL;** m) **REPORT RUNWAY** [LIGHTS] **IN SIGHT;** n) * **REQUEST VISUAL APPROACH;** *o)* **CLEARED VISUAL APPROACH RUNWAY** *(number);* p) **ADVISE ABLE TO ACCEPT VISUAL APPROACH RUNWAY** *(number).*

….in case of successive visual approaches when the pilot of a succeeding aircraft has reported having the preceding aircraft in sight	q) **CLEARED VISUAL APPROACH RUNWAY *(number)*, MAINTAIN OWN SEPARATION FROM PRECEDING** *(aircraft type and wake turbulence category as appropriate)* **[CAUTION WAKE TURBULENCE];** r) **REPORT** (significant point); [**OUTBOUND**, or **INBOUND**]; s) **REPORT COMMENCING PROCEDURE TURN** t) ***REQUEST VMC DESCENT**; u) **MAINTAIN OWN SEPARATION**; v) **MAINTAIN VMC**; w) **ARE YOU FAMILIAR WITH** (name) **APPROACH PROCEDURE**; x) ***REQUEST** *(Type of Approach)* **APPROACH RUNWAY**(number) **APPROACH**; y) ***REQUEST** *(* RNAV plain-language designator*)* z) **CLEARED (**RNAV plain-language designator) * Denotes pilot transmission.
10.3.22. HOLDING CLEARANCE **…** visual … published holding procedure over a facility or fix … when detailed holding clearance is required	a) **HOLD VISUAL [OVER]** (position), (or **BETWEEN** two prominent landmarks)); b) **CLEARED** (or **PROCEED**) **TO** (significant point, name of facility or fix) [**MAINTAIN** (or **CLIMB** or **DESCEND TO**) (level)] **HOLD** [direction] **AS PUBLISHED EXPECT APPRAOCH CLEARANCE** (or **FURTHER CLEARANCE**) **AT** (time) (additional instructions if necessary); c) ***REQUEST HOLDING INSTRUCTIONS;** d) **CLEARED** (or **PROCEED**) **TO** (significant point, name of facility or fix)[**MAINTAIN** (or **CLIMB** or **DESCEND TO**) (level)] **HOLD** [direction] **INBOUND TRACK** (three digits) **DEGREES RIGHT** (or **LEFT**) **HAND PATTERN OUTBOUND TIME** (number) **MINUTE(or MINUTES) EXPECT APPROACH CLEARANCE**) (or **FURTHER CLEARANCE**) **AT** (time) (additional instructions if necessary);

	e) **CLEARED TO THE** (three digits) **RADIAL OF THE** (name) **VOR AT** (distance) **DME FIX** [**MAINTAIN**(or **CLIMB** or **DESCEND TO**) (level)] **HOLD** (directions) **INBOUND TRACK** (three digits) **DEGREES RIGHT** (or **LEFT**) **HAND PATTERN OUTBOUND TIME**(number) **MINUTES** (**it MINUTES**) **EXPECT APPROACH CLEARANCE** (or **FURTHER CLEARANCE**) **AT** (time) (additional instructions if necessary) f) **CLEARED TO THE** (three digits) **RADIAL OF THE** (name) **VOR AT** (distance) **DME FIX** [**MAINTAIN** (or **CLIMB** or **DESCEND TO**) (level)]**HOLD BETWEEN** (distance) **AND** (distance) **DME INBOUND TRACK** (three digits) **DEGREES RIGHT** (or **LEFT**) **HAND PATTERN EXPECT APPROACH CLEARANCE** (or **FURTHER CLEARANCE**)) **AT** (time) (additional instructions if necessary)
10.3.23. EXPECTED APPROACH TIME	a) **NO DELAY EXPECTED**; b) **EXPECTED APPROACH TIME** (time); c) **REVISED EXPECTED APPROACH TIME** (time); d) **DELAY NOT DETERMINED** (reasons).

PHRASEOLOGIES FOR USE ON AND IN THE VICINITY OF THE AERODROME

10.3.24. IDENTIFICATION OF AIRCRAFT	**SHOW LANDING LIGHTS**
10.3.25. ACKNOWLEDGEMENT BY VISUAL MEANS	a) **ACKNOWLEDGE BY MOVING AILERONS** (or **RUDDER**); b) **ACKNOWLEDGE BY ROCKING WINGS**; c) **ACKNOWLEDGE BY FLASHING LANDING LIGHTS**.
10.3.26. STARTING PROCEDURES … to request permission to start engines	a) *[aircraft location]**REQUEST START UP**; b) *[aircraft location]**REQUEST START UP, INFORMATION** (ATIS identification); c) **START UP APPROVED**;

	d) **START UP AT** (time); e) **EXPECT START UP AT (TIME)** f) **START UP AT OWN DISCRETION**; g) **EXPECT DEPARTURE** (time) **START UP AT OWN DISCRETION**.
10.2.27 PUSH-BACK PROCEDURES	a) * [aircraft location] **REQUEST PUSHBACK**; b) **PUSHBACK APPROVED**; c) **STAND BY**; d) **PUSHBACK AT OWN DISCRETION**; e) **EXPECT** (number) **MINUTES DELAY DUE** (reason);
10.2.28. TOWING PROCEDURE … ATC responses	a) ****REQUEST TOW** [company name] (aircraft type) **FROM** (location) **TO** (location); b) **TOW APPROVED VIA** (specified routing to be followed); c) **HOLD POSITION**; d) **STAND BY** ** Denotes transmission from aircraft/tow vehicle combination.

10.3.29. TO REQUEST TIME CHECK AND/OR AERODROME DATA FOR DEPARTURE … when no ATIS broadcast is available	a) * **REQUEST TIME CHECK**; b) **TIME** (time); c) ***REQUEST DEPARTUR INFORMATION;** d) **RUNWAY (NUMBER), WIND** (direction and speed), [units] **QNH** (number) [(units)] **TEMPERATURE** (**MINUS**) (number), [VISIBILITY (distance) (units) (OR **RUNWAY VISUAL RANGE** (or RVR) distance)(units)] [TIME (time)];
10.3.30. TAXI PROCEDURES … for departure	a) *[aircraft type] [wake turbulence category if "heavy"] [aircraft location] **REQUEST TAXI** [intentions]; b) * *[aircraft type] [wake turbulence category if "heavy"] [aircraft location] [flight rules]* **TO** *(aerodrome of destination)* **REQUEST TAXI** *[intentions]*; c) **TAXI TO HOLDING POINT** [number] (**RUNWAY** (number)) **VIA** (specific route to be followed) **TIME** (time) **HOLD SHORT OF RUNWAY** (number) (or **CROSS RUNWAY** (number));

...where detailed taxi instructions are required	d) ** [aircraft type] [wake turbulence category if "heavy"]* , **REQUEST DETAILED TAXI INSTRUCTIONS;**
	e) **TAXI TO HOLDING POINT** *[number]* [RUNWAY *[number]*] **VIA** *(specific route to be followed)* [TIME *(time)*] [HOLD SHORT OF RUNWAY *(number)* (or CROSS RUNWAY *(number)*)],
...where aerodrome information is not available from an alternative source such as ATIS	f) **TAXI TO HOLDING POINT** *[number] (followed by aerodrome information as applicable)* [TIME *(time)*],
	g) **TAKE (or TURN) FIRST (or SECOND) LEFT (or RIGHT);**
	h) **TAXI VIA** *(identification of taxiway);*
	i) **TAXI VIA RUNWAY** (number);
	j) **TAXI TO TERMINAL** (or other location, e.g. **GENERAL AVIATION AREA**) **[STAND** (number)];
...for helicopter operations	k) *** REQUEST AIR-TAXIING FROM** (or **VIA**) **TO** (location or routing as appropriate);
	l) **AIR-TAXI TO (or VIA)** (location or routing as appropriate) **CAUTION** (duel, blowing snow, loose debris, taxiing light aircraft, personnel, etc.)];
...after landing	m) **AIR TAXI VIA** (director, as requested, or specified route) **TO** (location, heliport, operating or movement area, active or inactive runway). **AVOID** (aircraft or vehicles or personnel);
	n) ***REQUEST BACKTRACK;**
	o) **BACKTRACK APPROVED;**
	p) **BACKTRACK RUNWAY** (number);
... general	q) ***[aircraft location] **REQUEST TAXI TO** (destination on aerodrome);
	r) **TAXI STRAIGHT AHEAD.**

	u) **TAXI WITH CAUTION**; t) **GIVE WAY TO** (description and position of other aircraft); aa) * **GIVING WAY TO** (traffic); v) * **TRAFFIC** (or type of aircraft) **IN SIGHT**; w) **TAXI INTO HOLDING BAY**; x) **FOLLOW** (description of other aircraft or vehicle); y) **VACATE RUNWAY** z) * **RUNWAY VACATED;** aa) **EXPEDITE TAXI** (reason); bb) ***EXPEDITING**; cc) [**CAUTION**] **TAXI SLOWER** (reason); dd) * **SLOWING DOWN.**
10.3.31. HOLDING	a) □**HOLD** (direction) **OF** (position, runway number, etc.); b) □**HOLD POSITION**; c) □**HOLD** (distance) **FROM** (position); d) □**HOLD SHORT OF** (position); e) * **HOLDING;** f) *□**HOLDING SHORT.** □ Require specific acknowledgement from the pilot. * Denotes pilot transmission Note: The procedure words ROGER and WILCO is insufficient acknowledgement of the instructions HOLD, HOLD POSITION and HOLD SHORT OF (position). In each case the acknowledgement will be by the phraseology HOLDING or HOLDING SHORT, as appropriate.

10.3.32. TO CROSS A RUNWAY Note: The pilot will, when requested, report "**RUNWAY VACATED**" when the entire aircraft is beyond the relevant runway-holding position.	a) ***REQUEST CROSS RUNWAY** (number) Note: - If the control tower is unable to see the crossing aircraft (e.g. night, low visibility, etc.), the instruction will always be accompanied by a request to report when the aircraft has vacated and is clear of the runway. b) **CROSS RUNWAY** (number) [**REPORT VACATED**]; c) **EXPEDITE CROSSING RUNWAY** (number) **TRAFFIC** (aircraft type) (distance) **MILES FINAL**; d) **TAXI TO HOLDING POINT** [number] **RUNWAY** (number)] **VIA** (specific route to be followed), [**HOLD SHORT OF RUNWAY** (number)] or [**CROSS RUNWAY** (number)]; e) *** RUNWAY VACATED**
10.3.33. PREPARATION FOR TAKE OFF ... if unable to issue take-off clearance ... clearance to enter runway and await take- off clearance ... conditional clearance	a) **UNABLE TO ISSUE** (designator) **DEPARTURE** (reasons); b) **REPORT WHEN READY** [**FOR DEPARTURE**]; c) **ARE YOU READY** [FOR DEPARTURE]?; d) **ARE YOUR READY FOR IMMEDIATE DEPARTURE?;** e) ***READY;** f) **WAIT** [reason]; g) **LINE UP [AND WAIT];** h) **LINE UP RUNWAY** (number); i) **LINE UP, BE READY FOR IMMEDIATE DEPARTURE**; j) (condition) **LINE UP** (brief reiteration of condition);

...acknowledgement of a conditional clearance ...confirmation or otherwise of the read back of conditional clearance	k) *(condition) **LINING UP** (brief reiteration of the condition); l) [**THAT IS**] **CORRECT** (or **I SAY AGAIN**...) (as appropriate).
10.2.14. TAKE-OFF CLEARANCE ...when reduced runway separation is used ...when take-off clearance has not been complied with ...to cancel a take-off clearance ... to stop a take-off after an aircraft has commenced take-off roll ... for helicopter operations	a) **RUNWAY** (number) **CLEARED FOR TAKEOFF [REPORT AIRBORNE]**; b) (traffic information) **RUNWAY** (number) **CLEARED FOR TAKE-OFF**; c) **TAKE OFF IMMEDIATELY OR VACATE RUNWAY** ((instructions)); d) **TAKE OFF IMMEDIATELY OR HOLD SHORT OF RUNWAY**; e) **HOLD POSITION, CANCEL TAKE OFF I SAY AGAIN CANCEL TAKE-OFF** (reasons); f) ***HOLDING**; g) **STOP IMMEDIATELY** ([repeat aircraft call sign]**STOP IMMEDIATELY**); h) * **STOPPING**; i) **CLEARED FOR TAKE-OFF [FROM LOCATION]** (present position, taxiway, final approach and take-off area, runway and number); j) ***REQUEST DEPARTURE INSTRUCTIONS**; k) **AFTER DEPARTURE TURN RIGHT** (or **LEFT** or **CLIMB**) (instructions as appropriate)
10.2.15. TURN OR CLIMB INSTRUCTIONS AFTER TAKE-OFF ... to request airborne time	a) * **REQUEST RIGHT** (or **LEFT**) **TURN**; b) **RIGHT** (or **LEFT TURN APPROVED**; c) **WILL ADVISE LATER FOR RIGHT** (or **LEFT TURN**; d) **REPORT AIRBORNE**; e) **AIRBORNE** (time) f) **AFTER PASSING** (level) (instructions)

... heading to be followed ... when a specific track is to be followed	g) **CONTINUE RUNWAY HEADING** (instructions); h) **TRACK EXTENDED CENTRELINE** (instructions) i) **CLIMB STRAIGHT AHEAD** (instructions).
10.2.3.6. ENTERING AN AERODROME TRAFFIC CIRCUIT ... when ATIS information is available	a) * [aircraft type](position) (level) **FOR LANDING**; b) **JOIN** (direction of circuit) (direction of circuit) (runway number)[**SURFACE**] **WIND** (direction and speed) (units) [**TEMPERATURE** [**MINUS**] (number)] **QNH** (number) [(units)] [**TRAFFIC**/(detail)]; c) **MAKE STRAIGHT-IN APPROCH, RUNWAY** (number) [**SURFACE**] **WIND** (direction and speed) (units)[**TEMPERATUREMINUS**] (number) **QNH** (number) (units)[**TRAFFIC** (detail)]; d) *[aircraft type), (position) (level) **INFORMATION** (ATIS identification) **FOR LANDING**; e) **JOIN** (position in circuit) [**RUNWAY** (number)] **QNH** (number) (units)] [**TRAFFIC** (detail)].
10.2.37. IN THE CIRCUIT	a) * (position in circuit, e.g. **DOWNWIND** / **FINAL**), b) **NUMBER ... FOLLOW** (aircraft type and position) [additional instructions if required].

10.2.37.APPROACH INSTRUCTIONS	**a) MAKE SHORT APPROACH**. b) **MAKE LONG APPROCH** (or **EXTEND DOWNWIND**); c) **REPORT BASE** (or **FINAL**, or **LONG FINAL**); **d) CONTINUE APPROCH** [**PREPARE FOR POSSIBLE GO AROUND**];
10.2.38.LANDING CLEARANCE …when reduced runway separation is used special operations …to make an approach along or parallel to a runway, descending to an agreed minimum level … to fly past the control tower or other observation point for the purpose of visual inspection by persons on the ground. … for helicopter operations	a) **RUNWAY** (number) **CLEARED TO LAND**; b) (traffic information) **RUNWAY** (number) **CLEARED TO LAND**; c) **CLEARED TOUCH AND GO**; **d) MAKE FULL STOP**; e) ***REQUEST LOW APPROACH** (reasons); f) **CLEARED LOW APPROACH** [**RUNWAY** (number)][(altitude restriction if required) (go around instructions)]; g) * **REQUEST LOW PASS** (reasons); h) **CLEARED LOW PASS** [**RUNWAY** (number)][(altitude restriction if required) (go around instructions)]; i) * **REQUEST STRAIGHT-IN** (or **CIRCLING APPROACH**, **LEFT** (or **RIGHT**) **TURN TO** (location)); *j*) **MAKE STRAIGHT-IN** (or **CIRCLING APPROACH**, **LEFT** (or **RIGHT**) **TURN TO** (location, runway, taxiway, final approach and take-off area) [**ARRIVAL** (or **ARRIVAL ROUTE**) (number, name, or code)]. [**HOLD SHORT OF** (active runway, extended runway centre line, other)]. [**REMAIN** (direction or

	distance) **FROM** (runway, runway center line, other helicopter or aircraft)] **[CAUTION** (power lines, unlighted obstructions, wake turbulence, etc.)**] CLEARED TO LAND**.
10.3.39 DELAYING AIRCRAFT	**a) CIRCLE THE AERODROME**[; **b) ORBIT (RIGHT, or LEFT)FROM PRESENT POSITION**]; **c) MAKE ANOTHER CIRCUIT.**
10.3.40. MISSED APPROACH	**a) GO AROUND;** **b) *GOING AROUND**.
10.3.41. INFORMATION TO AIRCRAFT ...when pilot requested visual inspection of landing gear ... wake turbulence ... jet blast on apron or taxiway ... propeller-driven aircraft slipstream	**a) LANDING GEAR APPEARS DOWN;** **b) RIGHT** (or **LEFT**, or **NOSE**) **WHEEL APPEARS UP** (or **DOWN**); **c) WHEELS APPEAR UP**; **d) RIGHT** (or **LEFT**, or **NOSE**) **WHEEL DOES NOT APPEAR UP** (or **DOWN**); **e) CAUTION WAKE TURBULENCE [FROM ARRIVING (or DEPARTING)** (type of aircraft) [*additional information as required*], **f) CAUTION JET BLAST;** **g) CAUTION SLIPSTREAM**.

10.2.42 RUNWAY VACATING AND COMMUNICATIONS AFTER LANDING	**a) CONTACT GROUND** (frequency); **b) WHEN VACATED CONTACT GROUND** (frequency); **c) EXPEDITE VACATING**; **d) YOUR STAND (OR GATE)**[designation]; **e) TAKE** (or **TURN**) **FIRST** (or **SECOND**, or **CONVENIENT**) **LEFT** (or **RIGHT**) **AND CONTACT GROUND** (frequency);
... for helicopter operations	**f) AIR-TAXI TO HELICOPTER STAND** (or) **HELICOPTER PARKING POSITION** (area); **g) AIR-TAXI TO** (or **VIA**) (location or routing as appropriate) [**CAUTION** (dust, blowing snow, loose debris, taxiing light aircraft, personnel, etc.)]; **h) AIR TAXI VIA** (direct, as requested, or specified route) **TO** (location heliport, operating or movement area, active or inactive runway). **AVOID** (aircraft or vehicles or personnel).

CHAPTER 11

TRAINING AND RATING PROGRAM

11.1 INTRODUCTION

11.1.1 This Chapter sets out the standards for a Training and Rating program.

11.2 TRAINING

11.2.1 Personnel involved in ATS provision will be trained adequately. For this purpose OJTI will prepare a training plan according to 11.4 and conduct training for all ATS trainees.

11.2.2 A Training and Rating program will ensure that an individual performing a function in conjunction with any air traffic services is competent to perform that function.

11.2.3 The provisions for ATC license and rating are prescribed in Personnel Licensing Requirements (PELR) and Manual of Standards Licensing/ Rating of ATC Personnel.

11.3 COMPETENCY

13.5.1 An individual is competent if he/she:

a) licensed, where the function can only be performed by the holder of a license;
b) rated, where the function can only be performed by the holder of an appropriate rating;
c) endorsed, where the function can only be performed by the holder of an appropriate endorsement;
d) qualified, where the function can only be performed by the holder of an appropriate qualification;
e) trained and proven to be proficient in the performance of functions that are not covered by sub-paragraphs (a) to (d) above; and
f) recent in the performance of the function and knowledge and skills in emerging matters identified as essential to task performance.

11.4 TRAINIG PROGRAM

The Following training programme are adopted by the SICAO and all trainings programme will be conducted by OJTI subject to the availability of manpower and facilities.

11.4.1 UNIT TRAINING PLAN

11.4.1.1 Manual of ATS Standard Nepal (MATS-Nepal) requires that ATC Tower will have Unit Training Plan (UTP) approved by the Licensing Authority. The UTP will detail the processes by which student air traffic controllers are trained. Student air traffic controllers will require specific unit training in addition to basic training before commencing OJT. The UTP will also be applicable to newly transferred ATC as he/she has to work in local environment with different procedures, equipment and system; local weather and traffic pattern.

11.4.1.2 The UTP will be conducted by OJTI.

11.4.1.3 The SICAO will prepare the plan in accordance with the provision of MATS Nepal 2014 and submit for the approval from licensing authority.

11.4.1.4 UTP will cover the following phases of training:

a) transitional training;

b) pre on-the-job training;

c) On-the-job training.

11.4.2 EMERGENCY TRAINING

11.4.2.1 Emergency training to specifically prepare a candidate for unforeseen circumstances and will form part of all training courses.

11.4.2.2 Emergency training will include, but not limited to the following:

(1) Pressurization Failure and Emergency Descent

(2) Unlawful Interference – aircraft hijack

(3) Brake Problem

(4) Communication Failure

(5) Hydraulic Failure

(6) Engine Failure

(7) Bird Strike

(8) Fuel Dumping

(9) Landing Gear Problem

(10) Urgency Message

11.4.3 REFRESHER TRAINING

11.4.3.1 Refresher training is part of the Training and Rating program. It involves periodic training and assessment of individuals performing functions in air traffic services in those competencies (knowledge and skills) which are essential, but infrequently or rarely used (e.g. abnormal and emergency operations, degraded equipment modes, contingency plan implementation).

11.4.3.2 SICAO, in case of unavailability of sufficient instructor and facilities, will request CAAN head office/Civil Aviation Academy for the refresher training of controllers.

11.4.4 ON-GOING TRAINING

The training and checking program will provide for on-going training, as necessary, to ensure that staff are competent in the use of new or emerging standards, procedures, techniques, facilities and equipment identified as essential to task performance.

11.4.5 REMEDIAL TRAINING

The training and checking program will have a process which identifies deficiencies in knowledge or application, and will have a process to ensure these deficiencies are rectified.

11.4.6 CHECKING

The purpose of checking is to ensure that the individual subject to the check meets the competency standards. Checks will be carried out as required.

11.5 RATING

11.5.1 Categories for the ratings for the Air Traffic Controller in SICAO are as follows:

(a) Aerodrome Control Rating
(b) Approach Control Procedural Rating

11.5.2 All student air traffic controllers have to undergo Unit Training before commencing rating.

11.5.3 The provision for rating will be in accordance with the MOS-I,/R of ATC personnel 2015

11.6 QUALIFICATIONS OF OJTI

11.6.1 Qualifications of OJTI will be in accordance with Manual of Standards for Licensing Rating of ATC Personnel.

11.6.2 SICAO will avoid situations where the persons giving the instruction are also responsible for examining the student on completion of the instruction.

11.7 SELECTION CRITERIA FOR ON JOB TRAINING INSTRUCTOR (OJTI)

11.7.1 Interested ATCs who meet the requirements as per Chapter 5, Para 5.1.3.4 of Manual of Standards: Licensing: Rating of ATC Personnel has to submit an application letter to the ANS directorate for the post of OJTI.

11.7.2 Following documents will be submitted by the applicant;
a. Valid ATC license
b. Valid Rating in all ATC Rating positions
c. Recommendation letter from Chief ATS.

11.7.3. OJT Instructor Selection criteria

11.7.3.1 Written Examination;

a). Applicant will appear in the written examination conducted on the basis of syllabus laid down as hereunder:

- PELR 2010 Jan (Amendment on 4 Sept. 2013) para 10.2.1(c)
- MOS: LIL of ATC personnel 2015 August (Amendment no:1, March 2017) , Appendix – A (ATC-L)

b) Theory Exam: Total Marks =100, 80% of the question will be multiple choice, 20% will be subjective,
c) Pass Mark will be 80 %
d) Duration: 3 hours.
e) Presentation
- Applicant passed in the written examination will have to present a paper on relevant subject matter of ATS.
- Duration: 30 min
- Pass Mark will be 80 %.

Note: Presentation will be evaluated by the OJTI selection team in the presence of Chief of ATS or a representative designated by him/her. OJTI selection team will comprise DCATCO, representatives from ATM Department, Manager, SICAO and Chief ATS of SICAO and/or his/her representative as applicable.

