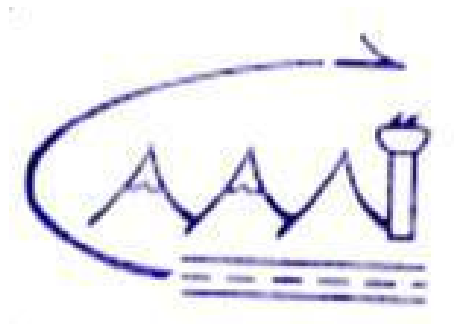# CIVIL AVIATION AUTHORITY OF NEPAL

ATM DEPARTMENT

Aerodrome Flight Information Service Operations Manual (AFISOM)

Tenzing Hillary Airport Civil Aviation Office
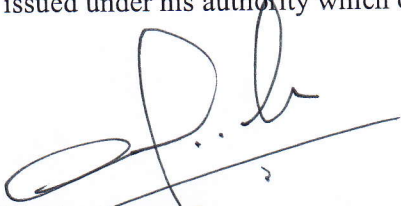
First Edition

July, 2017

FOREWORD

Pursuant to the Rules 82 of CAR 2058, this Aerodrome Flight Information Services Operations Manual (AFISOM) has been developed by ATM Department, CAAN in coordination with Tenzing Hillary Airport Civil Aviation Office to implement the provision of chapter 1 introduction A(i) of MATS, Nepal second edition, 2014 and Manual of Standard Aerodrome Flight Information Services (MOS-AFIS) Nepal First Edition 2016. This AFISOM incorporates the provisions of MOS-AFIS Nepal, MATS, Nepal, relevant Civil Aviation Requirements, and provision of related ICAO Annexes and Documents.

To bring uniformity in delivery AFIS and to standardized and enhance the quality of the service, this AFISOM prescribes the detail processes and procedures for Aerodrome Flight Information Services under the jurisdiction of Lukla AFIS unit that will ultimately improve the safety, regularity and efficiency of air navigation applicable for Lukla Aerodrome. ATS Officer are required to comply with the provisions of this manual to perform their operational responsibilities.
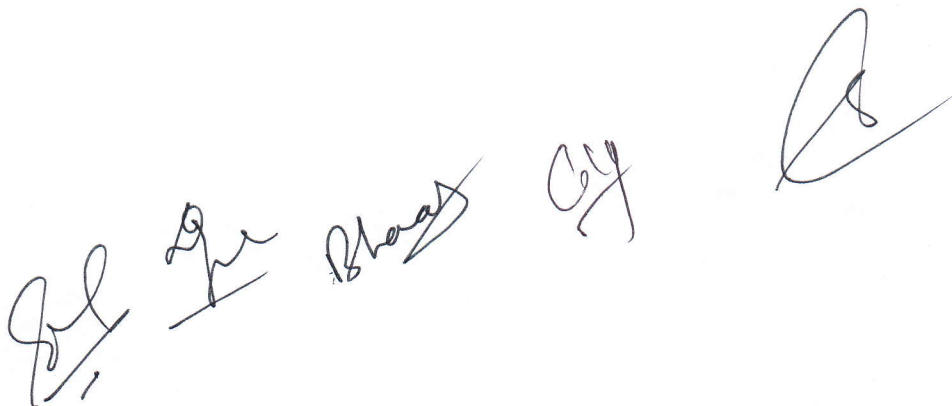
This manual is approved by Director General of Civil Aviation Authority of Nepal and issued under his authority which comes into effect from ...2.7th July, 2017.

Director General

Civil Aviation Authority of Nepal

Babar Mahal, Kathmandu

Amendment Record

Amendments and Corrigenda to this "AFIS Operations Manual, Tenzing Hillary Airport CAO" 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

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

1.1.   BACKGROUND

1.1.1. This "Aerodrome Flight Information Services (AFIS) Operation Manual for Tenzing Hillary Airport Civil Aviation Office", made under the provision of Manual of Standard Air Traffic services, Nepal (MATS, Nepal 2014) second edition 2014,Chapter 14 and Manual of standards Aerodrome Flight Information Service (MOS AFIS) 2016 first edition, refers to the Procedures and methods to be used in Tenzing Hillary Airport Civil Aviation Office in providing Aerodrome Flight Information Services. This document is referred as AFIS Operations Manual, Tenzing Hillary CAO .

1.1.2. This operations Manual will prescribe procedures and phraseologies for the use by Lukla AFIS Officer providing AFIS. AFIS Officer are required to be familiar with the provisions of this manual that pertain to their operational responsibilities and to exercise their best judgment if they encounter situations that are not covered by it.