11.7.3.2 Publication of Result

The candidate who scores highest aggregate total marks in written examination and Paper presentation will be recommended for OJTI to ANS directorate.

CHAPTER 12

ATS SAFETY MANAGEMENT

12.1 GENERAL

12.1.1 SICAO will ensure that the level of air traffic services (ATS) and communications and navigation, as well as the ATS procedures under its jurisdiction are appropriate and adequate for maintaining an acceptable level of safety in the provision of ATS.

12.1.2 SICAO will implement Safety Management System for the air traffic services under its jurisdiction to ensure that safety in the provision of ATS is maintained.

12.2 OBJECTIVES

12.2.1 The objectives of ATS safety management are to ensure that:

a. the established level of safety applicable to the provision of ATS within an airspace or at an aerodrome is met; and

b. Safety-related enhancements are implemented whenever necessary.

12.3 ATS SAFETY MANAGEMENT ACTIVITIES

12.3.1 An ATS SMS will include the following with respect to the provision of air traffic services:

a) monitoring of overall safety levels and detection of any adverse trend;

b) safety reviews of Control tower;

c) safety assessments in respect of the planned implementation of airspace reorganizations, the introduction of new equipment systems or facilities, and new or changed ATS procedures; and

d) a mechanism for identifying the need for safety enhancing measures.

12.3.2 All activities undertaken in an ATS SMS will be fully documented. All documentation will be retained for such period of time as is specified by the ANS Directorate.

12.4 MONITORING OF SAFETY LEVELS

12.4.1 Collection and evaluation of safety-related data

12.4.1.1 Data for use in safety monitoring programmes will be collected from as wide range of sources as possible

12.4.1.2 SICAO establish a formal incident reporting system for ATS personnel to facilitate the collection of information on actual or potential safety hazards

or deficiencies related to the provision of ATS, including route structures, procedures, communication and navigation systems and other safety significant systems and equipment as well as controller workloads.

12.4.1.3 Review of incident and other safety-related reports

12.4.1.4 Safety-related reports concerning the operation of air traffic services, the serviceability of ATS facilities and systems, including air traffic incident reports, will be systematically reviewed in order to detect any trend in the operation of such systems which may have an adverse effect on safety.

12.4.1.5 Occurrence will be reported in the prescribed form as mentioned in *Appendix G, H and I. (in accordance with MATS Appendix 4, 5 & 6).*

12.5 SAFETY REVIEW

12.5.1 General requirement

Safety reviews of Simara Control towers will be conducted on a regular and systematic basis by personnel qualified through training, experience and expertise and having a full understanding of relevant civil aviation requirements (CARs), safe operating practices and Human Factors principles**.**

12.5.2 Scope

The scope of Control tower safety reviews will include at least the following issues:

12.5.2.1 Regulatory issues to ensure that:

a) ATS operations manuals, Control tower instructions and air traffic control (ATC) coordination procedures are complete, concise and up-to-date;

b) the ATS route structure, where applicable, provides for:

i. adequate route spacing; and

ii. crossing points for ATS routes located so as to reduce the need for controller intervention and for inter- and intra-unit coordination;

c) the separation minima used in the airspace or at the aerodrome are appropriate and all the provisions applicable to those minima are being complied with;

d) where applicable, provision is made for adequate observation of the manoeuvring area, and procedures and measures

e) aimed at minimizing the potential for inadvertent runway incursions are in place. This observation may be performed visually.

f) appropriate procedures for low visibility aerodrome operations are in place;

g) traffic volumes and associated controller workloads do not exceed defined, safe levels and that procedures are in place for regulating traffic volumes whenever necessary;

h) procedures to be applied in the event of failures or degradations of ATS systems, including communications and navigation systems, are practicable and will provide for an acceptable level of safety; and

i) Procedures for the reporting of incidents and other safety-related occurrences are implemented, that the reporting of incidents is encouraged and that such reports are reviewed to identify the need for any remedial action.

12.5.2.2 Operational and Technical issues to ensure that:

a) the environmental working conditions meet established levels for temperature, humidity, ventilation, noise and ambient lighting, and do not adversely affect controller performance;

b) automation systems generate and display flight plan, control and coordination data in a timely, accurate and easily recognizable manner and in accordance with Human Factors principles;

c) equipment, including input/output devices for automation systems, are designed and positioned in the working position in accordance with ergonomic principles;

d) communication, navigation and other safety significant systems and equipment:

a) are tested for normal operations on a routine basis;

b) meet the required level of reliability and availability as defined;

c) provide for the timely and appropriate detection and warning of system failures and degradations;

d) include documentation on the consequences of system, subsystem and equipment failures and degradations;

e) include measures to control the probability of failures and degradations; and

f) include adequate backup facilities and/or procedures in the event of a system failure or degradation; and

g) detailed records of systems and equipment serviceability are kept and periodically reviewed.

Note- In the context above, the terms reliability and availability have the following meanings:

Reliability. The probability that a device or system will function without failure over a specified time period or amount of usage; and

Availability. The ratio of percentage of the time that a system is operating correctly to the total time in that period.

12.5.2.3 Licensing and Training issues to ensure that:

a) controllers are adequately trained and properly licensed with valid ratings;

b) controller competency is maintained by adequate and appropriate refresher training, including the handling of aircraft emergencies and operations under conditions with failed and degraded facilities and systems;

c) controllers are provided relevant and adequate training in order to ensure efficient teamwork;

d) the implementation of new or amended procedures, and new or updated communications and other safety significant systems and equipment is preceded by appropriate training and instruction;

e) controller competency in the English language is satisfactory in relation to providing ATS to international air traffic as well as domestic traffic; and

f) Standard phraseology is used.

12.6 SAFETY ASSESSMENTS

12.6.1 Need for safety assessments

12.6.1.1 safety assessment will be carried out in respect of proposals for significant airspace reorganizations, for significant changes in the provision of ATS procedures applicable to an airspace or an aerodrome, and for the introduction of new equipment, systems or facilities, such as:

a) a reduced separation minimum to be applied within an airspace or at an aerodrome;

b) a new operating procedure, including departure and arrival procedures, to be applied within an airspace or at an aerodrome;

c) a reorganization of the ATS route structure;

d) a re-sectorization of an airspace;

e) physical changes to the layout of runways and/or taxiways at an aerodrome; and

f) Implementation of new communications or other safety-significant systems and equipment, including those providing new functionality and/or capabilities.

Note 1.— A reduced separation minimum may refer to the reduction of a horizontal separation minimum, including a minimum based on wake turbulence separation minimum or reduction of minima between landing and/or departing aircraft.

Note 2.— When, due to the nature of the change, the acceptable level of safety cannot be expressed in quantitative terms, the safety assessments may rely on operational judgments.

12.6.1.2 Proposals will be implemented only when the assessment has shown that an acceptable level of safety will be met.

12.6.2 Safety-significant factors

The safety assessment will consider relevant all factors determined to be safety-significant, including:

a) types of aircraft and their performance characteristics, including aircraft navigation capabilities and navigation performance;

b) traffic density and distribution;

c) airspace complexity, ATS route structure and classification of the airspace;

d) aerodrome layout, including runway configurations, runway lengths and taxiway configurations;

e) type of air-ground communications and time parameters for communication dialogues, including controller intervention capability;

g) any significant local or regional weather phenomena.

Note 1.— Guidance material on methods of expressing and assessing a safety level and on safety monitoring programmes is contained in CAR-11, Attachment B, the Air Traffic Services Planning Manual (Doc 9426), the

Performance-based Navigation Manual (Doc 9613) and the Manual on Airspace Planning Methodology for the Determination of Separation Minima (Doc 9689).

12.7 SAFETY ENHANCING MEASURES

12.7.1 Any actual or potential hazard related to the provision of ATS within an airspace or at an aerodrome, whether identified through an ATS safety management activity or by any other means, will be assessed and classified for its risk acceptability.

12.7.2 Except when the risk can be classified as acceptable, SICAO, as a matter of priority and as far as practicable, implement appropriate measures to eliminate the risk or reduce the risk to a level that is acceptable.

12.7.3 If it becomes apparent that the level of safety applicable to an airspace or an aerodrome is not, or may not be achieved, then SICAO will, as a matter of priority and as far as practicable, implement appropriate remedial measures.

12.7.4 Implementation of any remedial measure will be followed by an evaluation of the effectiveness of the measure in eliminating or mitigating a risk.

CHAPTER 13

EMERGENCY PROCEDURE

13.1 AIRCRAFT EMERGENCIES

13.1.1 Introduction

13.1.1.1 The circumstances of each aircraft emergency can vary to such an extent that detailed instructions cannot be given for every situation. The procedures outlined in this section are intended as a general guide and controllers will use their own judgment when handling a particular emergency.

13.1.1.2 The procedures described in the preceding sections and the appropriate standard phraseology may also be varied to meet an emergency situation but any reduction in separation, necessary to cope with the emergency, will be restored as soon as possible. Special arrangements, made locally for handling aircraft emergencies, are detailed in AIP of Simara airport.

13.1.2 Simara Aerodrome Controller's Responsibility

13.1.2.1 Controllers will always be alert to the possibility of an aircraft emergency. Speed may be necessary in certain circumstances but calm co-ordinate actions are essential in all situations.

13.1.2.2 Controllers will offer as much assistance as possible to any aircraft that is considered to be in a distress situation. Assistance to the aircraft can include the provision of information on the availability of aerodromes and their associated approach aids, weather information and details of terrain clearance. An emergency may require alerting action to be taken immediately or it may develop to that point later.

13.1.2.3 The supervisor, and/or Airport Manager if available, will be informed as soon as practicable and complete co-ordination will be maintained between other ATS units.

13.1.3 Recognizing an Emergency Situation

13.1.5.1 A controller may suspect that an aircraft is in an emergency situation or has suffered unlawful interference when:

a) radio contact is not established at the time it is expected to be established;

b) radio contact is lost;

c) a pilot makes a report about the malfunctioning of his aircraft or the unusual behavior of persons on board;

d) the erratic behavior of an aircraft;

e) it is overdue at an aerodrome; or

f) The pilot reports that the aircraft is short of fuel.

13.1.3.2 If the controller is in radio contact with the aircraft he/she will ask the pilot if he wishes to declare an emergency and, if not specified by the pilot, the class of emergency being declared.

13.1.3.3 More positive indications that an aircraft is in an emergency are described in the following paragraphs.

13.1.4 Distress and Urgency Messages

13.1.5.1 Pilots have been advised that, in the event of an emergency situation, the Control Tower can provide the necessary priority and handling if the controller is made aware of the emergency by the crew's formal declaration on the RTF. Pilots have also been advised that the extent to which Control Tower will be able to offer assistance will depend on the amount of information provided and on its being transmitted at the earliest opportunity. Furthermore, it is preferable that if pilots believe that they are able to continue operating safely, they should do so early as possible and cancel it later if they decide that the situation allows.

13.1.4.2 There are two classes of emergency message:

Distress: A condition of being threatened by serious and/or imminent danger and of requiring immediate assistance.

Urgency: A condition concerning the safety of an aircraft or other vehicle, or of some person on board or within sight, but which does not require immediate assistance.

13.1.4.3 The message will contain as many as possible of the following items:

- MAYDAY, MAYDAY, MAYDAY (for distress messages) or
- PAN PAN, PAN PAN, PAN PAN (for urgency messages), and
- Name of the station addressed (time and circumstances permitting)
- Identification of the aircraft
- Nature of the emergency
- Intention of the pilot in command
- Present position, level and heading
- Qualification of the pilot (e.g. student, full instrument rated, etc)
- As much other information as time permits.

13.1.4.4 When a pilot has given certain items of information normally associated with an emergency message but has not prefixed the transmission with 'MAYDAY' or 'PAN', the controller is to ask the pilot if he wishes to declare an emergency. If the pilot declines to do so, the controller may, if he thinks it appropriate, carry out the necessary actions as if the pilot had declared an emergency.

13.1.4.5 If a Simara Aerodrome controller considers that another ATS Units may be able to give more assistance and, in the circumstances, it is reasonable to do so, the pilot will be asked to change frequency.

13.1.5 ACTION ON RECEIVING URGENCY CALLS

The Simara Aerodrome controller will take the following action at an aerodrome on receiving an urgency call:

a) If the pilot elects to land at Simara aerodrome, rearrange traffic as necessary to enable him to make an uninterrupted approach;

b) alert local safety services (Fire Station, Airport Security Police, Nepal Army, Armed Police Force etc), and initiate local emergency action as necessary and appropriate;

c) Inform the Kathmandu APP and Simara Airport Manager/Chief ATS giving full details;

d) If any doubt exists that the aircraft can reach Simara aerodrome, request Kathmandu ACC to alert RCC stating that the Alert phase exists;

e) Inform the airline operator or representatives if possible.

13.1.6 ACTION ON RECEIVING DISTRESS CALLS

a) The controllers will take the following action at an aerodrome on receiving a Distress Call;

b) Plot aircraft's position on map;'

c) Assist pilot in every way possible to make a safe landing;

d) Advise pilot of nearest aerodrome if aircraft position is known;

e) Inform the Kathmandu APP giving full details (Kathmandu ACC will alert RCC) and give all possible assistance in warning airfields adjacent to the aircraft track and in warning the local rescue services in the area in which the aircraft may crash-land.

f) Inform Airport Manager and local safety services (Fire Station, Airport security Police, Nepal Army, Armed Police Force, Chief District Officer etc);

g) Inform airline operator or representative if possible.

13.1.7 Emergency Aircraft – Selection of Controlling Agency

13.1.7.1 Transfer of Control

On receipt of information that indicates that an aircraft is in an emergency, the controller will decide whether or not to transfer the aircraft to another agency. The choice of agency will depend upon the circumstances and no hard and fast rules apply. The following guidance material will help controllers to make this decision.

13.1.7.2 Retaining Control

13.1.7.2.1 If the controller can offer immediate assistance the aircraft will normally be retained on the frequency. If necessary, impose a radio silence on other aircraft or transfer them to another frequency.

13.1.7.2.2 Alternatively it may be more expedient to transfer the emergency aircraft to a discrete frequency, particularly if a radio silence would endanger other traffic.

13.1.7.2.3 The aircraft will be retained on the original frequency if it is unreasonable to ask the pilot, or if he is not prepared, to change frequency. The controller may be able to relay instructions and information from other units to the pilot.

13.1.7.3 Transferring Control

13.1.7.5.1 If a controller considers that another unit may be able to give more assistance then he/she can himself and in the circumstances it is reasonable to ask the pilot to change frequency, he/she will either:

a) consult the Kathmandu APP supervisor and transfer the aircraft according to his instructions; or

b) alert the nearest suitable unit and transfer the aircraft to a common frequency, giving assistance to that unit as required.

13.1.7.3.2 Before transferring aircraft, controllers will obtain sufficient information from the pilot to be convinced that the aircraft will receive more assistance from another unit. If a change of frequency is desirable the pilot will be instructed to revert immediately if there is no reply on the new frequency. Controllers will then listen out on the original frequency until the aircraft is known to be in two-way communication with the other unit.

13.2. NON-APPEARANCE OF AIRCRAFT

13.2.1 If an aircraft, which has been cleared to commence approach, after completing any necessary holding, fails to land within 5 minutes of the estimated time of landing and communication cannot be established, the following action will be taken:

• Request other aircraft flying in the vicinity of the aircraft's last known position to be on the lookout;

• Exercise caution when authorizing the movement of aerodrome traffic;

• Alert the emergency services in accordance with AEP;

• Check with other aerodromes in vicinity;

• Advise the Kathmandu AFP.

13.2.2 Alerting service will be provided:

a) for all aircraft provided with air traffic control service;

b) in so far as practicable, to all other aircraft having filed a flight plan or otherwise known to the air traffic services; and

c) to any aircraft known or believed to be the subject of unlawful interference.

13.2.3 In the event of a state of emergency arising to an aircraft, Simara aerodrome control will notify immediately the Kathmandu approach control unit which will in turn notify the Kathmandu ACC/ Rescue coordination centre, except that notification of the area control centre, or rescue coordination centre will not be required when the nature of the emergency is such that the notification would be superfluous.

13.2.4 Nevertheless, whenever the urgency of the situation so requires, the aerodrome control tower will first alert and take other necessary steps to set in motion all appropriate local rescue and emergency organizations which can give the immediate assistance required.

13.3. NOTIFICATION OF RESCUE COORDINATION CENTRE

13.5.1 Without prejudice to any other circumstances that may render such notification advisable, Simara aerodrome control tower will notify rescue coordination centers immediately an aircraft is considered to be in a state of emergency in accordance with the following:

a) Uncertainty phase when:

1. no communication has been received from an aircraft within a period of thirty minutes after the time a communication will have been received, or from the time an unsuccessful attempt to establish communication with such aircraft was first made, whichever is the earlier, or

2. an aircraft fails to arrive within thirty minutes of the estimated time of arrival last notified to or estimated by air traffic services units, whichever is the later, except when no doubt exists as to the safety of the aircraft and its occupants.

b) Alert phase when:

1. following the uncertainty phase, subsequent attempts to establish communication with the aircraft or inquiries to other relevant sources have failed to reveal any news of the aircraft, or

2. an aircraft has been cleared to land and fails to land within five minutes of the estimated time of landing and communication has not been re-established with the aircraft, or

3. information has been received which indicates that the operating efficiency of the aircraft has been impaired, but not to the extent that a forced landing is likely, except when evidence exists that would allay apprehension as to the safety of the aircraft and its occupants, or

4. an aircraft is known or believed to be the subject of unlawful interference.

c) Distress phase when:

1. following the alert phase, further unsuccessful attempts to establish communication with the aircraft and more widespread unsuccessful inquiries point to the probability that the aircraft is in distress, or

2. the fuel on board is considered to be exhausted, or to be insufficient to enable the aircraft to reach safety, or

3. information is received which indicates that the operating efficiency of the aircraft has been impaired to the extent that a forced landing is likely, or

4. information is received or it is reasonably certain that the aircraft is about to make or has made a forced landing, except when there is reasonable certainty that the aircraft and its occupants are not threatened by grave and imminent danger and do not require immediate assistance.

13.3.2 The notification will contain such of the following information as is available in the order listed:

a) INCERFA, ALERFA or DISTRESFA, as appropriate to the phase of the emergency;

b) agency and person calling;

c) nature of the emergency;

d) significant information from the flight plan;

e) unit which made last contact, time and means used;

f) last position report and how determined;

g) colour and distinctive marks of aircraft;

h) dangerous goods carried as cargo;

i) any action taken by reporting office; and

j) other pertinent remarks.

13.3.3 Such part of the information which is not available at the time of notification is made to a rescue coordination centre, will be sought by an air traffic services unit prior to the declaration of a distress phase, if there is reasonable certainty that this phase will eventuate.

13.3.4 The rescue coordination centre will, without delay, be furnished with:

a) any useful additional information, especially on the development of the state of emergency through subsequent phases; or

b) information that the emergency situation no longer exists.

Note. — The cancellation of action initiated by the rescue coordination centre is the responsibility of that centre.

13.4 USE OF COMMUNICATION FACILITIES

Simara aerodrome control tower will, as necessary, use all available communication facilities to endeavor to establish and maintain communication with an aircraft in a state of emergency, and to request news of the aircraft.

13.5 PLOTTING AIRCRAFT IN A STATE OF EMERGENCY

When a state of emergency is considered to exist, the flight of the aircraft involved will be plotted on a chart in order to determine the probable future position of the aircraft and its maximum range of action from its last known position. The flights of other aircraft known to be operating in the vicinity of the aircraft involved will also be plotted in order to determine their probable future positions and maximum endurance.

13.6 INFORMATION TO THE OPERATOR

13.6.1 When the aerodrome control tower decides that an aircraft is in the uncertainty or the alert phase, it will, when practicable, advise the operator prior to notifying the rescue coordination centre.

Note— If an aircraft is in the distress phase, the rescue coordination centre has to be notified immediately.

13.6.2 All information notified to the rescue coordination centre will, whenever practicable, also be communicated, without delay, to the operator

13.7 INFROMATION TO AIRCRAFT OPERATING IN THE VICINITY OF AN AIRCRAFT IN A STATE OF EMERGENCY

13.7.1 When it has been established by samara aerodrome control tower that an aircraft is in a state of emergency, other aircraft known to be in the vicinity of the aircraft involved will be informed of the nature of the emergency as soon as practicable,

13.7.2 When the aerodrome control tower knows or believes that an aircraft is being subjected to unlawful interference, no reference will be made in ATS air-ground communications to the nature of the emergency unless it has first been referred to in communications from the aircraft involved and it is certain that such reference will not aggravate the situation.

13.8 CLASSIFICATION OF EMERGENCIES

Aircraft emergencies are classified into ten categories as follows:

13.8.1 "ALERT 1" - AIRCRAFT ACCIDENT (on-airport)

When an aircraft accident has occurred on the airport or in the immediate vicinity of the airport (within 4 kilometers of the airport boundary).

13.8.2 "ALERT 2" - AIRCRAFT ACCIDENT (off-airport)

When an aircraft accident has occurred - but not in the immediate vicinity of the Airport (more than 4 kilometers from the airport boundary).

13.8.3 "ALERT 3 " - FULL EMERGENCY (Airborne Aircraft)

When an aircraft approaching the airport has declared an emergency if it is known to have problem or defect which will cause or is likely to cause an aircraft accident.

13.8.4 "ALERT 4" - UNLAWFUL INTERFERENCE

When it is known or suspected that an aircraft has been subjected to a threat of sabotage or unlawful seizure (hi-jacking) - or any act has been committed which would affect the normal operation of that aircraft or safety of its occupants.

13.8.5 "ALERT 5" - BOMB THREAT - TO AIRCRAFT

When information is received that an explosive device has been located (or suspected) on an aircraft either in the air or on the ground.

13.8.6 "ALERT 6" - BOB THREAT - TO BUILDING

When information is received that an explosive device has been located (or suspected) in, or around, airport building, facilities or equipment.

12.8.7 "ALERT 7" -AIRCRAFT GROUND INCIDENT

When an incident occurs involving an aircraft on the ground which will affect the safety of that aircraft.

12.8.8 "ALERT 8"- STRUCTURAL FIRE

When a fire occurs on the airport buildings, facilities, equipment or vehicles; and which does not directly involve an aircraft. Fires in Navigational or other auxiliary service station or complex or facilities located off-airport are also included in this category.

12.8.9 "ALERT 9" - LOCAL STANDBY

When an aircraft approaching the airport has developed - or suspected to have developed – some defect, but this defect will not create any difficulty in effecting a safe landing. Crash vehicles may standby in the station, or at position on the movement area, as the situation warrants.

12.8.10 "ALERT 10" - WEATHER STANDBY

When severe storms or other expected adverse weather conditions can affect the safety of aircraft, or adversely affect the safety of persons, buildings, facilities, or equipment at the Airport.

NOTE: The above classification - by ALERT number - will be used for initial notification of emergency situations. If the emergency condition changes, complete additional notifications will be made for the new condition - Example: an Alert 9 (Local Standby) may escalate to an alert 3 (Full Emergency) condition.

12.8.11 "ALERT 11" - MEDICAL EMERGENCY

Any person or group of person (crew, passengers, staffs and visitors) if suddenly suffers from any type of illness during flight and/or, at the airport.

12.9 SOME MAJOR AIRCRAFT EMERGENCIES:

- Pressurization Failure
- Unlawful Interference – aircraft hijack
- Brake Problem
- Communication Failure
- Hydraulic Failure
- Engine Failure
- Bird Strike
- Fuel Dumping
- Landing Gear Problem
- Urgency Message

12.5.1 Pressurization Failure

(a) General

i) Pressurization problem may arise due to the result of one or more of the following:
   a. malfunction of pressurization system
   b. damage to a door or window
   c. physical leak in the system

ii) Depressurization may cause severe medical problems for crews as well as passengers with heart or respiratory disease.

iii) The time of useful consciousness is very short and can vary depending on:
   a. the altitude
   b. the size of the leak
   c. the size of the fuselage

iv) Rate of descent could be very high.

b) Effects/Consequences will be as follows:

i) Loss of oxygen, losing consciousness, ultimately hypoxia

ii) Increased gas pressure in the human body

iii) Temperature drop

iv) Fogging / reduced visibility in the cabin

v) Wind sucks items towards the hole

vi) Aircraft will stop climb

vii) Request for immediate descent

viii) Emergency descent without warning

ix) Turn off track

x) Poor R/T quality (as pilot using cabin oxygen mask)

xi) Chances of separation infringement

(c) ATC will act in the following manner

i) Assist the pilots as follows;

a. Acknowledge

b. Separate

c. Silence

d. Inform

e. Support

f. Time

ii) Broadcast of emergency descent.

iii) Clear the airspace directly beneath the aircraft.

iv) Inform supervisor/shift-in charge.

v) Inform pilot about MEA or MSA if needed.

(d) Phraseology

(i)When pilot has sufficient time

BHA 553 TOWER, BHA553 MAINTAININGFL160REQ EMERGENCY DESCENT TO 10500' DUE PRESSURIZATION FAILURE

TOWER BHA553 DESCEND TO 10500' [QNH ------] REPORT REACHING

(ii)When pilot doesn't have sufficient time

BHA553 TOWER, BHA553 POSITION AMLEK EMERGENCY DESCENT TO 10500' DUE DECOMPRESSION NOW PASSINGFL160

TOWER BHA553 [QNH ------] REPORT REACHING 10500'

(iii)**ATC phraseology with other aircraft**

TOWER ATTENTION ALL AIRCRAFT IN THE VICINITY OF AMLEK EMERGENCY DESCENT IN PROGRESS FROM F125' TO 10500' ALL AIRCRAFT BELOW F125' AND ABOVE 9500' LEAVE RADIAL 022 of SME IMMEDIATELY AND ACKNOWLEDGE.

13.9.2 Unlawful Interference – aircraft hijack

(a) Air Traffic Controllers will remember the following during an aircraft hijack:

i) Countermeasures against hijacking in the aircraft are limited.

ii) Concentrated calmness of crew and ATC is necessary to avoid additional risk and provocation to hijackers.

iii) Planning for all eventualities by ATC is an important task.

iv) If possible, acquire permission from central security committee through command post to allow the aircraft to enter into Kathmandu FIR or land at Simara aerodrome.

(b) Effects and consequences of a hijack could be as follows:

i) Crew under high stress

ii) Every possible dangerous situation apparent to aircraft and its occupants

iii) R/T problem, crew may communicate in code

iv) Non-compliance with ATC instructions

(c) ATC responsibility will be to assist as follows:

i) Do not initiate any further RTF unless confirmed by pilot.

ii) Immediately after it is confirmed that aircraft is hijacked, inform it to Airport Manager/shift-in charge/chief ATS and Kathmandu APP and proceed as per local procedure.

iii) Convey the message of designated authority to hijacker, and vice-versa.

iv) Comply with pilot's request as for as possible.

v) Transmit pertinent information without expecting a reply.

vi) Monitor and plot all flight manoeuvres and coordinate transfer of control without requiring the response from the aircraft.

vii) Collect any necessary information e.g. Destination aerodrome, WX situation at destination, routing, etc.

viii) If aircraft lands, direct it to the holding point of Taxiway as isolated parking position or to the location as designated by Chief of Military unit of the District (in accordance with Domestic AEP).

12.9.3 Brakes Problem

Following factors will be kept in mind during brakes problem in aircraft.

(a) *Air Traffic controllers will remember that:*

i) Hydraulic failure may cause problems with brakes.

ii) Aircraft with brakes problem doesn't get priority unless it commences approach.

(b) some possible effects and consequences are as follows:

i) Overrunning RWY threshold. Landing distance may increase by up to approximately 50%.

ii) Increase the probability of tyre brust.

iii) Aircraft may swing off RWY.

iv) Chances of RWY blockage.

v) Following traffic may not land and chances of diversion.

vi) Priority could be given to following traffic.

(c) ATC responsibility will be to assist, such as;

i) Inform Airport Manager/ATS Chief/shift-in charge.

ii) Keep airport fire on alert position.

iii) Inform pilot about the RWY length/condition.

iv) Keep runway strip and associated area clear.

v) Check for towing vehicle stand-by.

vi) Check if technical personnel required.

(d) Phraseology

BHA553 TWR, BHA553 DIVERTING TO SIMARA DUE BRAKE PROBLEM WILL HOLD INITIALLY OVER AMLEK FOR THE INSTRUMENT CHECK

TWR BHA553 CLEARED TO AMLEK DESCEND TO 4000' REPORT WHEN READY TO COMMENCE APPROACH.

(Initially clear the other succeeding aircraft below it for the approach then ask its intention; and decide the further priority)

(If aircraft ready to commence approach)

TWR BHA553 DO YOU NEED ANY GROUND ASSISTANCE

13.9.4 Communication Failure

(a)Introduction

i) Communication failure may be due to the result of either electrical/electronic and hardware problems.

ii) Causes of communication failure may be simple (i.e. earphone and microphone problems) or complex (i.e. broken wire, power failure and malfunctioning radio).

iii) Communication problems may originate with Pilots or ATCs.

iv) Communication failure in one of the following cases:

a. receiver failure

b. transmitter failure

c. total failure

v) An aircraft is considered to have a radio communication failure if a message is missing for a period of 5 minutes or more.

vi) Recognize that this is considered to be an emergency, and with urgency, try to find out the cause of the emergency.

(b) Effects and consequences of communication failure

- Pilots' action (VMC):
  - Continue fly in VMC.
  - Land at the nearest suitable aerodrome, and
  - Report its arrival by the most expeditious means to appropriate ATC unit.
- Pilots' action (IMC):
  - Continue proceed according to FPL route to designated navigation aid/fix serving the destination aerodrome and hold until commencement of descend.
  - Commence descent from the navigation aid at, or as close as possible to, the EAT last received and acknowledged, or, If no EAT received and acknowledged, at, or as close as possible to, the ETA resulting from FPL.
  - Complete a normal instrument approach procedure as specified for the designated navigation aid.
  - Land, if possible, within 30 minutes after the ETA specified above, or the last acknowledged EAT whichever is later.

(c) ATC responsibility will be to assist in following manner:

i) Inform Airport Manager/ Chief ATS /shift-in-charge.

ii) Separate RCF aircraft with other aircraft.

iii) Transmit blind the pertinent information on the available frequencies.

iv) Other aircraft in the vicinity are to be informed about the RCF aircraft, and requested to establish two way communications with the aircraft.

v) Inform all ATS units concerned along the route of the flight and are requested to attempt to establish communication with the aircraft.

vi) Inform all alternate aerodromes about possible diversion of the RCF aircraft.

vii) By agreement with operator, when weather at intended aerodrome is bad, transmit blind clearing the aircraft to suitable alternate aerodrome.

viii) If communication re-established or aircraft has landed, inform all previously notified regarding termination of RCF situation.

ix) If aircraft unable to land within 30 minutes of ETA or EAT whichever is later, after prior consultation with airline operators or their designated representative and PIC of other aircraft, normal control can be resumed if they desire.

(d) Phraseology

ATC BHA553 DO YOU READ ME

BHA553 (no response)

ATC BHA553 IF YOU READ ME (any suitable instruction or information considering that aircraft receiver operating normal.)

13.5.5 Hydraulic Failure

(a) General

i) Hydraulic system is usually distributed throughout the aircraft body and affects multiple systems.

ii) Hydraulic system may be affected by technical problems or outside damage.

iii) Problems with hydraulics may affect various parts of the aircraft resulting in complete or partial failure of flaps, ailerons, elevators, rudder, lift and roll spoilers, brakes and nose wheel steering.

iv) Any or all of these may lead to control difficulties.

v) Hydraulic problems may lead to:

- Fuel Dumping
- Gear Problems
- Brake Problems

vi) Relatively High-speed Approach and Landing

vii) The crew needs time to check alternate systems and all other related functions.

viii) The crew may also need more time for actions such as manual gear extension.

(b) Effects and Consequences of hydraulic failure are as follows:

i) Problems with aircraft control and limited maneuverability (bank angle/turns)

ii) Limited or no flap setting

iii) Limited bank angle (15 degrees)

iv) Manual gear extension (no retraction possible)

v) Holding pattern for necessary checks (may need extended hold due to lack of maneuverability)

vi) Extended final

vii) Higher approach speed on final

viii) Limited braking capability

ix) Possible overrun

x) RWY blocked after landing

(c) ATC responsibility will be to assist as follows:

i) Inform Airport Manager/ ATS chief/ shift in charge.

ii) Keep airport fire on alert position.

iii) Increase vertical and lateral separation.

iv) Ask if dangerous goods on board.

v) Ask for POB and Fuel OH if feasible.

vi) Avoid ATC-caused GO AROUND.

vii) Clear RWY according to local instructions.

viii) Keep runway strip and associated area clear.

ix) Towing equipment and other emergency vehicles on stand-by as appropriate.

x) If needed, inform pilot about:

xi) Next suitable aerodrome

xii) Aerodrome details as soon as possible

xiii) WX information of landing aerodrome

xiv) Fire or smoke from brakes

(d) Phraseology

BHA553 TWR BHA553 WE HAVE GOT HYDRAULIC PROBLEM REQUEST PRIORITY LANDING

TWR BHA553 YOU ARE NUMBER ONE IN APPROACH SEQUENCE. DO YOU NEED ANY GROUND ASSISTANCE?

13.9.6 Engine Failure

(a) General

i) Engine failure may be caused by:

1. hydraulic or electric problems
2. bird-strike
3. engine on fire
4. fuel problems
5. low oil pressure
6. icing
7. intake of debris, or
8. pilot error

ii) Loss of engine reduces its power and ability of normal flying.

iii) May result in:

1. abandoned take-off
2. pressurization problems
3. fuel dumping
4. precautionary approach

(b) Effects and consequences of engine failure are as follows:

i) Heavy workload in the cockpit

ii) Deviation from SID

iii) Descent

iv) Prefer flying straight and level and in a larger turning radius (especially in multiple engine aircraft)

v) Course deviation

vi) Take-off short

vii) Pressurization problems

viii) Fuel dumping

ix) Diversionary or forced landing

x) Blocked RWY after landing

(c) ATC responsibility are to assist as follows:

i) Inform Airport Manager/Chief ATS/shift in charge.

TWR BHA553 REQ FUEL REMAINING AND PERSON ON BOARD

BHA553 ---------- HOURS OF FUEL REMAINING AND ----- (no. of persons) PERSONS ON BOARD

TWR BHA553 EMERGENCY SERVICES ALERTED ------- (other pertinent instructions)

BHA553 MAYDAY, MAYDAY, MAYDAY TWR BHA553, BOTH ENGINES FAILURE 7 MILES ON APPROACH PASSING 3000 FT

TWR BHA553 ROGER MAYDAY. WIND 020 DEGREES 10 KNOTS QNH ----- YOU ARE NUMBER ONE IN APPROACH SEQUENCE

TWR EMERGENCY TO ALL CONCERNED. EMERGENCY EXIST AT SIMARA AIRPORT. DELAY NOT DETERMINED DUE AIRCRAFT IN DISTRESS.

(ii) Imposition of radio silence during emergency

TWR ALL STATIONS SIMARA TWR , STOP TRANSMITTING, MAYDAY.

TWR BHA553 SIMARA TWR, STOP TRANSMITTING, MAYDAY.

(iii) Instruction to other aircraft

TWR BHA553TWR, CLEAR TO SMR HOLD DELAY NOT DETERMINED DUE AIRCRAFT IN DISTRESS. REPORT SMR. (or other suitable instruction)

(iv) Termination of radio silence

TWR ALL STATIONS SIMARA TWR, DISTRESS TRAFFIC ENDED.

13.5.7 Bird Strike

ii) Keep airport fire on alert position.
i) Request for POB and Fuel On Board if feasible.
ii) Inform landing aerodrome.

iii) Clear RWY according to local procedures.

iv) Keep safety strip clear.

v) Offer pilot extended final.

vi) Towing equipment and other emergency vehicles on stand-by as appropriate.

vii) In case of forced landing, record last known position and time for SAR purposes.

viii) If needed, inform pilot about:

- next suitable aerodrome
- alternate aerodrome details ASAP
- WX information of landing aerodrome

(d) Phraseology

(i) Standard Phraseology

BHA553 TWR, BHA553 RIGHT ENGINE ON FIRE DECLARING FULL EMERGENCY REQUEST PRIORITY LANDING

(a) General

i) Bird strike may result in:

1. Broken Windshield / Canopy

2. Engine Failure (Multi-engine)
3. Engine Failure (Single-engine)
4. Hydraulic Problems
5. Precautionary Approach
6. Handling Difficulties
7. Electrical Problems
8. Gear Problems

ii) The seriousness of this emergency depends on:
- the size of the bird
- the speed of the aircraft at impact
- where it hits the aircraft

iii) Its effects may be very severe.

iv) The most dangerous strikes are to the windshield and engine.
- A strike of this nature may lead to the ultimate loss of the aircraft.

v) Strikes especially on the windshield or on the engine may impair the flying characteristics of the aircraft, making levels and headings difficult to maintain and safe landings difficult. They may ultimately lead to loss of control, or even structural failure.

vi) The likelihood of bird-strike varies depending on the level, the location and the time of year.

vii) The greatest risk of bird-strike is at lower level with decreasing risk with increasing level.

viii) The risk is also higher in spring and autumn.

ix) Highest risk over:
1. garbage dumps
2. rivers
3. breeding grounds
4. wintering places

(b) Effects and consequences of bird strike

i) Shutdown of engine

ii) Aborted take-off

iii) Immediate return to aerodrome

iv) Reduced/loss of visibility if windscreen broken

v) IFR operation (instrument flight rules)

vi) The pilot may have to land at the nearest suitable aerodrome

vii) Landing next suitable aerodrome

viii) Hydraulic problems

(c) ATC responsibility is to assist as follows:

i) Inform Airport Manager/ Chief ATS/shift-in charge.

ii) Keep airport fire on alert position when required.

iii) Find out if the pilot can still control the aircraft. If control problem, allow increased separation.

iv) Arrange technical assistance as necessary by appropriate specialists.

v) If aircraft intends to land at nearest suitable aerodrome, recommend it one or more landing options with all the aerodrome details with weather details ASAP.

vi) Allow a LONG FINAL if requested.

vii) Avoid chances of possible miss approach.

viii) Check RWY, if bird-strike is during landing or after take-off.

(d) Phraseology

BHA553 TWR BHA553 DIVERTING TO SIMARA DUE BIRD HIT AT RIGHT WING

ATC BHA553 DO YOU NEED ANY GROUND ASSISTANCE

BHA553 ……

ATC (Successive instructions as per the aircraft request)

12.9.8 Fuel Dumping

(a) General

i) In emergency, aircraft may need to dump fuel to reduce landing mass so as to affect a safe landing.

ii) Avoid the crowded or congested area and the area where TS is reported or expected.

iii) Dumping level will not be less than 1800 m (6000 ft).

(b) Effects and consequences of fuel dumping could be as follows:

i) Dumping at lower altitudes may create the chances of developing flammable mist near the ground which may produce toxic effects to all human being, animals and plants.

ii) Aircraft may dump fuel in emergency without adequate warning.

iii) Need of greater separation.

(c) ATC responsibility when emergency dumping will be to assist as follows:

i) Inform supervisor/ shift-in charge.

ii) Recommend minimum altitude from which the fuel will be dumped.

iii) Advise most suitable airspace for fuel dumping.

iv) Make every effort to keep other aircraft clear of the vapor zone.

v) Separate other aircraft from it:

1. Horizontally by keeping them:
   - at least 10 nm beyond either sides.
   - at least 15 mins flying time or 50 nm beyond at back side.
2. Vertically by keeping them:
   - at least 1000 ft above.
   - at least 3000 ft below.

vi) In case of emergency fuel dumping, broadcast this warning information so that other aircraft flying in the vicinity may avoid the affected airspace.

vii) Inform adjacent ATC units about fuel dump operation.

viii) Inform all previously notified if fuel dumping is complete.

Note: There is no pre-assigned segregated airspace for fuel dumping by aircraft in Simara CTZ and its delegated airspace. The area will be allocated depending on the need of the aircraft with respect to route and sector of the flight.

(d) Phraseology for

i) Non-emergency fuel dumping

BHA553 TWR BHA553, REQ FUEL DUMP ALONG ..(Route). in between (points) AT FL ------ (level

TWR BHA553 OPERATE IN BETWEEN (points) (or any suitable area, not crowded city or town area and preferably over water) AT ---------- (level, not below 6000' from GND).

(ii) Emergency fuel dumping

BHA553 TWR BHA553, DUMPING FUEL IN EMERGENCY OVER (point) MAINTAINING ---------- (level)

(iii) Instruction to other aircraft

TWR ALL STATION THIS IS SIMARA TWR, BEACH CRAFT DUMPING FUEL----------- (description of fuel dumping area) AT -------- (level) AVOID LEVEL BETWEEN ------ (level) and -------- (level) WITHIN 50 MILES BEHIND, 10 MILES AHEAD OF AIRCRAFT AND WITHIN 10 MILES TO THE SIDES OF FUEL DUMPING TRACK.

(iv) Fuel dumping outside controlled airspace

ATC ALL STATIONS THIS IS SIMARA TWR FUEL DUMPING IN PROGRESS OVER ---------(description of dumping area) RECOMMEND REMAIN CLEAR OF THIS AREA UNTIL ADVISED

(v) Completion of fuel dumping

TWR ALL STATIONS THIS IS SIMARA TWR, FUEL DUMPING COMPLETED.

13.9.9 LANDING GEAR PROBLEM

(a) General

i) Gear extension problem, either partially or fully, is to be considered as an emergency.

ii) The landing gear is held up by a hook system and when the hook is released the gear falls down. A hydraulic or an electrical system supports this movement.

iii) Mechanical or electrical malfunction may cause gear extension problem.

iv) When gear extension problem occurs, the pilot may ask for a low pass in order to inspect the position of the landing gear visually by ATCs and concerned technicians.

v) Foam carpeting over the runway is required to reduce the runway friction.

(b) Expectations and Consequences of landing gear problem

i) GO AROUND

ii) Low pass for gear check by ATCs and concerned technical experts.

iii) Request for foam carpet

iv) Possible fuel dumping to reduce aircraft weight

v) Manual gear extension

vi) RWY blocked after landing

vii) Skidding off RWY

viii) Taxiway may be blocked after clearing runway

(c) ATC responsibilities will be to assist as follows:

i) Inform supervisor/ shift in charge.

ii) Keep airport fire on alert position.

iii) Inform pilot about landing gears position by carefully observing low pass manoeuvre, and seek specialists' advice in this regard.

iv) Clear the runway strip and associated area clear.

v) Keep towing vehicle on stand-by position.

(d) Phraseology

BHA553 TWR BHA553, GOING AROUND DUE GEAR EXTENSION PROBLEM

TWR BHA553 CARRY OUT STANDARD MISS APPROACH [or ---------- (any suitable instruction)]

BHA553 TWR BHA553 CARRYING OUT STANDARD MISS APPROACH DUE GEAR EXTENSION PROBLEM PASSING ------- (level) FOR ------- (level) WILL CHECK THE PROBLEM OVER AMLEK

BHA553 TWR BHA553, INBOUND TO PARSI MAINTAINING 6000' UNABLE TO RECTIFY THE PROBLEM. WE ARE VMC CANCELING IFR REQUEST LOW PASS FOR VISUAL INSPECTION FROM TWR
(For low pass visibility will be preferably at least VMC.)

TWR BHA553 CANCELLED IFR AT------- (time) DESCEND TO ------ (level) CLEARED LOW PASS FOR VISUAL INSPECTION REPORT 5 MILES

(Advise TWR about the intention of aircraft and get the required clearance. TWR vacates the traffic circuits in order to separate aircraft with landing gear extension problem.)

BHA553 TWR BHA553, PASSING LOW FROM YOUR ------- - (side/direction) CONFIRM LANDING GEARS DOWN

TWR BHA553, LANDING GEAR APPEARS DOWN

or

BHA553, RIGHT [or LEFT or NOSE] WHEEL APPEARS DOWN [or UP]

or

BHA553, RIGHT [or LEFT or NOSE] WHEEL DOES NOT APPEAR DOWN [or UP]

(If landing gears not extended or partially extended)

BHA553 TWR BHA553, REQUIRE FUEL DUMP REQ INSTRUCTION

BHA553 TWR BHA553, WILL MAKE BELLY LANDING REQ RWY FOAMING FROM RWY TH --- TO TXY INTERSECTION -----

TWR BHA553, RWY FOAMING COMPLETE FROM RWY TH --- TO TXY INTERSECTION -----.

13.9.10 URGENCY MESSAGE

(a) General

i) An urgency message will contain as many of the following elements as for as possible:

- Name of the station addressed
- Identification of the aircraft
- Nature of urgency
- Intention of PIC
- Position, level and heading of the aircraft in urgency, and
- Any other useful information.

ii) Urgency call will me made on the frequency in use at the time.

iii) Urgency message will be addressed to the station in shoes area of responsibility the urgency aircraft is operating.

(b) Phraseology

9NAET	PAN PAN, PAN PAN, PAN PAN TWR 9NAET, PASSENGER WITH SUSPECTED HEART ATTACK REQUIRING IMMEDIATE MEDICAL ASSISTANCE, REQUEST PRIORITY LANDING.
TWR	9NAET ROGER YOU ARE NUMBER ONE IN APPROACH SEQUENCE AMBULANCE ALERTED
BHA553	PAN PAN, PAN PAN, PAN PAN TWR BHA553 INTERCEPTED URGENCY CALL FROM 9NAEW HAVING GEAR PROBLEM REQUESTING PRIORITY LANDING. HER POSITION 10 MILES NORTH AT 4000'.
TWR	BHA553 ROGER.
TWR	9NAET SIMAR/A TWR WIND 250 DEGREES 5 KNOTS QNH ------ NO TRAFFIC REPORT --------

13.10 Weather deviation procedures

13.10.1 General

Note.— The following procedures are intended for deviations around adverse meteorological conditions.

13.10.1.1 When the pilot initiates communications with ATC, a rapid response may be obtained by stating "WEATHER DEVIATION REQUIRED" to indicate that priority is desired on the frequency and for ATC response. When necessary, the pilot will initiate the communications using the urgency call "PAN PAN" (preferably spoken three times).

13.10.1.2 The pilot will inform ATC when weather deviation is no longer required, or when a weather deviation has been completed and the aircraft has returned to its cleared route.

13.10.1.3 ACTIONS TO BE TAKEN WHEN CONTROLLER-PILOT COMMUNICATIONS ARE ESTABLISHED

13.10.1.2.5.1 The pilot will notify ATC and request clearance to deviate from track, advising, when possible, the extent of the deviation expected.

13.10.1.2.3.2 ATC will take one of the following actions:

a) when appropriate separation can be applied, issue clearance to deviate from track; or

b) if there is conflicting traffic and ATC is unable to establish appropriate separation, ATC will:

1) advise the pilot of inability to issue clearance for the requested deviation;
2) advise the pilot of conflicting traffic; and
3) request the pilot's intentions.

13.10.1.2.3.3The pilot will take the following actions:
a) comply with the ATC clearance issued; or
b) advise ATC of intentions

13.10.1.4 ACTIONS TO BE TAKEN IF A REVISED ATC CLEARANCE CANNOT BE OBTAINED

Note:– The provisions of this section apply to situations where a pilot needs to exercise the authority of a pilot-in-command under the provisions of CAR 2. 2.3.1.

13.10.1.5.1 If the aircraft is required to deviate from track to avoid adverse meteorological conditions and prior clearance cannot be obtained, an ATC clearance will be obtained at the earliest possible time. Until an ATC clearance is received, the pilot will take the following actions:

a) if possible, deviate away from an organized track or route system;
b) establish communications with and alert nearby aircraft by broadcasting, at suitable intervals: aircraft identification, flight level, position (including ATS route designator or the track code) and intentions, on the frequency in use and on 121.5 MHz (or, as a backup, on the inter-pilot air-to-air frequency);
c) watch for conflicting traffic both visually and by reference to ACAS (if equipped).