1.1.3. In the circumstance where there is any inconsistency between the provision of MOS AFIS Nepal and the AFIS Operations Manual, Tenzing Hillary CAO, the MOS AFIS 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) Manual of Standard Air Traffic Services-(MATS, Nepal-2014)

f) Manual of Standards Aeronautical Flight Information Services, First edition, 2016 (MOS AFIS-2016)

g) AIP Nepal, AICs, AIP Supplement, DGCA Directives and Advisory Circulars.

h) ICAO Annex 10 – Aeronautical Telecommunications, Volume I – Radio Navigation Aids, Volume II –Communications Procedures;

1.3.   **Tenzing Hillary Airport CAO Documentation Change Management**

1.3.1. Tenzing Hillary Airport Civil Aviation Office has the responsibility for the technical contents of this AFISOM which can be amended and issued after the approval from the Director General, CAAN.

1.3.2. The need to change procedures in this AFISOM 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 MOS AFIS, Nepal.

    e) To respond to changes in other safety standards of CAAN.

    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:

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

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

Aerodrome flight information service: Flight information service for aerodrome traffic.

Aerodrome flight information service unit. A unit established to provide flight information service and alerting service for aerodrome traffic at AFIS aerodromes.

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

Aerodrome traffic zone: An airspace of defined dimensions established around an aerodrome for the protection of aerodrome traffic.

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

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

Air-ground communication: Two-way communication between aircraft and stations or locations on the surface of the earth.

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

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 slingloads.

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

Air traffic services: 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).

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.

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

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;
- En-route alternate;
- Destination alternate

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.

Blind transmission: A transmission from one station to another station in circumstances where two-way communication cannot be established but where it is believed that the called station is able to receive the transmission.

Ceiling: The height above the ground or water of the base of the lowest layer of cloud below 6,000m (20,000ft) covering more than of the sky.

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

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

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

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 should commence movement associated with departure.

Flight information centre (FIC): A unit established to provide flight information service and alerting service.

Flight information region: 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 advise and information useful for the safe and efficient conduct of flights.

Flight information zone (FIZ): An uncontrolled airspace of defined dimensions extending upwards from the surface of the earth to a specified upper limit within which aerodrome flight information service to is provided.

Note1: When established, FIZ should have the following dimensions;

a) *Lateral limit : 5 nm radius cantered from the middle of the runway ; and*

b) *Vertical limit: shall be identified by concerned aerodrome but shall not be less than 200ft AGL.*

  Note2: When a portion of a Flight Information Zone (FIZ) coincides with controlled airspace, the procedures for controlled flight within such airspace shall be applied.

  Note3: CAAN may extend the vertical and lateral limit of FIZ of a particular aerodrome to accommodate all traffic flow from a specific direction. This shall be done by disseminating information by issuing NOTAM or incorporating in AIP.

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

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

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

Ground visibility: The visibility at an aerodrome, as reported by an accredited observer.

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

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

IMC. The symbol used to designate instrument meteorological conditions.

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

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

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

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

Location indicator. A four-letter code group formulated in accordance with rules prescribed by ICAO and assigned to the location of an aeronautical fixed station.

Local traffic . 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.

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

Movement area: That part of an aerodrome to be used for the take-off, landing and taxing of aircraft, consisting of manoeuvring area and the aprons.

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.

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.

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

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

Rescue coordination centre: A unit responsible for promoting efficient organization of search and rescue services and for coordinating the conduct of search and rescue operations within a search and rescue region.

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

Runway incursion. Any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle or person on the protected area of a surface designated for the landing and take-off of aircraft.

Slush. Water-saturated snow which with a heel -and-toe slap-down motion against the ground should be displaced with a splatter; specific gravity: 0.5 up to 0.8.

Note.— Combinations of ice, snow and/or standing water may, especially when rain, rain and snow, or snow is falling, produce substances with specific gravities in excess of 0.8. These substances, due to their high water/ice content, should have a transparent rather than a cloudy appearance and, at the higher specific gravities, should be readily distinguishable from slush. Snow (on the ground).

a) Dry snow. Snow which can be blown if loose or, if compacted by hand, should fall apart upon release; specific gravity: up to but not including 0.35.

b) Wet snow. Snow which, if compacted by hand, should stick together and tend to or form snowball; specific gravity: 0.35 up to but not including 0.5.

c) Compacted snow. Snow which has been compressed into a solid mass that resists further compression and should hold together or break up into lumps if picked up; specific gravity: 0.5 and over.

Strayed aircraft An aircraft which has deviated significantly from its intended track or which reports that it is lost.

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.

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

Traffic information: Information issued by an air traffic control 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 the collision.