Note.— If, as a result of actions taken under the provisions of 13.2.3.5.1 b) and c), the pilot determines that there is another aircraft at or near the same flight level with which a conflict may occur, then the pilot is expected to adjust the path of the aircraft, as necessary, to avoid conflict.

d) turn on all aircraft exterior lights (commensurate with appropriate operating limitations);
e) for deviations of less than 19 km (10 NM) remain at a level assigned by ATC;
f) for deviations greater than 19 km (10 NM), when the aircraft is approximately 19 km (10 NM) from track, initiate a level change in accordance with Table 13-1;
g) when returning to track, be at its assigned flight level when the aircraft is within approximately 19 km (10 NM) of the centre line; and
h) if contact was not established prior to deviating, continue to attempt to contact ATC to obtain a clearance. If contact was established, continue to keep ATC advised of intentions and obtain essential traffic information.

Route centre line track	*Deviations > 19 km (10 NM)*	*Level change*
EAST 000° – 179° magnetic	LEFT RIGHT	DESCEND 90 m (300 ft) CLIMB 90 m (300 ft)
WEST 180° – 359° magnetic	LEFT RIGHT	CLIMB 90 m (300 ft) DESCEND 90 m (300 ft)

Table 13-1

CHAPTER 14

ATC CONTINGENCIES

14.1 STRAYED OR UNIDENTIFIED AIRCRAFT

Note 1— The terms "strayed aircraft" and "unidentified aircraft" in this paragraph have the following meanings:

Strayed aircraft *An aircraft which has deviated significantly from its intended track or which reports that it is lost.*

Unidentified aircraft An *aircraft which has been observed or reported to be operating in a given area but whose identity has not been established.*

Note 2— An aircraft may be considered, at the same time, as a "strayed aircraft" by one unit and as an "unidentified aircraft" by another unit.

Note 3— A strayed or unidentified aircraft may be suspected as being the subject of unlawful interference.

14.1.1 As soon as Simara Tower becomes aware of a strayed aircraft, it will take all necessary steps as outlined in 14.1.2 and 14.1.3 to assist the aircraft and to safeguard its flight.

Note— Navigational assistance by Simara Tower is particularly important if the Tower becomes aware of an aircraft straying, or about to stray, into an area where there is a risk of interception or other hazard to its safety.

14.1.2. If the aircraft's position is not known, the Simara Tower will:

a) attempt to establish two-way communication with the aircraft, unless such communication already exists;

b) use all available means to determine its position;

c) inform other ATS units into whose area the aircraft may have strayed or may stray, taking into account all the factors which may have affected the navigation of the aircraft in the circumstances;

d) inform, in accordance with locally agreed procedures, appropriate military units and provide them with pertinent flight plan and other data concerning the strayed aircraft;

e) request from the units referred to in c) and d) and from other aircraft in flight every assistance in establishing communication with the aircraft and determining its position.

Note.— The requirements in d) and e) apply also to ATS units informed in accordance with c).

14.1.3 When the aircraft's position is established, the Control Tower will:

a) advise the aircraft of its position and corrective action to be taken; and

b) provide, as necessary, other ATS units and appropriate military units with relevant information concerning the strayed aircraft and any advice given to that aircraft.

14.1.4 As soon as Simara Tower becomes aware of an unidentified aircraft in its area, it will endeavor to establish the identity of the aircraft whenever this is necessary for the provision of air traffic services or required by the appropriate military authorities in accordance with locally agreed procedures. To this end, Simara Tower will take such of the following steps as are appropriate in the circumstances:

a) attempt to establish two-way communication with the aircraft;

b) inquire of other air traffic services units towards east of Kathmandu about the flight and request their assistance in establishing two-way communication with the aircraft;

c) inquire of air traffic services units serving the adjacent FIRs about the flight and request their assistance in establishing two-way communication with the aircraft;

d) attempt to obtain information from other aircraft in the area.

14.1.5.1 The Simara Tower will, as necessary, inform the appropriate military unit as soon as the identity of the aircraft has been established.

14.1.4.2 The Simara tower will consider that a strayed or unidentified aircraft may be the subject of unlawful interference, the appropriate authority designated by the State will immediately be informed, in accordance with locally agreed procedures.

14.2 RADIO COMMUNICATION AND NAVIGATION CONTENGENCIES

14.2.1 General

ATC contingencies related to communications, i.e. circumstances preventing a controller from communicating with aircraft under control, may be caused by either a failure of ground radio equipment, a failure of

airborne equipment, or by the control frequency being inadvertently blocked by an aircraft transmitter. The duration of such events may be for prolonged periods and appropriate action to ensure that the safety of aircraft is not affected will therefore be taken immediately.

14.2.2 Ground radio failure

14.2.2.1 In the event of complete failure of the ground radio equipment used for ATC, the Simara aerodrome controller will:

a) where aircraft are required to keep a listening watch on the emergency frequency 121.5 MHz, attempt to establish radio-communications on that frequency;

b) without delay inform all adjacent ATS units, as applicable, of the failure;

c) appraise such units of the current traffic situation;

d) if practicable, request their assistance, in respect of aircraft which may establish communications with those positions or units, in establishing separation between and maintaining control of such aircraft; and

e) instruct adjacent ATS units to hold or re-route all flights outside the area of responsibility of the Simara Control Tower until such time that the provision of normal services can be resumed.

14.2.2.2 In order to reduce the impact of complete ground radio equipment failure on the safety of air traffic, Simara Tower will follow the following procedure;

14.2.2.2.1 **During VHF/HF problem**:

- When 118.3 MHz is U/S, provide Air Traffic Control Service on 121.5 MHz
- When both 118.3 MHz and 121.5 MHz are U/S;
  - Advise other station/ Kathmandu APP about the existing situation & to relay to concern traffic.
  - Advise all inbound to divert nearest station.
  - Stop departures to/from Simara, except rescue flight and other mercy flights
- Give priority to ARRIVALS.
- Stop local flights within Control Zone

- Increase separation minima as required.
- Whenever feasible use portable VHF for landing and take-off clearance and surface movement, or
- Whenever feasible use Light gun for landing.
- When HF on 5805.5 in U/S, Use Automatic Message Handling System (AMHS) for the exchange of flight data with different aerodromes

14.2.2.2.2 **During problem in airfield lighting system (for IMC and night operation)**

- Runway light is mandatory for night operation.
- When Runway light is available, but

i. If PAPI and Approach light both unserviceable (U/S) then inform the pilot and operate aerodrome in accordance with published Instrument Approach Procedures.

ii. If Approach light is U/S then inform the pilot and operate aerodrome in accordance with published Instrument Approach Procedures.

iii. If PAPI light is U/S, then Inform pilot to make his/her decision whether to make approach/landing.

14.2.2.2.3 During problem in Navigational Aids (VOR/DME)

Simara Airport has only VOR/DME based instrument procedure. If VOR/DME is not available and VMC condition exists in day, Pilot has to cancel IFR and change to VFR. VOR/DME will be mandatory for IFR Operation in night. Following procedure will be applicable during failure of VOR/DME.

a) When aircraft making VOR/DME approach crossed 2 DME and reports that the runway is insight, ATC may issue landing clearance.

b) When aircraft making VOR/DME approach does not have runway insight then pilot has to follow their operation manual and inform the action taken to ATC.

c) Stop all departures from Simara.

14.2.3 Blocked frequency

In the event that the control frequency is inadvertently blocked by an aircraft transmitter, the following additional steps will be taken:

a) attempt to identify the aircraft concerned;

b) if the aircraft blocking the frequency is identified, attempts will be made to establish communication with that aircraft, e.g. on the emergency frequency 121.5 MHz, through the aircraft operator's company frequency.
If applicable, on any VHF frequency designated for air-to-air use by flight crews or any other communication means. If the aircraft is on the ground, by direct contact;

c) if communication is established with the aircraft concerned, the flight crew will be instructed to take immediate action to stop inadvertent transmissions on the affected control frequency.

d) In above situation, inform Kathmandu APP and other concerned aerodromes will be informed and advice the aircraft to contact on VHF 118.3 MHZ.

14.2.4 Unauthorized use of ATC frequency

14.2.5.1 Instances of false and deceptive transmissions on ATC frequencies which may impair the safety of aircraft can occasionally occur. In the event of such occurrences, the Simara Tower will:

a) correct any false or deceptive instructions or clearances which have been transmitted;

b) advise all aircraft on the affected frequency(ies) that false and deceptive instructions or clearances are being transmitted;

c) instruct all aircraft on the affected frequency(ies) to verify instructions and clearances before taking action to comply;

d) if practical, instruct aircraft to change to another frequency; and

e) if possible, advise all aircraft affected when the false and deceptive instructions or clearances are no longer being transmitted.

14.2.4.2 Flight crews will challenge or verify with the Simara Tower any instruction or clearance issued to them which they suspect may be false or deceptive.

14.2.4.3 When the transmission of false or deceptive instructions and clearances is detected, SICAO will take all necessary action to have the transmitter located and the transmission terminated.

14.3 UNAUTHORIZED ENTRY INTO NEPALESE AIRSPACE

As soon as Simara Tower learns that an aircraft has entered Nepalese airspace without getting permission from CAAN, it shall instruct aircraft to land at Tribhuvan International Airport (TIA). If the aircraft does not comply with the ATC instruction to land at TIA then the Simara TWR shall:

a) Determine the identity, position and purpose of entry into Nepalese airspace.
b) Notify the aircraft about its unauthorized entry and instruct the aircraft to leave the Nepalese airspace immediately.
c) Inform the Airport Security Committee/ military authority.
d) Inform relevant information to Kathmandu APP and DGCA for the necessary action.
e) If the aircraft does not comply with the ATC instruction, instruct aircraft to contact Kathmandu APP or act as instructed by DGCA.

14.4 EMERGENCY SEPARATION

14.4.1 If, during an emergency situation, it is not possible to ensure that the applicable horizontal separation can be maintained, emergency separation of half the applicable vertical separation minimum may be used, i.e. 150 m (500 ft) between aircraft in airspace where a vertical separation minimum of 300 m (1 000 ft) is applied, and 300 m (1 000 ft) between aircraft in airspace where a 600 m (2 000 ft) vertical separation minimum is applied.

14.4.2 When emergency separation is applied the flight crews concerned will be advised that emergency separation is being applied and informed of the actual minimum used. Additionally, all flight crews concerned will be provided with essential traffic information.

14.5 PROCEDURES IN REGARD TO AIRCRAFT EQUIPPED WITH AIRBORNE COLLISION AVOIDANCE SYSTEM (ACAS)

14.5.1 The procedures to be applied for the provision of air traffic services to aircraft equipped with ACAS will be identical to those applicable to non-ACAS equipped aircraft. In particular, the prevention of collisions, the establishment of appropriate separation and the information which might be provided in relation to conflicting traffic and to possible avoiding action will conform to the normal ATS procedures and will exclude consideration of aircraft capabilities dependent on ACAS equipment.

14.5.2 When a pilot reports an ACAS resolution advisory (RA), the controller will not attempt to modify the aircraft flight path until the pilot reports "Clear of Conflict".

14.5.3 Once an aircraft departs from its ATC clearance or instruction in compliance with an RA, or a pilot reports an RA, the controller ceases to be responsible for providing separation between that aircraft and any other aircraft affected as a direct consequence of the maneuver induced by the

RA. The controller will resume responsibility for providing separation for all the affected aircraft when:

a) the controller acknowledges a report from the flight crew that the aircraft has resumed the current clearance, or

b) the controller acknowledges a report from the flight crew that the aircraft is resuming the current clearance and issues an alternative clearance which is acknowledged by the flight crew.

Note 1— Pilots are required to report RAs which require a deviation from the current ATC clearance or instruction (see PANS-OPS (Doc 8168), Volume I, Part III, Section 3, Chapter 3, 1.2.1.c) 4)). This report informs the controller that a deviation from clearance or instruction is taking place in response to an ACAS RA.

Note 2— Guidance on training of air traffic controllers in the application of ACAS events is contained in the Airborne Collision Avoidance System (ACAS) Manual (Doc 9863).

14.5.4 ACAS can have a significant effect on ATS. Therefore, the performance of ACAS in the ATS environment will be monitored.

14.5.5 Following a significant ACAS event, pilots and controllers will complete an air traffic incident report.

Note 1— The ACAS capability of an aircraft may not be known to air traffic controllers.

Note 2— Operating procedures for use of ACAS are contained in PANS-OPS (Doc 8168), Volume I, Part III. Section 3, Chapter 3.

14.6 DISABLE AIRCRAFT REMOVABLE PALN (DARP)

14.6.1 Aircraft may become immobilized on an airport for a variety of reasons ranging from incidents, such as burst tire or an aircraft running off a runway or taxiway and aircraft bogged down, landing gear collapsed or damaged to major accident.

14.6.2 Any aircraft that is unable to move under its own power or through the normal use of an appropriate tow tractor and tow bar is considered to be a disabled aircraft.

14.6.3 The registered owner or aircraft operator will always retain complete responsibility for the removal of the disabled aircraft. The airport authority may or may not possess the knowledge or experience required to safely

recover the aircraft. All airline operators at Simara Airport are expected to have aircraft recovery plans.

14.6.4 In any event, if the registered owner or operator cannot recover the aircraft or cannot proceed in timely manner, the SICAO will take over the authority and act on behalf of the aircraft owner or operator . To perform this task, SICAO will appoint coordinator to coordinate the aircraft recovery operation and ensure that the disabled aircraft is removed in a timely and efficient manner.

14.6.5 All expenses incurred for the removal of disable aircraft shall be borne by concerned aircraft operator, and SICAO or any other agency involved on during the removal will have no liability for any damaged caused . Concerned aircraft operator shall bear all responsibilities of any damaged caused.

14.6.6 Simara Airport DARP will detail at least the following:

a) Duties and responsibilities of all involve in removal of disable aircraft; such as; Airport Manager, Aerodrome Control Tower, Airline Operator, RFF Section, Security Police/Army, Duty Personnel in Terminal Management, SICAO Admin etc.)

b) Procedure for removal of aircraft

c) Equipment for removal of aircraft

14.6.7 It is the responsibility of schedule aircraft operator to have their own DARP or common DARP of operators having same category of aircraft operating in Simara. However, SICAO will prepare its own Procedure for Removal of Disable aircraft and will submit to CAAN for its approval from DGCA.

14.6.8 Among the duties and responsibilities of all involved , the duties and responsibilities of Simara Aerodrome Controller will be as follows:

- Notify the RFFS with the following information and advise for remain standby.
  - Call sign of aircraft
  - Type of aircraft
  - Operator of aircraft
  - Location
  - POB if available,
  - FOB if available
- Notify the Airport Chief /ATS Section Chief with above detail.
- Inform all aircraft all arrival aircraft.

- Close all arrivals and departures until the further instructed by Airport Chief or ATS Chief in absence of Airport Chief
- Determine estimated time of arrival (ETA) of all aircraft requiring use of the closed runway.
- Determine latest time for affected aircraft to divert.
- Inform to aircraft operator
- Issue NOTAM if necessary with the approval from Airport Manager.

14.6.9 The Aircraft Owner, defined as the holder of the certificate of registration, is responsible for the aircraft removal and disposal of fuel and other hazardous materials that have been spilt as a result of the incident/accident

14.6.10 Prior approval for aircraft removal may be required from either Flight Safety Standard Department (FSSD), CAAN and/or from the Airport Manager for accidents of a more serious nature that require on-scene investigations.

14.6.11 For minor incidents, the Airport Manager is responsible for controlling and coordinating the response for removal of a disabled aircraft. This may require liaison with the airline or aircraft operator and the Aviation Safety Department of CAAN and/or Airport Security Police (if involved) to obtain a clearance to remove the aircraft.

14.6.12 SICAO Civil Section will mark the unserviceable portions of the manoeuvring area to provide for safe aircraft operation on the remaining usable areas.

CHAPTER 15

DOCUMENT AND RECORD KEEPING SYSTEM

15.1 RECORD TO BE KEPT

15.1.1 Automatic recordings.

The following items used for the provision of air traffic services will be recorded automatically and retained for the period shown:

a) direct pilot-controller two-way radiotelephony—30 days;

b) direct-speech or data link between air traffic services units—30 days;

15.1.2 Document records.

The following items will be kept for a minimum of 90 days

a) ATS messages, including flight plans;

b) flight progress strips or documents of a similar nature used for the recording of flight data and the issue of clearances, instructions and directions;

c) log books;

15.2 MAINTAINING RECORDS

15.2.1 Deletions from communications records are not permitted. All entries will be written in non-erasable ink, and will be legible.

15.2.2 Non-active forms or strips on which an error is noted may be replaced. Active forms or strips, fault reports, records and Log Books will be changed, or errors corrected by:

a) drawing a line through the incorrect data and writing the correct data adjacent thereto; or

b) Cancelling the old and rewriting the record, retaining both the old and the new for later reference purposes.

15.3 MAINTAINING OPERAITONAL LOG BOOKS

15.3.1 All significant occurrences and actions relating to operations, facilities, and equipment at Control tower will be recorded on the Log book.

15.3.2 A working record or Log Book entry will not be inserted between earlier entries. In the event of an out of sequence entry being necessary, it will be entered as soon as possible, and annotated that it is out of sequence with an explanatory note as to why it is out of sequence.

15.3.3 All Log Book entries will be recorded against the times of the occurrence, or time of the Log Book entry.

15.3.4 **Minimum information to be recorded.** The minimum information to be recorded is shown in the following table:

Occasion	Information
At the commencement of each day's operation	• UTC date and time; • Where required, identification of the unit and/or the operating position.
On assuming responsibility for a position	• The UTC date and time of assuming responsibility for a position and the signature of the officer commencing duty(use also voice recordings);
During operation of the unit	• Air Safety Incidents, including accidents and breaches of the Regulations such as noncompliance with ATC instructions; [Note: This is in addition to the completion of incident Reporting actions.] • Actions taken in relation to any SAR activity including distress communications; • General notes concerning essential aerodrome information, such as the results of aerodrome inspections, closure of sections of the manoeuvring area caused by works or natural phenomena, etc.; • Times of aerodrome closure and reopening, with reasons for the closure; • Change in status of facilities, service or procedure including communication difficulties and tests; • Status of navigation aids.

CHAPTER 16

AERODROME INFORMATION

Aerodrome (Ad) Location Indicator – VNSI

Name Of Aerodrome – SIMARA /DOMESTIC

16.1 GEOGRAPHICAL AND ADMINISTRATIVE DATA

1.	ARP Coordinates and site at AD	27 09 45 N 84 58 54 E *
2.	Direction and Distance from (city)	20 Km, North of Birgunj City
3.	Elevation/Reference Temperature	136 m. / 445 ft., 37° C (June)
4.	MAG VAR/Annual Change	0 ° E
5.	AD Administration, address Telephone, Telefax, Telex AFS	Civil Aviation Authority of Nepal Simara Airport , Bara Te1- 977-053-520110 Fax - 977-053-520210 AFS - VNSIYDYX
6.	Types of traffic permitted (IFR/VFR)	IFR / VFR
7.	Remarks	

16.2 OPERATIONAL HOURS:

1.	AD Administration	SUN-THU 10:00 -17:00 LT (SUMMER), 10:00-1600 LT (WINTER), FRI 10:00-1500 LT
2.	Customs and immigration	NIL
3.	Health and sanitation	NIL
4.	AIS Briefing Office	AS ATS
5.	ATS Reporting Office (ARO)	AS ATS
6.	MET Briefing	Hourly METAR provided during Operation Hours
7.	ATS	*Jan, Feb, Nov Dec0100-1215 UTC* *Mar, ,Apr, Sept, Oct 0030-1245 UTC* *May, June, July, Aug 0015-1300 UTC* **
8.	Fuelling	NIL
9.	Handling (Cargo)	NIL
10.	Security	H-24
11.	Remarks	Any change will be notified by NOTAM

* *WGS-84 Coordinates.*

** *For operations other than above, Prior Co-ordination and approval is required for extended operation hours until 11:00Pm.*

16.3 HANDLING SERVICES AND FACILITIES

1.	Cargo-handling facilities	Available with local airlines operator
2.	Fuel/Oil Types	**NIL**
3.	Fuelling facilities/capacity	**NIL**
4.	De-icing facilities	**NIL**
5.	Hangar space for visiting aircraft	**NIL**
6.	Repair facilities for visiting aircraft	**NIL**
7.	Remarks	-

16.4 PASSANGER FACILITIES

1.	Hotels	in the city
2.	Restaurants	in the city
3.	Transportation	Taxi Service. Bus from AD
4.	Medical Facilities	First Aid at AD; Hospitals in the city.
5.	Bank and Post Office	NIL
6.	Tourist Office	In the city.
7.	Remarks	-

16.5 RESCUE AND FIRE FIGHTING SERVICE

1.	AD Category for firefighting (III)	RFF Service available
2.	Rescue equipment	Available as per category
3.	Capability for removal of disabled aircraft	NIL
4.	Remarks	-

16.6 SEASONAL AVAILABILITY

Aerodrome is available throughout the year.

16.7 APRONS, TAXIWAYS AND CHECK LOCATION DATA

1.	Apron surface and strength	Surface - Asphalt Concrete. Strength - .
2.	Taxiway width, surface and strength	Width - Surface – Bitumen, Strength - .
3.	ACL location and elevation	Location: - At Apron Elevation:- 445 ft.
4.	VOR/INS checkpoints	VOR:-Taxi holding position.
5.	Remarks	-

16.8 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS

1.	Use of aircraft stand ID signs, TWY guide lines and visual docking/parking guidance system of aircraft stands	Taxiing guidance signs at intersections with TWY and RWY and at holding positions. Guide lines at apron.
2.	RWY and TWY markings and LGT	RWY: 01/19, THR, TDZ, Centre line, RWY edge marked and RWY End, THR, RWY edge have lights. TWY: Centre line, holding positions at all TWY/RWY intersections marked and edge with blue lights.
3.	Stop bars	.....
4.	Remarks	NIL

16.9 AERODROME OBSTACLES

In zone 2					
OBST ID/ Designation	Obstacle type	Obst. position	ELEV/ HGT mt.	Markings/ Type/ color	Remarks
a	b	c	d	e	f
VNSKOB001	Water Tank	27 10 12 N 84 58 50 E	105 / 30	Marked	
VNSKOB002	Trees	North of RWY 19 end.	105 / 30	--	Trees on the approach path to RWY 19

16.10 METEOROLOGICAL INFORMATION PROVIDED

1.	Associated MET Office	MET office, Sanaru AIRPORT
2.	Hours of service MET office outside hours	As ATS
3.	Office responsible for TAF preparation periods of validity	MET office, Kathamandu 9.18 Hrs
4.	Type of landing forecast interval of issuance	NIL
5.	Briefing Consultation provided	METAR
6.	Flight documentation language s) used	Charts or Tabular forms Text English
7.	Charts and other information available for briefing or consultation	NIL
8.	Supplementary equipment available for providing information	Self- briefing terminal
9.	ATS units provided with information	Sanaru TWR
10.	Additional information limitation of service, etc.)	--

16.11 RUNWAY PHYSICAL CHARACTERISTICS

Designation RWY NR.	TRUE & MAG BRG	Dimensions of RWY (M)	Strength(PCN) and surface of RWY and SWY	THR Coordinates	THR elevation and Highest elevation of TDZ of Precision APP RWY
1	2	3	4	5	6
01	012°	1192x 30	Bitmen	270917.76" 084934.92E	126m AMSL
19	192°	1192x30	Bitmen	270955.56" 084.93.92E	136m AMSL
Slope of RWY-SWY	SWY Dimensions (M)	CWY Dimensions (M)	Strip Dimensions (M)	OFZ	Remarks
7	8	9	10	11	12
.....	.....	.....	.....	.....	.....

16.12 DECLARED DISTANCES

RWY Designator	TORA (M)	TODA (M)	ASDA (M)	LDA (M)	Remarks
1	2	3	4	5	6
01	1192	1192	1192	1192	
19	1192	1192	1192	1192	

16.12 APPROACH AND RUNWAY LIGHTING

RWY Designator	APCH LGT Type LEN/ INTST	THR LGT COLOUR WBAR	VASIS (MEHT) PAPI	TDZ LGT LEN	RWY Centre Line LGT Length, Spacing, Color, INTST	RWY edge LGT Length, spacing, Colou INTST	RWY End LGT Colou	SWY LGT LEN /Col Color	Remarks
1	2	3	4	5	6	7	8	9	10
19	NIL	Green	PAPI 3.00°	NIL	NIL	1152m, 60m White LIH	Red	NIL	
01	NIL	Green	APAPI 3.00°	NIL	NIL	1152m, 60m White LIH	Red	NIL	

16.14 OTHER LIGHTING, SECONDARY POWER SUPPLY

1.	ABN Location, characteristics and hours of operation	ABN At Tower Buildding/IBN: NIL
2.	LDI Location and LGT Aannouncemte Location and LGT	NIL
3.	TWY edge and Centre line lighting	Edge: All TWY. Centre Line : NIL
4.	Secondary power supply / switch over time	Secondary power supply to all lighting at ADAswitch over Manually
5.	Remarks	NIL

16.15 HELICOPTER LANDING AREA

Not Specified

16.16 ATS AIRSPACE

1. Designation and lateral limits	Simara CTR: An area bounded by VNSM boundary to the south and an arc of a circle 20 NM in radius centered at 'SNR' VOR (270953N, 0841658E') Simara ATZ: An area of a circle of radius 5 NM centered at 'ARP' (270945 N, 0841854 E)	
2. Vertical Limits	CTR:	ATZ
	7500' AMSL/ GND	2000' AGL/ GND
3. Airspace classification	C	
4. ATS units call signs(agency(s)	Simara TWR/English	
5. Transition Altitude	13500' AMSL	
6. Remarks	-	

16.17 ATS COMMUNICATION FACILITIES

Service Designation	Call Sign	Frequency	Hours of Operation	Remarks
1	2	3	4	5
TWR	Simara Tower	118.3 MHZ	*Jan, Feb, Nov, Dec 0100-1215 UTC* *Mar., Apr., Sept, Oct. 0030-1245 UTC* *May, June, July, Aug 0015-1300 UTC*	

16.18 RADIO NAVIGATION AND LANDING AID

Type of Aid	Identification	Frequency	OPR Hours	Coordinates	Remarks
1	2	3	4	5	6
VOR/DME	SMR	112.9 MHZ CHN 76 X	H24	27°05'51 N* 084°85'6 E	

** WGS-84 Coordinates*
*** For operations other than above, Prior Co-ordination is required.*

CHAPTER 17

ADMINISTRATIVE INSTRUCTIONS

17. Before proceeding with the actual work of ATC it is necessary to know the administrative procedures associated with the provision of ATC. When prior instructions have not been issued, the administrative rules included in this manual are applicable.

17.1 DUTIES AND RESPONSIBILITIES

17.1.1 AERODROME/APPROACH CONTROLLER

Aerodrome/Approach Controller will perform traffic separation and coordination tasks in accordance with the ATSOM and letters of agreement and instructions and in particular;

i) Ensure the safe, orderly and expeditious flow of air traffic in its area of jurisdiction;

ii) Maintain separation standards in respect of all aircraft operations;

iii) Integrate arriving aircraft into an orderly landing sequence;

iv) Exercise judgment in the provision of landing and take-off clearances to aircraft.

v) Exercise control of aircraft making missed approach.

vi) Close or reopen a runway, the airport or any specific approach landing area.

vii) Determine the use of sector weather observations to permit aircraft operations as applicable;

viii) Initiate search and rescue or airport emergency action in accordance with AEP;

ix) Maintain coordination with coordinator.

17.1.2 TOWER COORDINATION POSITION

Following are the duties and responsibilities of Tower Coordination Position

i. Coordinate airways clearances for departing aircraft.

ii. Coordinate the activities of the aerodrome control unit with technical maintenance authorities, emergency services and department officers.

iii. Initiate search and rescue or airport emergency action in accordance with prescribed procedures.

iv Coordinate with appropriate Control towers for exchange of operational data.

v. Coordinate in between Kathmandu APP, other domestic aerodromes and ADC or Kathmandu ACC controllers.

vi Handle HF, AMSS, telephone, portable VHF/UHF sets; coordinate with local units (RFF, MET, Admin, Terminal, Airlines), check and operate aeronautical lights, check functionality of navaid , assist in making strip, maintain movement log book.

17.1.3 CHIEF ATSUNIT INCHARGE/SUPREVISOR

The following duties and responsibilities are specified for Unit In-charge and/or Chief ATS.

i. To ensure ATC Services are provided in accordance with ATSOM.

ii To inspect all equipment and facilities within control tower and to ensure normal operation.

iii. To assign all ATCO in a proper position and to monitor proper work load.

iv To ensure operating methods and procedures are maintained in standard way by keeping flight progress strips up to date and postings are complete & correct.

v. All log books are kept up to date.

vi. The consoles are kept neat and uncluttered.

vii. To ensure professional manner is maintained by the staff and to inform shift in charge in case of any staff's absence.

viii. To maintain good coordination with other units for normal operation and to report Airport Manager in case of difficulty.

ix. Action to be taken to initiate any necessary NOTAMS.

x. Sufficient staff is manned in the all ATC position as per the published roster It is the duty of the Supervisor to notify the ATS Chief of any absences and to request extra or replacement staff in the event of sickness, emergency situations, etc.

xi. Initiate action for search and rescue in accordance with prescribed procedure if required,

xii. Co-ordinate and cooperate with the concerned units as and when required for the efficient and smooth operation;

xiii. Responsible for resolving any conflicts of opinion relating to aircraft safety or expedition of aircraft movement.

17.1.4 ON JOB TRAINING INSTRUCTOR (OJTI)

The OJTI is responsible for the quality of training undertaken at aerodrome control tower, for the initial rating of controllers and for ensuring that the provision of Air Traffic Control is delivered in a safe, efficient and standard manner. The detail duties are listed below

i. To prepare and implement detail training plan for each trainee air traffic controller as mention in MATS.

ii. To train and supervise student air traffic controller or trainee to the position for which they are to be rated.

iii. Conduct training on the basis of syllabus set out in Unit Training Plan.

iv. To ensure that trainee air traffic controllers are competent in the use of new standards, procedures, techniques, facilities and equipment identified as essential to task performance

v. Make frequent inspection of ATC unit to check the performance of the trainees on OJT

vi. Maintain a register of Trainee's roster and period of duty performed on job training for the position

vii. To identify any deficiencies in knowledge or skill and recommending remedial training.

viii. To prepare ATC OJT report and recommend the Licensing/ rating Division, ANSSSD, the trainee air traffic controller as being at an appropriate level of competence where he/she will be successful at a rating or validation assessment

ix. To supervise air traffic controllers who have had their rating(s) suspended; and

x) To review, monitor and propose changes to the training

17.2 CONTROL ROOM DISCIPLINE

17.2.1 VISITORS

17.2.2 No unauthorized person will be allowed access to an ATS Operational Room. Allowing such visitors to the control Room is the explicit authority of the ATS Chief/Supervisor and before bringing in authorized visitors a check will be made with the watch ATS Chief/Supervisor or the Duty ATCO as to whether the traffic situation permits such a visit. At no time will visitors be allowed to interfere with the smooth running of the watch.

17.2.3 CLEANLINESS

1. The Duty ATCO will ensure that the Control tower Room is kept in a clean and tidy condition at all times.
2. All equipment will be ensured in serviceable condition and stowed away when not in use.

17.2.4 SUPERVISON

The ATS Chief/Supervisor, depending on the Control tower will be responsible for the supervision of all staff and the maintaining of a generally high standard.

17.3 PROCEDURES FOR TAKING OVER AND HANDING OVER WATCH

17.3.1 TAKING OVER WATCH

17.3.1.1 Prior to taking over watch ATCOs will:

Ensure that they are fully conversant with the latest promulgated orders, instructions, notices and signals with particular reference where appropriate to the serviceability of the aerodrome and its facilities.

17.3.1.2 Obtain full information and briefing from the MET office regarding the weather position and tendencies for the period of their watch whenever necessary as justified by the general weather condition.

17.3.1.3. Ensure that they have a full understanding of the air traffic situation prevailing with particular reference to separation standards.

17.3.1.4 Familiarize themselves with the serviceability of all equipment under their charge and likely to be used during the period of their watch.

17.3.1.5 Ensure that they are acquainted with any special movements or maneuvers likely to occur during their watch.

17.3.1.6 Having completed the above procedure, ATCOs will sign the ATC watch log as having taken over watch. This signature will imply that items 1 to 5 inclusive have been complied with and that the ATCO taking over watch has assumed all the defined responsibilities of the ATCO handing over watch, including the safe custody of equipment and any secret or confidential document within the place of duty.

17.3.2 HANDING OVER WATCH

17.3.2.1 ATCOs handing over watch will ensure that they provide their successors with the fullest possible information regarding the current situation including any items of specific interest or urgency which have influenced the development of the situation and which may have a bearing on the progress of the ensuing watch.

17.3.2.2 Will any situation have developed during the watch such an action to in the event of distress, emergency or accident where in the interests of safety or efficiency, it is considered beneficial for the duty ATCO to complete such actions and subsequent reports and records rather than to transfer the responsibility for completion to another officer. Notwithstanding the fact that watches roster defines the appointed time to hand over, the ATCO handing over watch will remain on until such time as this responsibility has been discharged.

17.3.2.3 When the ATCO taking over is fully conversant with the air traffic situation and is prepared to assume full responsibility for the watch the ATCO handing over will sign the ATC watch log as having handed over watch.

17.4 ATC LOG BOOKS

17.4.1 ATC WATCH LOG

17.4.1.1 An aerodrome surface inspection log will be maintained and entries will be made after the inspection of movement area has been carried out. Arrangement will be made to ensure that information on un-serviceability recorded is forwarded as soon as possible to the Airport Manager and CAAN HO.

17.4.1.2 An aerodrome lighting inspection log, other facility status of navigational aids including Fire vehicle, AMSS, Bird scaring device, aerodrome conditions etc will be maintained in the ATC watch log for distribution of information on un- serviceability recorded. Arrangement will be made to ensure that information on un-serviceability recorded is forwarded as soon as possible to the Airport Manager and CAAN HO.

17.4.2 OCCURANCE REPORTING LOG

Any information on incident, event or occurrence relating to the air navigation services (ATS incidents , air traffic incident received from pilot, bird strike) will be maintained a log and reported to Airport Manager and to Civil Aviation Safety Regulation Directorate and Air Navigation Directorate of Civil Aviation Authority of Nepal without delay *(Refer : Appendix G, H and I)*

17.5 PROCEDURES FOR MAINTAINING ATC WATCH LOG

17.5.1 The ATC watch log will be maintained at all times. Entries will be made in ink and no erasures will be made.

17.5.2 In no circumstances will pages be removed from the log book.

17.5.3 Entries will be made in chronological order and as far as possible concurrently with the incident being recorded.

17.5.4 When during emergencies or rush periods it is impossible to make detailed entries at the time of the occurrence, rough notes will be kept with exact times and a detailed entry made as soon as possible. The rough notes will

be attached to the log book for future reference, will it appear at all likely that they may be required.

17.5.5 Entries will be in sufficient detail to enable anyone investigating an incident to have a complete understanding of all actions taken during the watch period.

17.5.6 Items to be logged will include changes in the serviceability of radio aids, other essential aerodrome information, reports of incorrect procedures by aircraft, technical failures in aircraft, runway changes, visits of VIPs, clock synchronization checks and any unusual occurrence.

Note: The accident investigation authority (AIA) has full authority to impound any ATC log book if they consider that its contents throw any light on a particular accident. When such action is taken the log book will be withdrawn as soon as possible after the request is made and handed over the AIA. In this circumstance a replacement log book will be opened.

17.6 PROCEDURE FOR INCIDENT REPORTING AND AIRMISS REPORTING

17.6.1 INCIDENT REPORTING

An incident is an occurrence which might result in an accident. Generally speaking, it may be caused by:

a. Ground Organization

b. Equipment defects, faulty organization and procedure.

c. Personnel error, incompetence, failure to comply with instruction etc.

d. Aircraft

e. Defects in the aircraft or its equipment, loss of control due to MET conditions, etc.

f. Aircrew

g. Negligence, incompetence, failure to comply with procedures and instructions, incorrect practices and errors of judgment etc.

h. Wild life animal and bird hazard

17.6.2 DIVISION OF INCIDENTS

Categorized division of incidents would include:

a) Pilot Deviations from normal route

b) Operational Errors

c) Air misses

d) Bomb Threat/Unlawful Interference Incidents

e) Emergencies

f) Miscellaneous (not covered above)

17.6.3 DIVISION OF RESPONSIBILITY FOR ACTION

17.6.3.1 In the case of minor incidents involving installations or personnel on the aerodrome, or aircraft under Control Tower, the ATS Chief & Airport Manager will deal with the matter locally.

17.6.3.2 Those incidents which cannot be dealt with locally will be reported to CAAN.

17.6.3.3 Controller will use the form described in Appendix G, H, I for the submission of such report.

17.6.4 AIRMISS REPORTING OCCURRANCE REPORTING POCEDURES

17.6.4.1 An "AIRMISS" report may be filed by a pilot when he considers that his aircraft has been endangered by the proximity of another aircraft during flight, to such an extent that an actual or potential risk of collision existed. *(Refer to Appendix G for the format of the form)*

17.6.4.2 The majority of AIRMISS Reports will be made by radio or by telephone shortly after the pilot has landed, which be confirmed in due time.

17.6.4.3 Any information on incident, event or occurrence relating to the air navigation services that affects or may affect the safety of air navigation will be reported by Aerodrome Control Tower to Airport Manager which in turn would be reported to Civil Aviation Safety Regulation Directorate without delay through Air Navigation Directorate of Civil Aviation Authority of Nepal.

17.6.4.4 Such reports will be made by quickest means available such as telephone, cell phone, email, fax or a format may be used for the reporting purpose in accordance with Appendix H.

17.6.5 ACTION BY PILOT

17.6.5.1 The pilot will make his initial report to Control tower as soon as after the incident has occurred. If the report is made by R/T the message will include the following:

AIRMISS REPORT

POSITION

TIME OF INCIDENT

LEVEL (climbing, descending or cruising)

HEADING

WEATHER CONDITIONS

BRIEF DETAILS OF INCIDENT INCLUDING DISTANCES INVOLVED.

Note: Will a pilot omit the prefix while reporting on R/T, the ATCO will ask him if it is his intention to file an AIRMISS REPORT.

17.6.5.2 If the initial report is made by radio or telephone, the pilot will confirm by submitting in written within 7 days of the incident to SICAO which will be forwarded to CAAN Head Office.

Note: The purpose of following such incidents with immediate proper reporting is to facilitate investigation with the objective of preventing another of similar nature.

17.7 DUTY ROSTER

17.7.1.1 ATCOs will adhere to the time and periods of watch-keeping duties details in this roster and will arrive at their place of duty in time to carry out the procedures detailed under 'procedures for taking over handing over watch.'

17.7.1.2 No alterations are to be made to the watch rosters without reference to, and approval by the ATS Chief.

17.8 LOCAL NOTICES TO STAFF

Local notices to staff will be displayed on a board placed preferable in the control tower hung specifically for this purpose.

17.9 SUGGESTIONS

ATCOs are encouraged to put forward suggestions for improving the general operating efficiency of the services, such suggestions will be put forward through the normal channels for onward transmission to CAAN as necessary.

17.10 RELATIONS WITH PRESS AND GENERAL PUBLIC

17.10.1 Discussions on matters to ATC policy and the operation of control will be avoided with persons other than officials of the ATS services.

17.10.2 Reports on accidents, breaches of regulations, reprimands to pilots, or other personnel, etc. will be treated as confidential matters and will not be discussed in public or passed to the media.

17.10.3 Any request for information by representatives of the press will be referred to Airport Manager.

17.10.4 Control towers will not normally conduct correspondence direct with operating companies or individuals, except when and where authority to do so has been expressly given by Airport Manager. Complaints received

regarding specific incidents will be submitted to SICAO after acknowledgement has been made to the originator.

17.10.5 The movement of VVIPs and other special Flights and their position reports will be treated as confidential. On request from the public such information will not be given out except to the appropriate bodies.

17.11 PROCEDURES FOR OPENING AND CLOSING OF ATC WATCH

17.11.1 Following checklist will be used for opening of ATC Watch;

1. Duty on;
2. Switch on VHF on 118.3 MHZ and 121.5 MHZ;
3. Switch on SSB on 5805.5 KHZ;
4. Radio check with Fire Station and check crash alarm;
5. Check VOR/DME status;
6. Check METAR and make own weather observation;
7. Check MET display system;
8. Switch on computer for airfield lighting system;
9. Switch on computer for AMHS;
10. Check operational status and power of standby portable VHF;
11. Check flight plan or flight strips, if any, filed on the previous day;
12. Check notice board for current information;
13. Check Hot line;
14. Get report on Movement area condition and NAV AID, airfield lighting status;
15. Check the digital clock from available sources;
16. Declare airport status;
17. Log any FAULT and report it to Chief ATS and airport Manager;

17.11.2 Following checklist will be used for closing of ATC Watch;

1. Receive last domestic arrival time from Kathmandu or from other aerodrome;
2. Log landing time of last flight in HF log book and mention closing time in night operation log book;
3. Inform Kathmandu about night stop aircraft making at Simara, if any;
4. Switch off all lights including flood light;
5. Inform Fire section, technical section and electro-mechanical section about operation closer time;

6. Switch off VHF and HF;

7. Switch off computer of AMHS;

8. Disconnect power plug of all computer and other devices like telephone set, Walkie-Talkie set, water filter, Air Conditions, AMHS, from the source to save from thunderstorm.

9. Make entry of all arrival and departure information into Movement log book.

10. Make entry into VHF log book (control position log book) and duty watch on logbook.

11. Place each document, logbook, binocular and charts on proper position

12. Keep Airlines program, flight strips and METAR in allocated place.

13. Enter movement record in the movement log book.

Note 1: Airlines have to request SICAO for the extension of operation if there is likelihood of flight operation beyond operation hour.

Note 2: Normally time required for the closing of operation is 00:30 minute while performing above closing procedure. Hence, 00:30 minutes will be added in the landing time of last flight or change overtime of the last flight to ensure the actual closing time of operation necessary for the calculation of night over time/extended operation hour.

Note 2: For overtime calculation, if the closing time exceeds the operation hour, then one hour will be calculated for the first hour and then onwards 30 minutes for each half an hour of extended period.

17.12 PROCEDURE FOR MOVEMENT AREA INSPECTION

Every morning, before declaring airport status, Movement Area will be inspected thoroughly as below:

An inspection team will comprise personnel as directed by Manager, SICAO. They may be from Rescue and Fighting or electro-mechanical section or technical section or jointly and will call control tower to get permission to enter Runway.

Phraseology

"**INSPECTION TEAM:** TOWER, THIS IS AERODROME VEHICLE/ FIRE VEHICLE, REQUEST PERMISSION TO ENTER RUNWAY FOR INSPECTION."

TWR PERMISSION GRANTED REPORT COMPLETION OF INSPECTION

Example: "INSPECTION COMPLETED, ALL LIGHTS AND MOVEMENT AREA NORMAL EXCEPT ... TAXIWAY A LIGTH AND ..... RUNWAY LIGHT U/S OR BROKEN."

17.13 PROCEDURE FOR THE OPERATION OF AERODROME AND AIRFIELD LIGHT SYSTEM

Controller will switch on/off all airfields lighting system which has control from tower.

17.14 PROCEDURE OF BIRD STRIKE/WILD ANIMAL STRIKE

Bird strike to aircraft, as a potential source of danger, is seen in its most serious form. ATC will take the best known methods to eliminate or reduce bird strike hazards. It is difficult to drive away all the birds at all times. Nevertheless, every reasonable effort will be taken to reduce the bird hazard. During bird activity and movement of wild animals, following procedure is applicable:

a) Operate bird scaring device (if available) from the tower,

b) If bird or animal do not scarod and still remain on the active runway, inform to fire watch office or office service staff.(Karyalaya Sahayogi) through intercom number/UHF Set or other available device. Provide location of bird activity/wild animal movement.

c) Sometimes additional personnel may require for the driving bird/animal. In such case concerned airline personnel/airport police are requested to support the office staffs.

Note: It is the responsibility of PIC to land in an aerodrome where bird activity/animal movement has been informed to PIC. Bird Strike/Wild Animal Strike reporting form as prescribed in Appendix I.

CHAPTER 18

ATS FACILITIES AND EQUIPMENT

18.1 INTRODUCTION

18.1.1 This chapter provides the guidelines for the design, sitting, construction, equipping and maintenance of ATC facilities where applicable.

18.1.2 Simara tower will always have documents as mentioned in Chapter 3 Para 3.2 and other needful log-books.

18.2 CONTROL TOWERS

18.2.1 **Visibility**. The control tower will have:

a) adequate visibility to all the maneuvering area and airspace which are under the controllers' area of responsibility;

b) a view of all runway ends and taxiways, with suitable depth perception;

c) maximum visibility of airborne traffic patterns with primary consideration given to the view from the aerodrome control position;

d) unobstructed line of sight from the control tower eye level to the maneuvering area of the aerodrome;

e) sufficient visual resolution of all aerodrome movement areas for which has a responsibility for the bay allocation and orderly flow of traffic;

f) ability to detect movement of a departing aircraft as soon as possible after it has commenced its take-off run;

18.2.2 **Communication**. Control tower will have

a) an appropriate power supply to service the facilities identified in this Section;

b) facilities capable of two-way communications with aircraft, vehicles and persons within its area of responsibility;

c) facilities capable of providing two-way communications:

i. with Kathmandu APP and adjacent Control towers/aerodromes;

ii. with aerodrome rescue and fire fighting services;

d) a means of alerting emergency services;

e) a means of recording air/ground/air and ground/ground communications;

f) AFTN terminal or other means to provide information normally conveyed by AFTN;

g) binoculars;

h) Light gun (signal lamp), with white, red and green functions.

18.2.2 Displays.

18.2.2.1 The control tower has the following displays:

a) Meteorological displays which meet the accuracy criteria specified in Annex 3 and which provide at least the following information:

i. wind velocity;

ii. barometric pressure;

iii. temperature

b) operational data displays for:

(i) relevant maps and charts;

c) a time display;

d) Automatic Message Handling System (AMHS)

18.2.3.2 Monitors and controls for aerodrome equipment.

A control tower has appropriate monitors, and controls for aerodrome lighting equipment for which the control tower has responsibility, including:

a) runway lighting;

b) approach lighting;

c) high intensity approach and runway lighting;

d) taxiway lighting;

e) PAPI;

f) obstruction lighting;

g) illuminated wind indicator; and

h) aerodrome beacon

18.2.3.3 The Simara tower has a means to readily recognize the failure of any terrestrial navigation aid being used for the control of aircraft.

CHAPTER 19

MISCELLANEOUS PROCEDURES

19.1 RESPONSIBILITY IN REGARD TO MILITARY TRAFFIC

19.1.1 It is recognized that some military aeronautical operations necessitate non-compliance with certain air traffic procedures. In order to ensure the safety of flight operations the appropriate military authorities will be asked, whenever practicable, to notify the proper aerodrome control tower prior to undertaking such manoeuvres.

19.1.2 A reduction of separation minima required by military necessity or other extraordinary circumstances will only be accepted by aerodrome control tower when a specific request in some recorded form has been obtained from the authority having jurisdiction over the aircraft concerned and the lower minima then to be observed will apply only between those aircraft. Some recorded form of instruction fully covering this reduction of separation minima will be issued by the aerodrome control tower.

19.2 RESPONSIBILITY IN REGARD TO UNMANNED FREE BALLOONS

19.2.1 On receipt of notification of the intended flight of a medium or heavy unmanned free balloon, the aerodrome control tower will arrange for the information to be disseminated to all concerned. The information will include:

a) the balloon flight identification or project code name;

b) balloon classification and description;

c) Nav aids frequency as applicable;

d) the launch site;

e) the estimated time of the commencement of the launch or the planned period of the launches;

f) the expected direction of ascent;

g) the cruising level(s) (pressure-altitude); and

h) the estimated elapsed time to pass 18 000 m (60 000 ft) pressure-altitude, or to reach cruising level if at or below 18 000 m (60 000 ft), together with the estimated location.

19.2.2 On receipt of notification that a medium or heavy unmanned free balloon has been launched, aerodrome control tower will arrange for the information to be disseminated to all concerned. The information will include:

a) the balloon flight identification or project code name;
b) balloon classification and description;

c) Nav aids frequency as applicable;

d) the launch site;

e) the time of launch(es);

f) the estimated time at which 18 000 m (60 000 ft) pressure-altitude will be passed, or the estimated time at which the cruising level will be reached if at or below 18 000 m (60 000 ft), and the estimated location;

g) the estimated date and time of termination of the flight; and

h) the planned location of ground contact, when applicable.

19.3 NOTIFICATION OF SUSPECTED COMMUNICABLE DISEASES, OR OTHER PUBLIC HEALTH RISK, ON BOARD AN AIRCRAFT

19.3.1 The flight crew of an en-route aircraft will, upon identifying a suspected case(s) of communicable disease, or other public health risk, on board the aircraft, promptly notify the Simara aerodrome control tower with which the pilot is communicating, the information listed below:

a) aircraft identification;

b) departure aerodrome;

c) destination aerodrome;

d) estimated time of arrival;

e) number of persons on board;

f) number of suspected case(s) on board; and

g) nature of the public health risk, if known.

19.3.2 The Simara tower, upon receipt of information from a pilot regarding suspected case(s) of communicable disease, or other public health risk, on board the aircraft, will forward a message as soon as possible to the ATS unit serving the destination/departure aerodrome.

19.3.3 When a report of a suspected case(s) of communicable disease, or other public health risk, on board an aircraft is landing in Simara Airport, the Simara tower will notify the Airport Manager/ Air Navigation Service Directorate, CAAN and TIACAO and the aircraft operator or its designated representative.

Note — The information to be provided to the departure aerodrome will prevent the potential spread of communicable disease, or other public health risk, through other aircraft departing from the same aerodrome.

19.4 PROVISIONS FOR AIRPORT OPERATION

19.4.1 The Air Traffic Service to be provided under the jurisdiction of Simara aerodrome control tower will be as per the standards specified in the Civil Aviation Requirements.

19.4.2 The responsibility of ensuring the service as per the standard pursuant to 19.4.1 will be that of the Airport Manager

19.4.3 All pilots, during flight, will follow the instruction of the Air Traffic Controller.

19.4.4 If any situation arises for not being able to comply with the instruction given by the Air Traffic Controller pursuant to 19.4.3 in a view of the flight safety, the pilot will inform the same to the Air Traffic Controller.

19.4.5 Any information on incident, event or occurrence relating to the air navigation services that affects or may affect the safety of air navigation will be reported by Aerodrome Control Tower to Airport Manager which in turn would be reported to Civil Aviation Safety Regulation Directorate without delay through Air Navigation Directorate of Civil Aviation Authority of Nepal.

Such reports may be made available through telephone, cell phone, email in initial report however the report will be submitted through the prescribed format *(refer – appendix G, M, I).*

19.4.6 The Airport Manager will have the responsibility to install, operate and maintain the communication and navigation equipment to support smooth operation of Air Traffic Services. However, in case of unavailability of resource he will have the only option to coordinate with Air Navigation Service Directorate, CAAN and its concerned Departments.

19.4.7 **ACCESS TO THE AERODROME MANOEUVERING AREA**

i. **The Chief of the Airport/Airport Manager** has overall responsibility for ensuring that procedures are established and resources are provided for aviation security and for the control of airside access to the airport and is responsible for developing an Airport Security Program.

ii. **Airport security personnel** has the responsibility to check restricted area pass and other valid document and make search of person so that no unauthorized person can enter the airside area of the airport.

iii. **The Simara Tower** has the responsibility for control of vehicles on the manoeuvring area. No person or vehicle may enter this area without ATC approval. Any person entering the manoeuvring area will also hold, or be escorted by a person who holds, a valid airport pass having access.

APPENDICES

APPENDIX A

OPERATIONAL LETTER OF AGREEMENT (LOA) BETWEEN KATHMANDU APPROACH CONTROL UNIT (APP) AND SIMARA TOWER (SI TWR).

1. General

1.1 Purpose

The purpose of this letter of agreement is to define the agreed procedure applied between Kathmandu Approach (KT APP) and Simara Tower for the safe and efficient conduct of Air Traffic Services within their jurisdictions.

1.2 Scope

The procedure contained in this document shall be applied in the jurisdiction of KT APP and Simara Tower.

2. Air Space

Within Kathmandu FIR the airspace is classified as follows:

i) Class C - Airways, Airspace in Terminal Areas, Control Areas, Control Zones and Aerodrome traffic Zones.

ii) Class G - Airspace other than in class C

3. Jurisdictions and the Responsibility for the provision of ATS.

3.1 Sectors of VMSM

i) Kathmandu Sector

Kathmandu sector includes all Kathmandu FIR airspace to the East of 083ºE longitude from ground level to unlimited.

ii) Nepalgunj Sector

Nepalgunj sector includes all Kathmandu FIR airspace to the West of 083ºE longitude from ground level to unlimited.

3.2 **Jurisdictions**

i) Jurisdiction of Kathmandu APP shall be the whole airspace at and below F200 in KT TMA and the airspace below KT TMA excluding the control zones of different airports and area of responsibility of ATS aerodromes.
ii) Jurisdiction of Simara TWR shall be the control zone area of SimaraTower.

3.3 **Responsibility of ATS**

i) Simara Tower shall be responsible for providing air traffic services to all the air traffics in the control zone of Simara Tower.
ii) KT APP shall be responsible for providing air traffic services to all the air traffics in its jurisdictions.

4. Altimeter setting procedure

i) All aircraft operating in the area of responsibility of Simara Tower shall use Simara QNH supplied by Simara Tower.

ii) All aircraft operating in the area of responsibility of KT APP at and below the transition altitude will use KT QNH.

iii) Change of altimeter setting from KT QNH to SI QNH and vice versa shall be at the control zone boundary of Simara Tower.

iv) Change of altimeter setting from local QNH to 1013.2 hpa and vice versa shall be in the transition layer during climb and descend.

5. Separation

Separation shall be applied according to the ATC Manual and procedures for Air Navigation services Air Traffic Management (DOC 4444)

6. Transfer of control and co-ordination procedure.

6.1 Transfer of control point

i) Transfer of control point shall be the control zone boundary of Simara Tower.

ii) KT APP shall clear any traffic to descend up to 8500 ft without the co-ordination with Simara Tower.

iii) Simara Tower shall clear any traffic to climb up to 7500 ft without co-ordination with KT APP.

6.2 Co-ordination procedure

i) Simara Tower shall get air traffic control and release clearance to release any a/c to KT.

ii) If no communication has been established with Kathmandu Approach, pilot in command shall contact for the purposes of receiving release clearance as downstream clearance.

iii) Simara Tower shall also get air traffic control clearance for any a/c to release in other sector at or above 7500ft.

iv) Transferring unit shall supply all necessary information to accepting unit such as :

- A/C Call sign
- Type of A/C
- Departure point
- Route
- Level of A/C and changes of level there to
- ETA as and when required
- Destination
- Any other pertinent information.

v) Coordination shall be effected at the earliest after the departure of A/C but not later than 5 minutes of the departure time of A/C.

vi) The accepting unit shall immediately confirm and notify any specific requirements for flights upon receipt of co-ordination notice.

vii)In case of climb or descent requested by the A/C to the level other than previously co-coordinated, co-ordinate it at the earliest to the accepting unit.

viii) In case of emergency, allow all to perform the requested maneuver and coordinate it to the accepting unit as early as possible. If possible, advise A/C to coordinate its maneuver to the accepting unit at the earliest.

ix) If any estimates varies by 3 minutes or more from that previously coordinated, coordination shall be re-made.

x) If the accepting ATS unit cannot accept a flight offered in accordance with the conditions specified above, it shall clearly indicate its inability and specify the conditions under which the flight will be accepted.

xi) For any proposed deviation from route or level the transferring unit shall initiate an approval request.

xii)The accepting ATS unit shall not notify the transferring ATS unit that it has established ground air communications with the transferred aircraft unless specifically requested to do so. The accepting shall notify the transferring unit in the event that communication with the aircraft is not established as expected.

7. Communication system for co-ordination

i) Direct Hotline or AMSS
ii) HF/RT
iii) ISDN dedicated telephone

8. Revisions

8.1. This agreement shall be subject to revision when ever

i) An amendment to applicable Civil Aviation requirements (CAR) manuals and operating procedures or instructions which might affect the procedures contained in this agreement occurs,

ii) New communication facilities or Air Traffic services systems which might affect these procedures are commissioned,

iii) For any other reason, which might make it advisable to change this agreement, the interested ATS unit shall propose the pertinent revision through Air Traffic management department CAAN, Head office. The revision requires the mutual written consent at the respective units. However, the chief of the concerned ATS units may introduce by mutual agreement and for specified time of persod, temporary modification to the procedures laid down in this agreement.

8.2. Incidental deviations

Instances may arise where incidental deviations from the procedures specified in this LOA may become necessary. Under these circumstances, air traffic controllers are expected to exercise their best judgment to ensure the safety and efficiency of air traffic.

9. Cancellation/ modification

Cancellation/modification of this present LOA by mutual agreement of the respective approving authorities with the consent of CAAN Head Office may take place at any time, provided that the cancelling unit declares its intention to cancel the LOA with a minimum of 30 days pre-notification before the date the cancellation is to take effect.

10. Interpretation and settlement of disputes

i) Should any doubt or diverging views arise regarding the interpretation of any provisions of the present LOA or in case of dispute regarding its application, the units shall endeavor to reach a solution acceptable to both of them.

ii) Should no agreement be reached, each of the units shall refer to CAAN Head office, to which the dispute shall be submitted for settlement

11. Validity

This letter of agreement becomes effective from and supersedes the previous letter of agreement done between KT APP and SimaraTower.

Signed by

Director
Flight Operation Department, TIACAO
Date:

Witness

Madri Lal Mandal
Dy. Director
ATS Ops, TIACAO
Date :

Signed by

Manager
Simara Civil Aviation Office
Date:

Witness

Date:

APPENDIX- B

DIRECTIVES FOR THE CO-ORDINATION BETWEEN SI TWR AND METEOROLOGY UNIT

Effective date: Immediately after LOA signature by concern unit and getting the approval by DGCA.

1. OBJECTIVE

1.1 The objective of this Letter of Agreement between SI TWR and meteorology unit is to establish the directives for the necessary co-ordination between SI TWR and meteorology unit to ensure timely availability of weather reports (METAR, SPECI, and TAF) for safe and efficient operation of aircrafts.

1.2 This Letter of Agreement charges meteorology unit and SI TWR with making appropriate weather reports available to SI TWR and dissemination of the same to relevant traffic by SI TWR respectively.

1.3 This Letter of Agreement includes the responsibilities of SI TWR and meteorology unit in relation to the mutual exchange of information for safe operation of aircraft pertaining to relevant weather phenomena.

1.4 The directives detailed in this document are in accordance with the Standards and Recommended Practices and Procedures of ICAO, contained in annex-3 (Meteorological Services for International Air Navigation) and the provisions contained in the aeronautical information publication (AIP) of Nepal.

2. REVISIONS

2.1 When for special or unforeseen reasons, a significant change in the coordination between the two parties involved or the services

mentioned in this Letter of Agreement is deemed necessary; chiefs of respective units, through mutual agreement may affect temporary changes.

2.2 Permanent revisions to this Letter of Agreement may be made by the authorities who approve and sign this agreement. A complete cancellation of this Letter of Agreement may be brought into effect on condition that concerned stakeholders agree upon the same and the proposal for such an intention is passed 30 working days prior to intended effective date.

3. AREAS OF CO-ORDINATION

3.1 Meteorology unit shall make available half hourly/ hourly weather reports/ METAR to SI TWR via electronic means or in written in compliance with ICAO ANNEX-3 or through the quickest means available.

3.2 When deemed necessary or appropriate as the case maybe, Meteorology unit shall provide SPECI or TAF to the ATS unit via means aforementioned during appalling weather, especially monsoon.

3.3 SI TWR shall provide any critical en-route weather phenomena received from aircrafts in flight to meteorology unit which may affect the subsequent weather reports when requested by meteorology unit.

3.4 SI TWR and meteorology unit shall cooperate and may temporarily deviate from previously agreed understandings if flight safety at that particular instant demands so. This may include but is not limited to providing weather reports beyond operation hours or mutually agreed intervals.

3.5 When flights are expected to be conducted beyond normal operation hours, SI TWR shall inform meteorology unit by the quickest means available. If meteorology unit is unable to provide weather reports during such extended hours, it must provide the reason for such inability and subsequently it shall be denied any benefits offered for such operations.

4. SI TWR AND METEOROLGY CO-ORDINATION MEETINGS

Regular and /or ad hoc co-ordination meetings between SI TWR and meteorology unit, aimed at improving the services along with identifying and resolving the hurdles or grievances, if any, shall be converted as required.

Signed by:	**Signed by**
_____	_____
Field in charge	Manager
Simara Meteorology unit	Simara Airport CAO
Date:	Date:
Witness:	Witness:

APPENDIX- C

LETTER OF AGREEMENT BETWEEN SIMARA TOWER AND AIRLINE OPERATORS

DIRECTIVES FOR THE CO-ORDINATION BETWEEN SI TWR AND OPERATORS

Effective date: immediately after signature by concern Parties and getting the approval from DGCA.

1. OBJECTIVE

1.1 The objective of this Letter of Agreement between SI TWR and operators is to establish the directives for the necessary co-ordination between SI TWR and operators to ensure the provision of safe and efficient operation of aircraft.

1.2 This Letter of Agreement specifies the responsibility of SI TWR in relation to the safe orderly and expeditious flow of air traffic.

1.3 This Letter of Agreement includes the responsibilities of SI TWR and operators in relation to the mutual exchange of information for safe operation of aircraft.

1.4 The directives detailed in this document are in accordance with the Standards and Recommended Practices and Procedures of ICAO, contained in annex-11 and as well as the provisions contained in the aeronautical information publication (AIP) of Nepal.

2. REVISIONS

2.1 When for special or unforeseen reasons, a significant change in the co-ordination between the two parties involved or the services mentioned in this Letter of Agreement becomes necessary, the respective chiefs, through mutual agreement may affect temporary changes.

2.2 Permanent revisions to this Letter of Agreement may be made by the authorities who approve and sign this agreement. A complete cancellation of this Letter of Agreement may be brought into effect on condition that concerned stakeholders

agree upon the same and the proposal for such an intention is passed 30 working days prior to intended effective date.

3. GENERAL

3.1 Air Traffic Services units, in carrying out their objectives, shall have due regard for the requirements of the operators consequent on their obligations as specified in Annex-6, and, if so required by the operators, shall make available to them or their designed representatives such information as far as practicable to enable them or their designated representatives to carry out their responsibilities.

3.2 when so requested by an operator, messages (including position reports) and met services received by air traffic services units and relating to the operation of the aircraft for which operational control services is provided by that operator shall, so far as practicable, be made available to the operator or a designated representative in accordance with locally agreed procedures.

3.3 ATS unit shall receive and clear the flight plans submitted by PIC or accredited flight dispatcher in person and in case the flight plan cannot be accepted, SI TWR must immediately provide reasons for not clearing the flight plans.

3.4 The objectives of ATS are to:

a) Prevent collisions between aircraft in the air or on the maneuvering area of an aerodrome;
b) Prevent collisions between aircraft on the maneuvering area and obstructions on that area.
c) Expedite and maintain an orderly flow of air traffic;
d) Provide advice and information useful for the safe and efficient conduct of flights; and
e) Notify appropriate organizations regarding aircraft in need of search and rescue aid and assist such organizations as required.

3.5 ATS comprises three services, as follows:

a) Air traffic control service;
b) Flight information service; and
c) Alerting service

3.6 The air traffic control service includes the provision of:

a) Air traffic control service for controlled flights, except for those parts of flights under the jurisdictional airspace of area control centre.
b) Aerodrome control service to that portion of controlled flights associated with the arrival of an aircraft at, or its departure from the this controlled aerodromes; and
c) Aerodrome control service for aerodrome traffic, except for those parts of flights under the jurisdictional airspace of approach control unit.

3.7 The flight information service provides advice and information useful for the safe and efficient conduct of flights.

3.8 The alerting service notifies the appropriate organizations regarding in need of search and rescue aid and assist such organizations as required.

4. RESPONSIBILITIES

4.1 General

In order to provide an efficient air traffic services and to recognize ATS units as indispensable factors in the liaison between flight operations and operators, ATS sections and operators shall collaborate to ensure a prompt and efficient co-ordination.

4.2 Responsibilities of the Operators

4.2.1 The operators are responsible for submission of flight plans as published in AIP Nepal ENR 1.10 flight planning, duly signed either by the PIC or a trained flight dispatcher; otherwise ATS unit shall not accept the flight plans.

4.2.2 The operators are responsible to follow ATC instructions as and when necessary.

4.2.3 The operators are responsible to adhere to directives issued by CAAN for safe operation of aircraft.

4.2.4 For transportation of pets, concerned operator shall request the ATS authority for permission after it ensures that it is safe to transport the animal/s in all respects and such a request shall be in written, mandatorily in the prescribed format and must be sealed and signed by the in charge. While requesting for such permission, operator shall provide a letter stating that the pet/s is healthy written by a certified vet/ veterinary doctor.

4.2.5 CAAN or SI TWR shall not be responsible for any consequences arising due to the transport of the pet/s. All responsibilities shall be of the concerned airlines.

4.2.6 Airlines operators are required to provide name lists along with certificates of their trained flight dispatchers prior to the effective date of this I.O.A. SI TWR shall be provided with details of newly hired or transferred or trained flight dispatchers along with proofs of them being trained dispatchers.

4.2.7 Any subsequent changes in the flight plan that has to be introduced in due course of time post submission and clearance of flight plan has to be immediately forwarded to SI TWR by concerned operator in the form of a revised flight plan.

5. ATS UNITS AND OPERATORS CO-ORDINATION MEETINGS

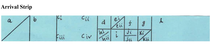
Regular and /or ad hoc co-ordination meetings between SI TWR and operators and other parties deemed appropriate by SICAO, aimed at improving the services provided to aircrafts, will be convened as required.

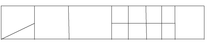
Signed By:	Signed By:
On behalf of Airlines Operator Station Incharge, Simara.	Airport Manager Simara CAO
Date:	Date:
Witness:	Witness:
..... Airline Operator, Simara	.....

APPENDIX- D

STRIP MARKING PROCEDURE

Arrival Strip





a. Expected Time of Arrival (ETA)-

b. Altitude/Flight Level

c. Cstl Sign i. Name of Departure Aerodrome ii. Type of Aircraft iii. Flight Rules iv. Indicated Air Speed

d. Runway in Use

e. i. Time at which aircraft establishes hold ii. Time at which aircraft leaves hold

f. Time at which approach clearance is issued

g. Previous Fix

h. i. Place of first contact ii. Time of first contact

i. Type of instrument approach

j. i. Expected Approach Time ii. No delay expected

k. i. Time at which landing clearance is issued ii. Time at which aircraft lands

l. Miscellaneous information

Departure Strip

a. Estimated off Block Time

b. Altitude/Flight Level

c. Call Sign i. Type of Aircraft ii. Flight Rules iii. Indicated Air Speed

d. Runway in Use

e i. Time at which Start up clearance is issued

e ii. Time at which Taxi clearance is issued

f. Time at which ATC clearance is issued

g. Airborne or takeoff time

h.Name of Departure Aerodrome

i.Route of flight

j.Name of Destination Aerodrome

k i. Point/FIr. at which aircraft is transferred ii. Time at which aircraft is transferred

l. Miscellaneous information

APPENDIX- E

UNIT TRAINING PLAN FOR OJT CONTROLLER

TO BE DEVELOPED

APPENDIX – F-1

Civil Aviation Authority of Nepal

APPLICATION FORM FOR LICENSE/RATING

Photo

To,
Licensing & Rating Division
ANS Safety Standards Department

Application for **initial / renewal / revalidation** of **ATC license / Student ATC License / Rating**

PERSONNEL DETAILS OF THE APPLICANT

Full Name (in block letters) :	Sex:
Date of Birth:	Address: –
License No (if applicable):	Validity of Class III Medical Certificate:
Validity of rating (if applicable):	Validity of English language proficiency (if applicable):
License No. (if applicable):	

If the application is for the issue/ renew/ revalidation of rating, please mark accordingly,

Aerodrome Control (ADC)	☐	**AIRPORT : –**
Approach Control Procedural (APP-P)	☐	
Area Control (ACC)	☐	
Approach Control Procedural (APP-S)	☐	
Area Control Procedural (ACC-S)	☐	

DECLARATION

Hereby apply, for **initial/ renewal/ revalidation** of **ATC license/ Student ATC License/ Rating** and certify that all particulars given on this form are correct to the best of my belief and knowledge, and since the date on which I was medically examined, I have not suffered from any defect, disability or disease.

FOR OFFICIAL USE ONLY

Check documentation	**License/ Rating issued:**
Copy of class III medical assessment certificate Copy of English proficiency Copy of academic qualification Report from OJTI Language proficiency certificate Fee voucher, if applicable	
Name of CAO/OJOCA/CCO:	Signature: Date:
Signature of applicant –	Date:

APPENDIX – F-2

Civil Aviation Authority of Nepal
Air Traffic Controller Training Report

(to be filled by the OJTI)
A. Position -ADC/ APP/ APP-S/ ACC /ACC-S

B. PERSONAL DETAILS OF THE AIR TRAFFIC CONTROLLER

Full Name :-	Date of attachment :- From - To-
Minimum hours required -	Hours completed -

C. PROGRESS REPORT (ADC, APP, ACC)

Knowledge On	
CONFLICT RECOGNITION	
CONFLICT RESOLUTION	
TFC. PLANNING.	
TFC. HANDLING	
COORDINATION	
AIRSPACE/ PROCEDURES.	
PHRASEOLOGY/ COM. TECHNIQUES	
STRIP WORK	
FACILITIES	
LETTER OF AGREEMENT BETWEEN ADJACENT ACC'S/ UNITS	
SAR & EMERGENCY	
HUMAN FACTORS & LIMITATIONS	

D. PROGRESS REPORT (APP-S) -Knowledge on,

GENERAL	PROGRESS	RADAR	PROGRESS
CONFLICT RECOGNITION		DEDS ALIGNMENT	
CONFLICT RESOLUTION		DEDS KEY BOARD OPERATION	
TFC. PLANNING		RADAR IDENTIFICATION METHOD	
TFC. HANDLING		MAINTAINING IDENTITY	
AIRSPACE		RADAR TERMINATION	
PROCEDURES		RADAR SEPERATION	
COORDINATION		VALIDATION OF MODE C READ OUT	
STRIP WORK		DEPARTURES	
SAR & EMERGENCY		ARRIVALS	
COMMUNICATION TECH.		PHRASEOLOGY	

E. OJTI'S EVALUATION

F. OJTI'S COMMENTS/RECOMMENDATIONS, IF ANY

OJTI's NAME -

SIGNATURE - DATE

Note: - The trainee has been appraisal of the contents of this report

APPENDIX –G

AIR TRAFFIC INCIDENT REPORT FORM

(To be filled by Pilot or ATC on behalf of Pilot)

AIR TRAFFIC INCIDENT REPORT FORM

For use when submitting and receiving reports on air traffic incidents. In an initial report by radio, unasked items should be included.

A — AIRCRAFT IDENTIFICATION	B — TYPE OF INCIDENT
	AIRPROX / PROCEDURAL / FACILITY*

C — THE INCIDENT

1) **General**

a) Date / time of incident UTC

b) Position

D — Own aircraft

a) Heading and route

b) True airspeed _____ Assigned IAS _____ Mach _____

c) Level and altimeter setting

d) Aircraft climbing or descending

e)	Aircraft bank angle		
	( ) a. Wings level	( ) d. Slight bank	( ) g. Moderate bank
	( ) b. Steep bank	( ) e. Inverted	( ) h. Unknown
f)	Aircraft direction of bank		
	( ) a. Left	( ) c. Right	( ) e. Unknown
g)	Aircraft lights		
	Assistance by visibility (select as many as required)		
	( ) a. Sunglare	( ) d. Window/cockpit pillar	( ) g. Dirty windscreen
	( ) b. Cockpit lights disturbed	( ) e. None	
h)	Use of aircraft lighting (select as many as required)		
	( ) a. Navigation lights	( ) d. Strobe lights	( ) g. Cabin lights
	( ) b. Red anti-collision light	( ) e. Landing / taxi lights	( ) h. Logo/ dark flip lights
	( ) c. Other	( ) f. None	
i)	Traffic information advice issued by ATS		
	( ) a. Yes, based on radar	( ) c. Yes, based on visual sighting	( ) e. Yes, based on other information
	( ) b. No		
j)	Traffic information issued		
	( ) a. Yes, based on radar	( ) c. Yes, based on visual sighting	( ) e. Yes, based on other information
	( ) b. No		
k)	Airborne collision avoidance system (– ACAS		
	( ) a. Not carried	( ) d. Type	( ) g. Traffic advisory issued
	( ) b. Traffic advisory issued	( ) e. Traffic advisory or resolution advisory not issued	
l)	Radar identification		
	( ) a. No radar available	( ) d. Radar identification	( ) h. No radar identification
m)	Other aircraft sighted		
	( ) a. Yes	( ) c. No	( ) e. Strong aircraft sighted

**Delete as appropriate*

	r)	Avoiding action taken			
		( ) Yes	( ) No		
	s)	Type of flight plan	IFR / VFR / none*		
k	**Other aircraft**				
	a)	Type and call sign / registration (if known)			
	b)	If a) above not known, describe below			
		( ) High wing	( ) Mid wing	( ) Low wing	
		( ) Rotorcraft			
		( ) 1 engine	( ) 2 engines	( ) 3 engines	
		( ) 4 engines	( ) More than 4 engines		
	Marking, colour or other available details				
	c)	Aircraft climbing or descending			
		( ) Level flight	( ) Climbing	( ) Descending	
		( ) Unknown			
	d)	Aircraft bank angle			
		( ) Wings level	( ) Slight bank	( ) Moderate bank	
		( ) Steep bank	( ) Inverted	( ) Unknown	
	e)	Aircraft direction of bank			
		( ) Left	( ) Right	( ) Unknown	
	f)	Lights displayed			
		( ) Navigation lights	( ) Strobe lights	( ) Cabin lights	
		( ) Red anti-collision lights	( ) Landing / taxi lights	( ) Logo (tail fin) lights	
		( ) Other	( ) None	( ) Unknown	
	g)	Traffic avoidance advice issued by ATS			
		( ) No	( ) Yes, based on visual sighting	( ) Yes, based on other information	
		( ) Yes, based on radar	( ) Unknown		
	h)	Traffic information issued			
		( ) Yes, based on radar	( ) Yes, based on visual sighting	( ) Yes, based on other information	
		( ) No	( ) Unknown		
	i)	Avoiding action taken			
		( ) Yes	( ) No	( ) Unknown	

*Delete as appropriate

4. Distance

a) Cleared horizontal distance

b) Cleared vertical distance

5. Flight weather conditions

a) Weather [*]

b) Above / below/ clouds / fog / haze or Inversion layers[*]

c) Distance vertically from cloud _____ ft / lf below _____ m / lf above

d) In cloud / clear / snow / sand / fog / haze[*]

e) Flying into / out of* sun

f) Flight visibility _____ m / km*

6. Any other information considered important by the pilot-in-command

D — MISCELLANEOUS

1. Information regarding reporting aircraft

a) Aircraft registration

b) Aircraft type

c) Operator

d) Aerodrome of departure

e) Aerodrome of first landing

f) destination

g) Reported by radio or other means to _____ (name of ATS unit) at time UTC

h) Date / time / place of completion of form

2. Function, address and signature of person submitting report

a) Function

b) Address

c) Signature

d) Telephone number

3. Function and signature of person receiving report

a) Function _____ b) Signature

_____

*Delete as appropriate

E — SUPPLEMENTARY INFORMATION BY ATS UNIT CONCERNED

1. Receipt of report

a) Report received via: RT/Tel. / radio / telephone / other (specify)* _____

b) Report received by: _____ (name of ATS unit)

2. Details of ATS action

Clearance, incident seen (radar/visual), warning given, result of local enquiry, etc.):

_____

_____

_____

_____

_____

DIAGRAMS OF AIRPROX

Mark passage of other aircraft relative to you, in plan on the left and in elevation on the right, assuming YOU are at the centre of each diagram. Include first sighting and passing distance.

*Delete as appropriate

Instructions for completion of the Air Traffic Incident Report Form	
Item	
A	Aircraft identification of the aircraft filing the report.
B	An AIRPROX report should be filed immediately by radio.
C1	Date / time UTC and position in bearing and distance from a navigation aid or in LAT / LONG.
C2	Information regarding aircraft filing the report, tick as necessary.
C2 c)	E.g. FL 350 / 1013 HPA or 2500 FT / QNH 1 007 HPA or 1200 FT / QFE 998 HPA.
C3	Information regarding the other aircraft involved.
C4	Passing distance - state units used.
C6	Attach additional papers as required. The diagrams may be used to show aircraft's positions.
D1 f)	State name of ATS unit and date / time in UTC.
D1 g)	Date and time in UTC.
E2	Include details of ATS unit such as service provided, radiotelephony frequency, SSR Codes assigned and altimeter setting. Use diagram to show the aircraft's position and attach additional papers as required.

APPENDIX- H

Civil Aviation Authority of Nepal

ATS INCIDENT REPORT FORM

(To be filled by ATS personnel)

CATEGORIES OF OCCURRENCE
1 ACCID ☐ AIRPORX ☐ INCID ☐ VIOLATION ☐ INFRINGEMENT ☐

2 Occurrence Position	3 FL ☐ ALT/HT ☐	4 Date (dd/mm/yyyy)	5 Time - UTC (HH:MM)	6 Day ☐ Night ☐

OPERATOR	CALLSIGN/ REGN	TYPE	FROM	TO	SSR CODE	MODE C DISPLAYED	IFR/VFR/SVFR
7	8	9	10	11	12	13 ☐ YES ☐ NO	14
15	16	17	18	19	20	21 ☐ YES ☐ NO	22
23	24	25	26	27	28	29 ☐ YES ☐ NO	30

31 RTF Frequencies	32 Radar Equipment	33 Equipment unserviceability	34 QNH	35 Runway in use

36 Class & Type of Airspace	37 ATS PROVIDED	38 SID/STAR/ROUTE

39 Was prescribed separation lost?	40 Min. Separation Horizontal ……… nm Vertical …………. ft	41 Alert Activation Collision ☐ CA ☐ TCAS ☐ STCA ☐	42 Traffic info given by ATC? ☐ YES ☐ NO	43 Avoiding action given by ATC? YES ☐ ☐ NO

44 BRIEF TITLE Summary

46 Name	47 On duty as	48 ATS Unit	49 Time since last break	50 Start time of shift (UTC)	51 Radar recordings held ☐ YES ☐ NO
52 RTF recordings held ☐ YES ☐ NO	53 Listother agencies advised …………………………….. ……………………………..	54 Signature ……………………………..		55 Date (dd/mm/yyyy) ……………………………..	

45 NARRATIVE -use a diagram if necessary (Include NOTAM if necessary.) *Use additional sheet if necessary*

56 Address
…….
…….
………………………………………………………………………………………………… Telephone
…………………………

.

APPENDIX- I

Civil Aviation Authority of Nepal

BIRD /OTHER WILDLIFE STRIKE REPORT FORM

(To be filled by Pilots, ATC, Airport operator, Airline, Safety personnel, etc.)

1. CATEGORIES OF OCCURRENCE

ACCID ☐ INCID ☐ HAZARD ☐ BIRDSTRIKE ☐ WILDLIFE STRIKE ☐ *(Will fill one of first three boxes and one of the last two boxes.)*

2. Name of Operator	3. Aircraft Make/Model	4. Engine Make/Model

5. Aircraft Registration	6. Date of Incident (dd/mm/yyyy)	7. Time of Incident (UTC) ..... ☐ Dawn ☐ Dusk ☐ Day ☐ Night

8. Airport Name	9. Runway Used	10. Location if en-route (Nearest city, place, etc.)

11. FLT& T HT (If) 12. Speed (IAS/ kts)

13. Phase of Flight

☐ A. Parked
☐ B.Taxi
☐ C.Take-off Run
☐ D.Climb
☐ E.Enroute
☐ F.Descend
☐ G.Approach
☐ H.Landing Roll

14. Parts of Aircraft Struck or Damaged

	Struck	Damaged		Struck	Damaged
A. Radome	☐	☐	H. Propeller	☐	☐
B. Windshield	☐	☐	I. Wing/Rotor	☐	☐
C. Nose	☐	☐	J. Fuselage	☐	☐
D. Engine No. 1	☐	☐	K. Landing Gear	☐	☐
E. Engine No. 2	☐	☐	L. Tail/ M. Lights	☐	☐
F. Engine No. 3	☐	☐	N. Other: (Specify)	☐	☐
G. Engine No. 4	☐	☐			

15. Effect on Flight	16. Sky Condition	17. Precipitation
None Aborted Take-off Precautionary Landing Engine Shut Down Other (Specify)	No Cloud Some Cloud Overcast	Fog Rain Snow None

18. Bird/Other Wildlife Species	19. Number of Birds/Wildlife			20. Size of Birds/Wildlife
	Number	Seen	Struck	Small Medium Large
	1 2-10 11-100 More than 100			

21. Pilot warned of Birds	Yes	No

22. Other Information *(Describe damage, injuries and other pertinent information)*

(Use additional sheet if necessary.)

23. Reported by	24. Title	25. Date

APPENDIX- J

SUNSET TIME FOR VNSI

DT	JUN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1	1136	1237	1219	1237	1254	1310	1320	1310	1245	1206	1137	1126
2	1136	1237	1220	1237	1254	1312	1320	1310	1243	1206	1137	1126
3	1136	1237	1222	1238	1254	1314	1320	1310	1241	1206	1137	1126
4	1136	1237	1223	1238	1254	1315	1320	1310	1241	1206	1137	1126
5	1136	1237	1224	1238	1254	1317	1320	1310	1239	1205	1137	1126
6	1136	1237	1224	1239	1254	1318	1320	1309	1238	1205	1137	1126
7	1136	1237	1224	1241	1255	1319	1320	1308	1236	1205	1136	1126
8	1136	1236	1224	1241	1257	1319	1320	1308	1236	1205	1136	1127
9	1136	1236	1224	1241	1257	1319	1320	1308	1236	1205	1136	1127
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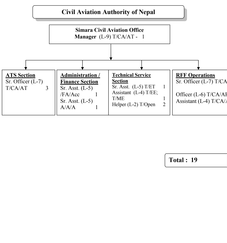
APPENDIX- K

ORGANIZATION STRUCTURE



Total : 19

APPENDIX L

SECTOR VISIBILITY PROCEDURES IN SIMARA AIRPORT

INTRODUCTION

The controllers and pilots face several flight delays and traffic congestion due to fog during winter season in Simara. Introduction of sector visibility confirms the safety standard with smooth flow of flight operations. As no set of rules is comprehensive enough to dictate easily in the application of the controller's judgment the contents of this appendix are the best possible compromise safeguarding the interest of both controllers & pilots.

NOTE: *The procedures outlined below in the form of Instructions are intended to act as guidelines but nothing in them precludes the CONTROLLER from exercising his own discretion and initiative under any particular circumstances if by so doing traffic will be expedited without undue reduction of safety.*

INSTRUCTIONS:

SECTOR VISIBILITY: By this term a Controller shall understand that (slant) visibility within the limits of that airspace above the ground which encompasses the climb-out & approach path of an aircraft.

The visibility that is evaluated in each sector is the sector visibility.

ILLUSTRATION:

(a) Plane view

b) Profile view

1. The Controler is primarily concerned with Two sectors- North and South.

2. Henceforth, Controllers shall base their judgement in determining visibility enabling aircraft movement of the contents of the Remark section of the METAR.

3. The above shall be the guiding factor regardless of prevailing visibility.

   Aircraft shall be cleared for take-off if the duty controller, in his opinion, feels that the climb-out path along the relevant sector is clear although the prevailing visibility is below the prscribed minima of 5 kms. The final decision, as to any positive actin be closing or opening the R/W etc, rests exclusively with the supervisor/Chief ATC on duty.

4. Remarks sectin of the METAR states:

   Blue sky and hills to the North visible through thin fog layer.

   The Controller keeping the above in mind and making his own obserbation can logically conclude that the visibility along the climb-out-path (falling within the sector visibility of an aircraft departing from R/W 01 is acceptable, i.e. 5 kms or more , although there may be fog patches at the end of the R/W or elsewhere, which are not relevant to the movement of the aircraft.

5. When weather conditions warrant that sector visibility permits departures only due fog patches over the threshold or along the final approach, the controller shall make the aircraft intending to depart aware of this situation. Phraseology in this context shall be DUE VISIBILITY RWY OPEN FOR DEPARTURES ONLY and asking for the TAKE-OFF ALTERNATE. If the airborne traffic insists on landing the controller shall use the phraseology LANDING SHALL BE AT YOUR RISK and initiate the appropriate emergency step immediately. All abnormalities, be it weather or other factors, that affect traffic movement shall be entered in the appropriate log book.

6. Irrespective of type, all aircraft movements shall be held or cleared according to the minima. This should be kept in mind in order to avoid confusion and maintain a reasonable standard in achieving uniformity of sector visibility application.

APPENDIX – M

SYMBOLS AND CODES

1 It has been found in practice that message of routine nature can be taken by down at the same as that at which a clearly spoken transmission is made, by the use of approved abbreviation, contractions and symbols.

2 The abbreviations and symbols which follow are authorized for the use in making entries on flight progress strips in copying or writing traffic

3 Unauthorized abbreviations and symbols shall not be used.

Clearance limits

A = Cleared to aerodrome (point of first intended landing)

V = Cleared to reporting point

Clearance Instruction

/\ = NO delay expected

RSVD ……. = Release subject to your discretion with regard to

CE = Clearance expires……. (time)

…… = Release not before ……. (time)

RLCE = Request level change en-route

↓ = Descend

– = To : (used to indicate "Form ……. to …….)

( ) = Alternative instruction

—— = Restriction written below this line

/ = After passing

RL = Report Immediately on reaching (level)

RR = Report Immediately on Reacting (level)

TFC	= Traffic is …… (o/s of aircraft 0)
MA	= Missed approach
SI	= Straight-in approach
	= Left turnout
	= Right turnout
OTP	= VFR conditions on top
RLS	= Release
VR	= VOR approach
VDA	= VOR DME Approach
DLA	= Delay
EAC	= Expect approach clearance (time)
EFC	= Expect further clearance (time)
UFN	= Until Further Notice
	= For step climb followed by level information
	= For step descent followed by level information
	= Pilot cancelled IFR Flight plan
	= Out of control zone
	= Enter Control Zone
ABV	= Above ……ft ++ ……
BLO	= Below ……ft ++ ……
>	= Before
<	After

TKOF	= Take off
V< (TIME)	= Clearance void after ……(time)
UFA	= Until further advise
√	= Information forwarded
◄▯►	= Coordination effecte
⇑	= Climb coordinated
⇓	= Descent coordinated
……^	= At or above ……. ft
Z	= Delay not determined

APPENDIX – N

MAPS AND CHARTS

APPENDIX -N1 CONTROL ZONE AND HOLDING POINTS.

APPENDIX -N2 STANDARD INSTRUMENT DEPARTURE(SID)

1. SID NIGIA 1A RWY 19
2. SID NIGIA 1B RWY 01
3. SID AMLEK 1A RWY 01

APPENDIX- N3 STANDARD TERMINAL ARRIVAL ROUTE(STAR)

1. BAISE 1A (ARRIVAL) TO RWY 19
2. BAISE 1B (ARRIVAL) TO RWY 01
3. THULO 1A (ARRIVAL) TO RWY 19
4. THULO 1B (ARRIVAL) TO RWY 01.

APPENDIX- N4 STANDARD INSTRUMENT APPROACH CHART

VOR Z RWY 01

APPENDIX- N5 STANDARD INSTRUMENT DEPARTURE

VOR Y RWY 01

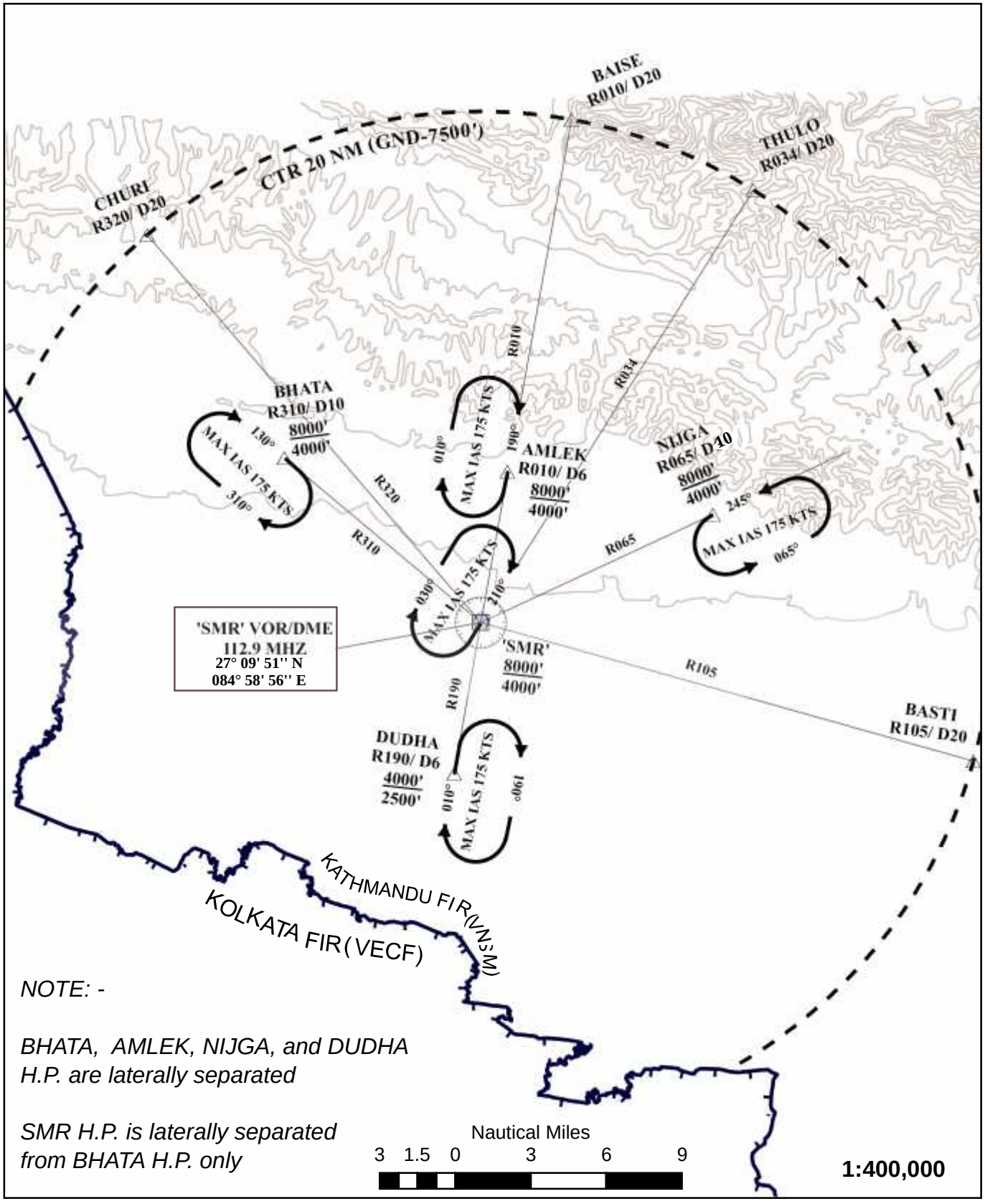
APPENDIX- N6 STANDARD INSTRUMENT DEPARTURE

VOR X RWY 01

APPENDIX -N7 VISIBILITY REFERENCE CHART

APPENDIX -N1
CONTROL ZONE AND HOLDING POINTS.

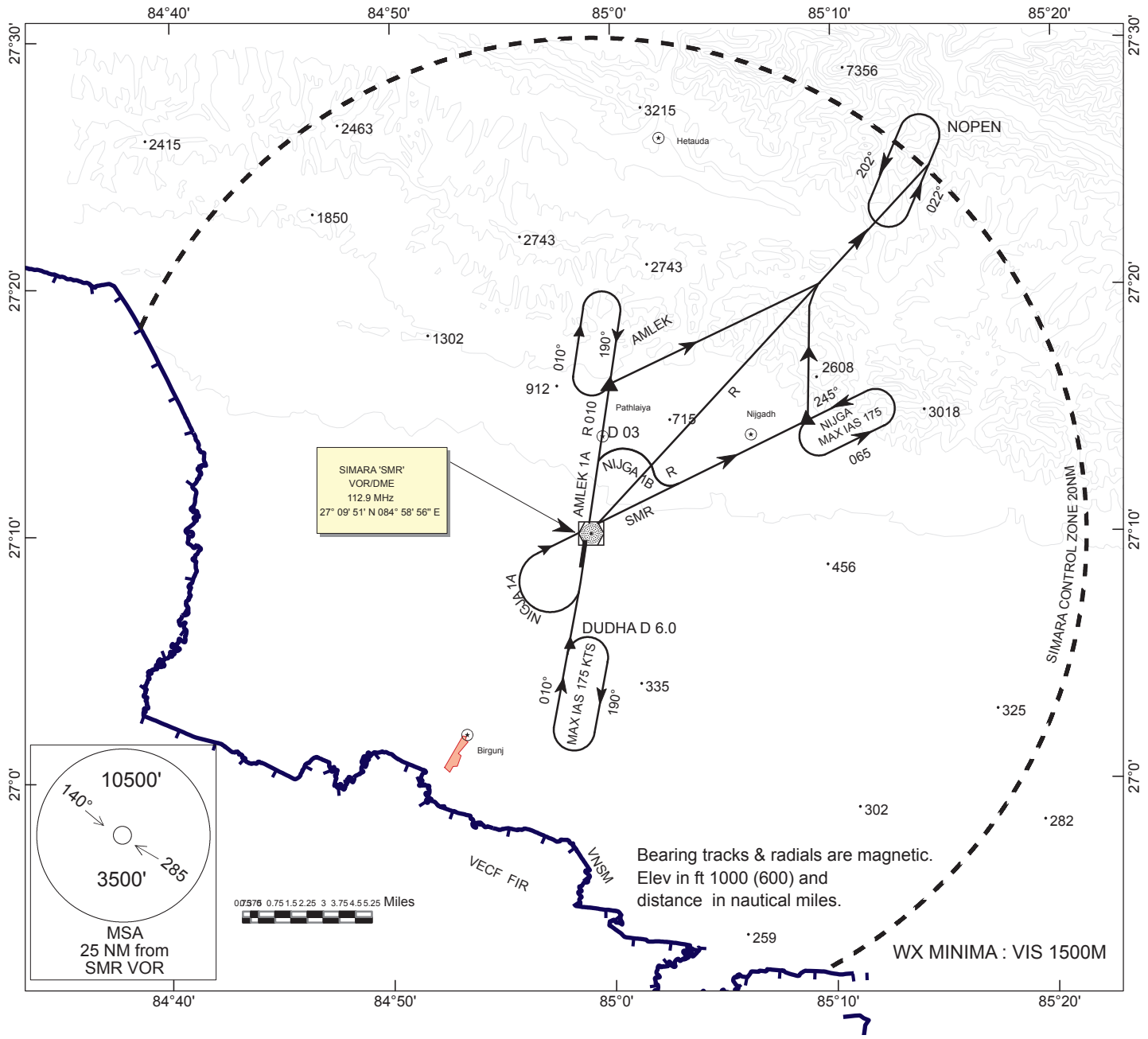
AD ELEVATION 445 FT VAR 0° E	TRANS ALT 13500 FT TRANS LEVEL 150 FT	TWR 118.3	SIMARA AIRPORT VOR 112.90 SMR



APPENDIX -N2

STANDARD INSTRUMENT DEPARTURE (SID)

STANDARD INSTRUMENT DEPARTURE (SID) CHART	AD ELEVATION 450 ft TRANS LEVEL FL150 TRANS ALT 13500 ft.	TWR 118.3	SIMARA/NEPAL SIMARA AIRPORT

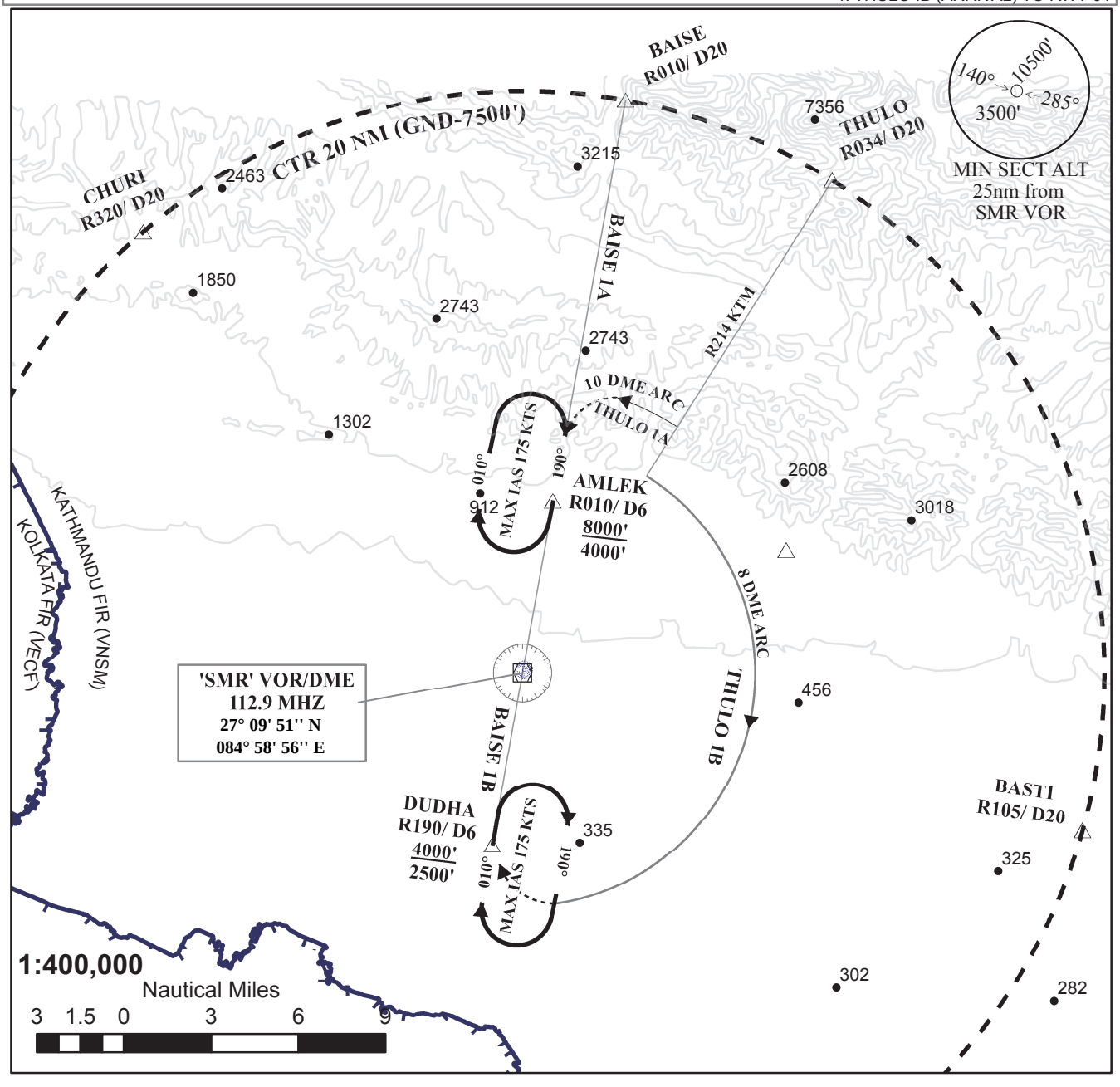


SID NIJGA 1A RWY 19 Procedure Design Ggradient(PDG) 6.5 % Climb straight a head on R190 outbound. At 2.5 DME climbing right turn to intercept R 245 inbound to cross VOR/DME 4000' + & track R065 outbound to cross NIJGA at 7500' +. Then intercept SMR R043 outbound to reach to 10500' by 20D SMR and intercept KTM R 202.
SID NIJGA 1B RWY 01 Procedure Design Ggradient(PDG) 6.5 % Climb straight a head on R010 outbound. At 3.0 DME climbing right turn to intercept SMR/R065 to reach to NIJGA HP at or above 4000' climb in HP to 7500'. Then intercept SMR/R043 outbound to reach 10500 by 20 DME SMR & intercept KTM R 202.
SID AMLEK 1A RWY 01 Procedure Design Ggradient(PDG) 6.5 % Climb straight a head on R010 outbound to reach AMLEK. H.P. at or above 4000'. Then climb in the holding pattern to 7500' before intercepting SMR R043 to reach 10500' by 20 DMESMR and intercept KTM R 202.

APPENDIX- N3

STANDARD TERMINAL ARRIVAL ROUTE (STAR)

STANDARD TERMINAL ARRIVAL ROUTE (STAR)	AD ELEVATION 445 FT VAR 0° E	TRANS ALT 13500 FT TRANS LEVEL150 FT TWR 118.3	SIMARA AIRPORT 1. BAISE IA (ARRIVAL) TO RWY 19 2. BAISE IB (ARRIVAL) TO RWY 01 3. THULO IA (ARRIVAL) TO RWY 19 4. THULO IB (ARRIVAL) TO RWY 01



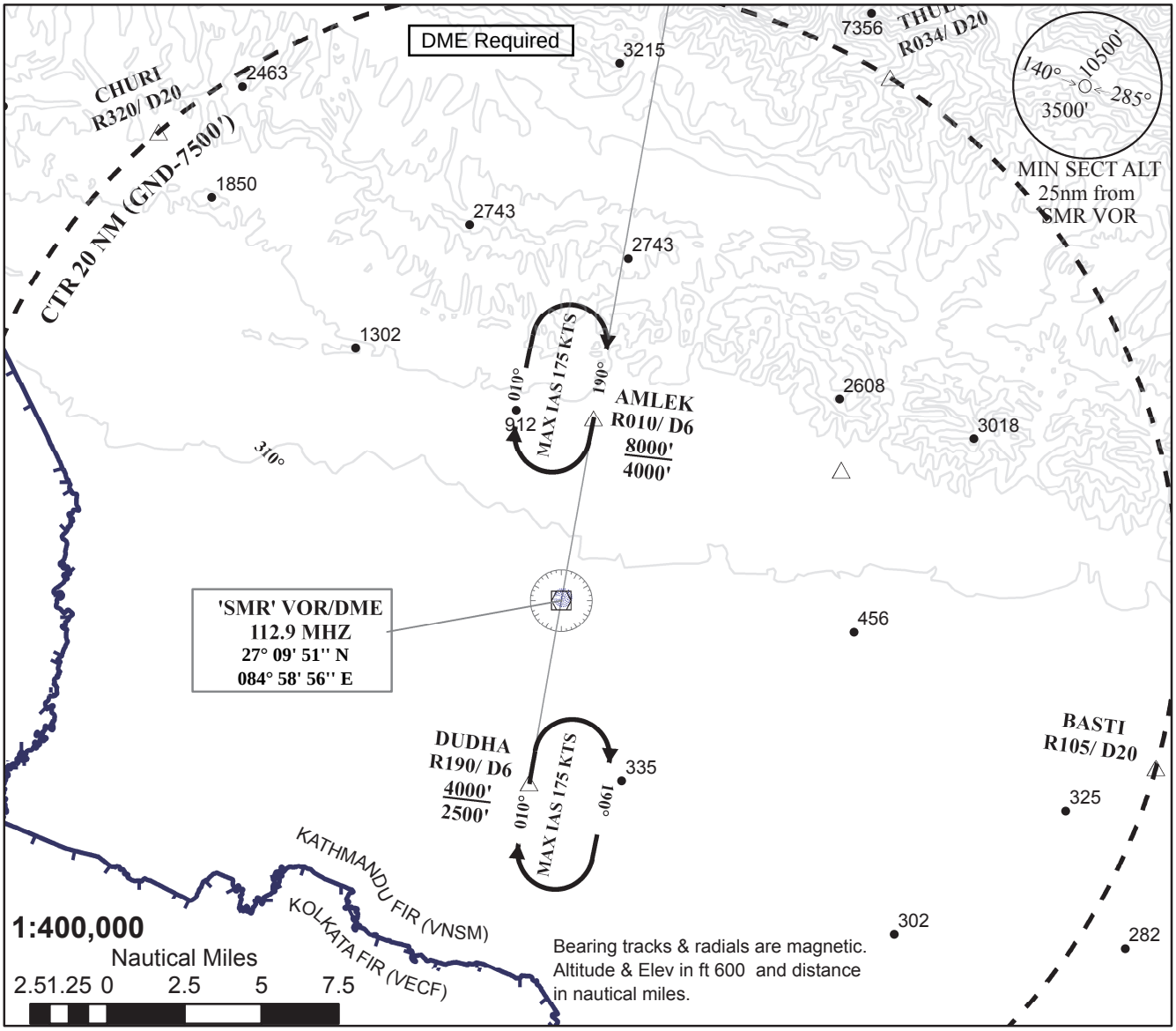
ALTITUDE

STAR	ROUTING	ALTITUDE
BAISE IA	FROM "BAISE" VIA SMR R 010 TO AMLEK H.P.	CROSS "BAISE" AT OR ABOVE 8500 FT, THEN DESCEND TO 4000 FT OR AS INSTRUCTED BY ATC
BAISE IB	FROM "BAISE" VIA SMR R 010 TO SMR VOR THEN VIA SMR R190 TO DUDHA H.P.	CROSS "BAISE" AT OR ABOVE 8500 FT, THEN DESCEND TO 4000 FT OR AS INSTRUCTED BY ATC
THULO IA	FROM "THULO" VIA SMR R 034 TO D 10.0 THEN VIA 10D ARC TO AMLEK H.P.	CROSS "THULO" AT OR ABOVE 8500 FT. THEN DESCEND TO 4000 FT OR AS INSTRUCTED BY ATC
THULO IB	FROM "THULO" VIA SMR R 034 TO D8.0 THEN VIA D 8.0 ARC TO DUDHA H.P.	CROSS "THULO" AT OR ABOVE 8500 FT. THEN DESCEND TO 4000 FT OR AS INSTRUCTED BY ATC

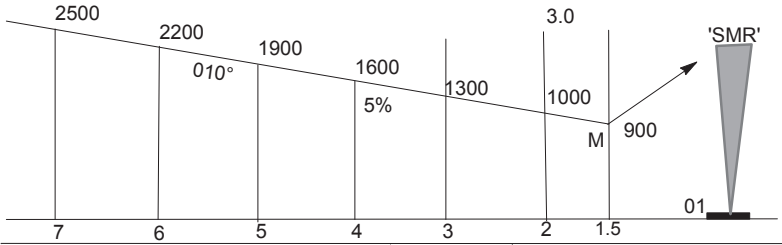
APPENDIX- N4

STANDARD INSTRUMENT APPROACH CHART (VOR Z RWY 01)

INSTRUMENT APPROACH CHART - ICAO	AD ELEVATION 445 FT VAR 0° E	TRANS ALT 13500 FT TRANS LEVEL150 FT	TWR 118.3	SIMARA AIRPORT VOR Z RWY 01 VOR 'SMR' 112.90



* All coordinates are WGS 84 Coordinates.



MISSED APPROACH
AT 1.5 DME CLIMB STRAIGHT AHEAD THROUGH VOR/DME CONTINUE CLIMB ON OUTBOUND R 010 TO REACH AMLEK H.P. AT OR ABOVE 4000ft AND JOIN HOLDING PATTERN.

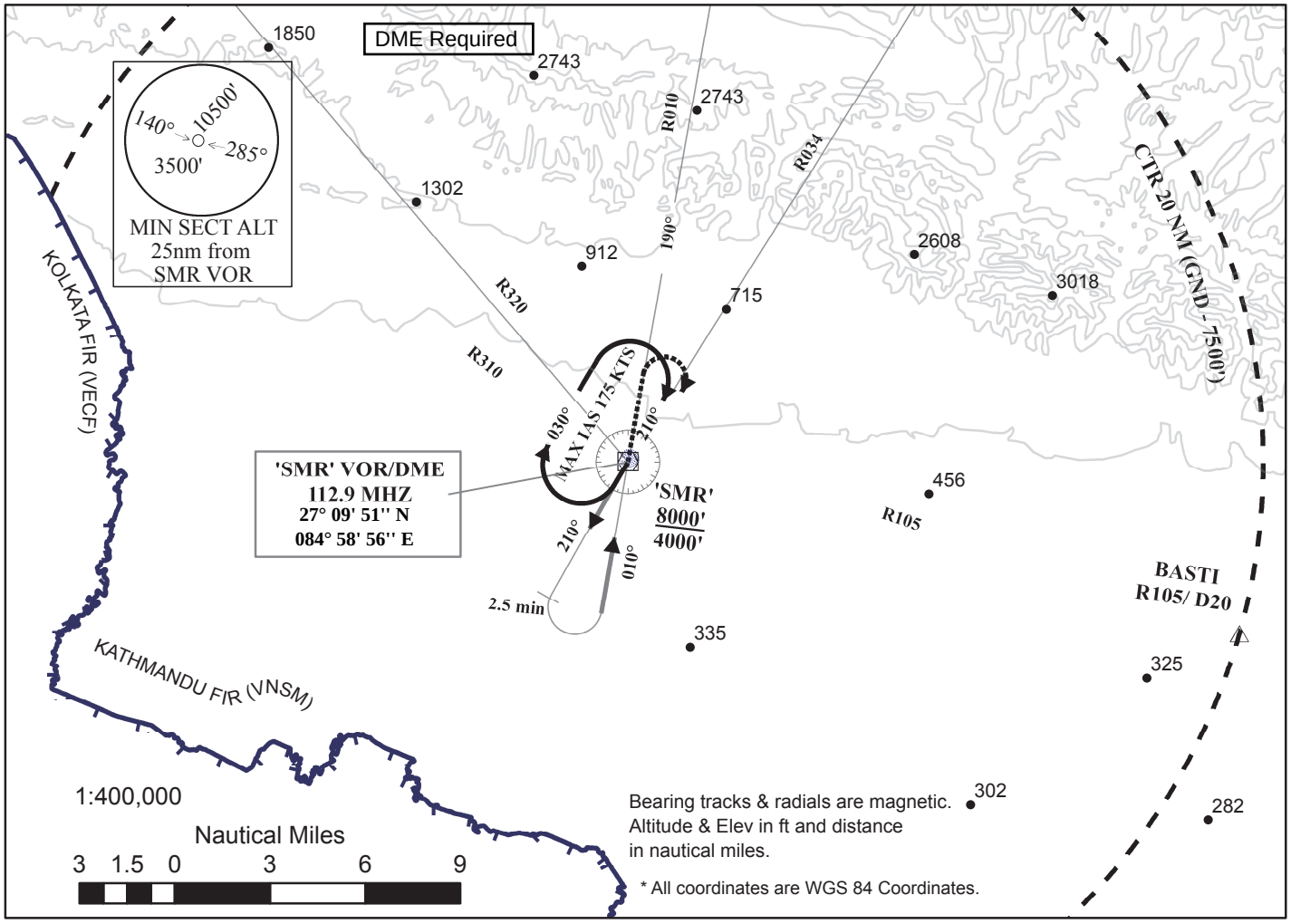
Caution:-This procedure requires ACFT to mantain minimum climb gradient of 6.5% in the missed approach.

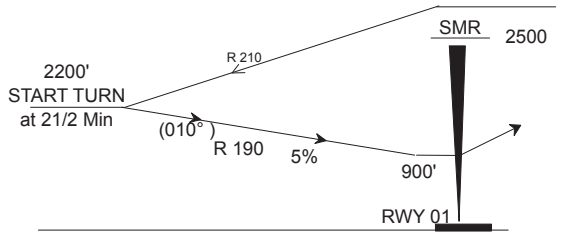
OCA (II)					Distance (DME)			7	6	5	4	3	2	1.5
Cat of ACFT	Cat A	Cat B	Cat C	Cat D	Altitude (Ft)			2500	2200	1900	1600	1300	1000	900
Straight -in	900ft-2300m		NA	NA	Speed/GS Kts	70	80	90	100	110	120			
Circling	960ft-2300m	1020ft-2800m	NA	NA	Rate of Descent(ft)	350	400	450	500	550	600			
	Not Authorized at Night													

APPENDIX–N5

STANDARD INSTRUMENT APPROACH CHART (VOR Y RWY 01)

INSTRUMENT APPROACH CHART - ICAO	AD ELEVATION 445 FT VAR 0° E	TRANS ALT 13500 FT TRANS LEVEL150 FT	TWR 118.3	SIMARA AIRPORT VOR Y RWY 01 VOR 'SMR' 112.90





MISSED APPROACH

CLIMB STRAIGHT AHEAD THROUGH VOR ON R 010 TO 2000' THEN RIGHT TURN TO JOIN 'SMR' HOLDING PATTERN

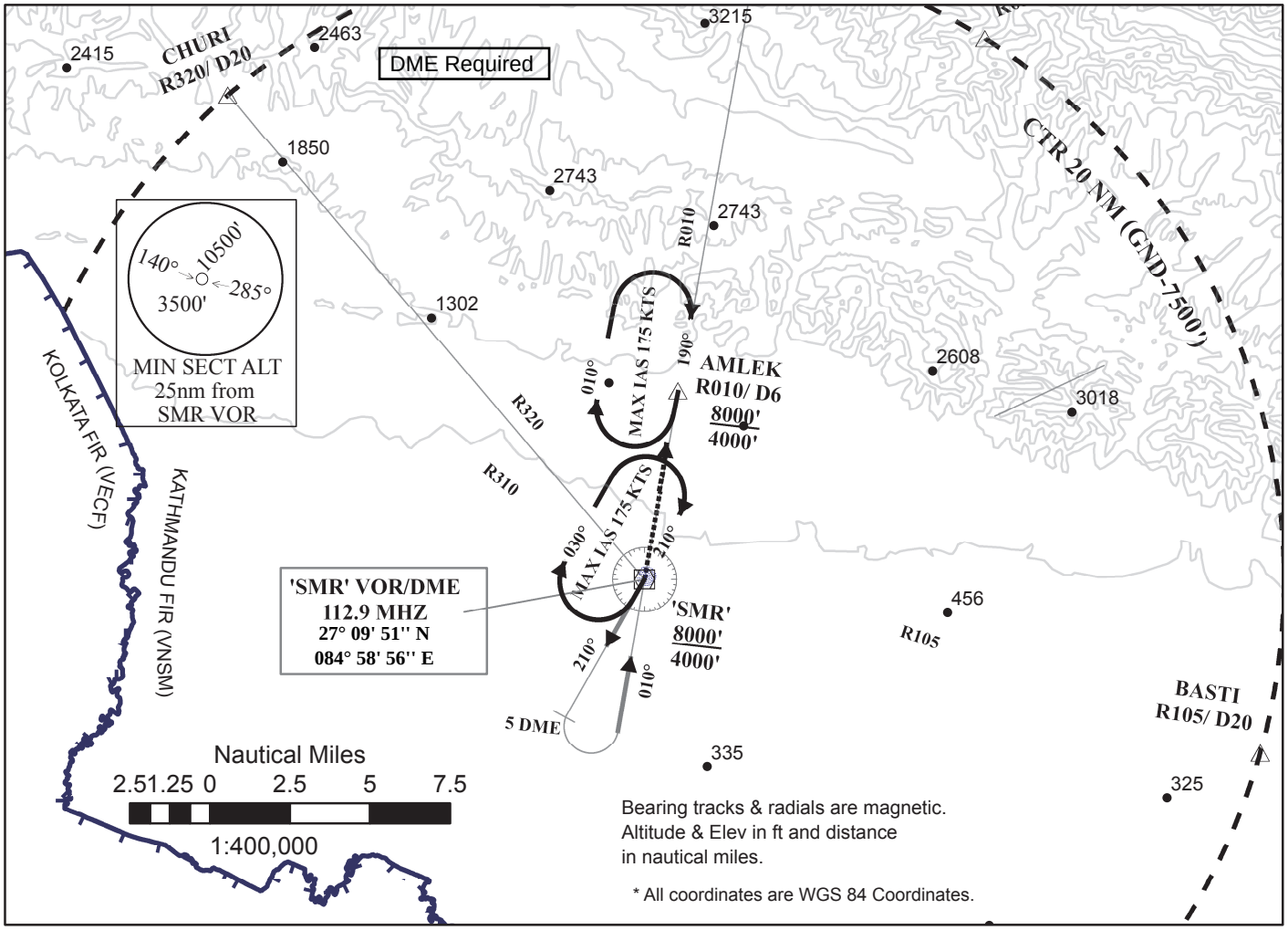
Caution:-This proceduer requires ACFT to maintain minimum climb gradient of 6.5% in the missed approach.

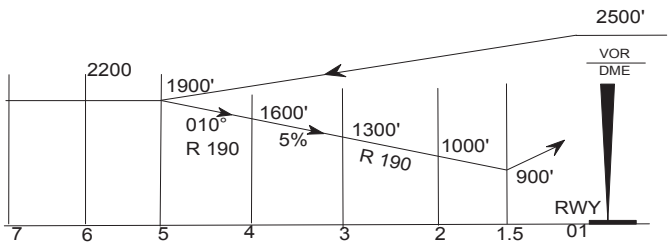
OCA - Visibility				
CAT of ACFT	Cat A	Cat B	Cat C	Cat D
Straight -in	900 ft -2300m		NA	NA
Circling	960 ft -2300 m	1020 ft - 2800 m	NA	NA
	Not Authorized at Night			

APPENDIX- N6

STANDARD INSTRUMENT APPROACH CHART (VOR X RWY 01)

INSTRUMENT APPROACH CHART - ICAO	AD ELEVATION 445 FT VAR 0° E	TRANS ALT 13500 FT TRANS LEVEL150 FT	TWR 118.3	SIMARA AIRPORT VOR X RWY 01 VOR 'SMR' 112.90





MISSED APPROACH

AT 1.5 DME CLIMB STRAIGHT AHEAD THROUGH VOR/DME CONTINUE CLIMB ON OUTBOUND R 010 TO REACH AMLEK H.P. AT OR ABOVE 4000 FT AND JOIN HOLDING PATTERN.

Caution:- This procedure requires ACFT to maintain mininum climb gradient of 6.5% in the missed approach

OCA (II)					Distance (DME)				7	6	5	4	3	2	1.5
Cat of ACFT	Cat A	Cat B	Cat C	Cat D	Altitude (Ft)				2200	2200	1900	1600	1300	1000	900
Straight -in	900ft-2300m		NA	NA	Speed/GS Kts	70	80	90	100	110	120				
Circling	960ft -2300m	1020ft-2800m	NA	NA	Rate of Descent(ft)	350	400	450	500	550	600				
	Not Authorized at Night														

APPENDIX –N7

VISIBILITY REFERENCE CHART

TO BE DEVELOPED.