Traffic information zone (TIZ). An uncontrolled airspace of defined dimensions extending upwards from the surface of the earth to a specified upper limit within which two-way communications is required for all aircraft and flight information is provided by an ATS unit.

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.

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

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 1000 candelas can be seen and identified against an unlit background.

Note 1.— 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 Meteorological Conditions (VMC): Meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, equal or better than specified minima.

VMC. The symbol used to designate visual meteorological conditions.

Unidentified Aircraft An aircraft which has been observed or reported to be operating in a given area but whose identity has not been established.

CHAPTER 3

ABBREVIATIONS

Unless otherwise stated, abbreviations in this AFIS Operations Manual have the meanings as follows:

A

ABM	Abeam
ACC	Area Control Centre
ACFT	Aircraft
AD	Aerodrome
AFIS	Aerodrome Flight Information Service
AFM	Yes, Affirm
AFTN	Aeronautical Fixed Telecommunication Network
AGL	Above ground level
AIP	Aeronautical Information Publication
AIS	Aeronautical Information Service
ALERFA	Alert Phase
ALTN	Alternate (aerodrome)
AMSL	Above Mean Sea Level
ANSP	Air Navigation Services Provider
AP	Airport
APP	Approach Control Office or Approach control or Approach Control Service
ARP	Aerodrome Reference Point
ARR	Arrival (message type designator)
ATA	Actual time of arrival
ATD	Actual Time of Departure

ATM	Air Traffic Management
ATS	Air Traffic Service(s)
AVASIS	Abbreviated visual approach slope indicator system
AVBL	Available or availability

B

BCFG	Fog Patches
BLSN	Blowing snow
BR	Mist
BTN	Between

C

C	Degree Celsius (Centigrade)
CAT	Clear Air Turbulence
CAVOK	Ceiling and Visibility OK
CB	Cumulonimbus
CL	I am closing my station
CLSD	Closed
CNL	Cancel or cancelled
CNS	Communications, Navigation and Surveillance
COM	Communications

D

DEP	Depart or departure
DEST	Destination
DETRESFA	Distress phase
DLA	Delay or delayed
DOC	Document
DOM	Domestic

DTRT	Deteriorate or deteriorating
DUPE	This is duplicate message
DZ	Drizzle

E

E	East or eastern longitude
EET	Estimated elapse time
ELT	Emergency locator transmitter
EMERG	Emergency
EOBT	Estimated off-block time
ETA	Estimated time of arrival or estimating arrival
ETD	Estimated time departure or estimating departure

F

FAC	Facilities
FAX	Facsimile transmission
FG	Fog
FIC	Flight information centre
FIR	Flight information region
FIS	Flight information service
FLT	Flight
FREQ	Frequency
FT	Feet (dimensional unit)
FU	Smoke
FZ	Freezing

G

G/A	Ground-to-air
GMT	Greenwich mean time
GND	Ground

GR	Hail
GS	Ground seed

H

H24	Continuous day and night service
HDG	Heading
HEL	Helicopter
HJ	Sunrise to sunset
HLS	Helicopter landing site
HN	Sunset to sunrise
HPA	Hectopascal
HR	Hours
HS	Service available during hours of scheduled operations

I

ICAO	International Civil Aviation Organisation
ICE	Icing
INBD	Inbound
INCERFA	Uncertainty phase
INFO	Information
IR	Ice on runway
ISA	International standard atmosphere

J

JAN	January

K

KT	Knots

L

LAT	Latitude
LDG	Landing

LMT	Local mean time
LONG	Longitude
LR	The last message received by me was.
LS	The last message sent by me was….
LV	Light and variable (relating to wind)

M

MAP	Aeronautical maps and charts
METAR	Aviation routine weather report
MHZ	Megahertz
MSG	Message
MSL	Mean sea level

N

N	North or northern latitude
NEG	Negative
NIL	None or I have nothing to send
NM	Nautical miles
NML	Normal
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
NSC	Nil Significant Cloud

O

OBST	Obstacle
OPN	Open or opened or opening
OPS	Operations
OVC	Overcast

P

PAX	Passenger(s)
POB	Person on board
PSN	Position

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	Rain
RASH	Rain and showers
RCF	Radio communication failure (message type designator)
RCL	Runway centre line
RE	Recent (used to qualify weather phenomena such as rain),e.g. recent rain = RERA
REF	Reference to.. or refer to ….
REQ	Request or requested
RMK	Remark
RTF	Radiotelephony
RWY	Runway

S

S	South or Southern Latitude
SA	Dust storm, sand storm, rising dust or rising sand
STDBY	Stand by
SH	Showers
SKC	Sky Clear
SN	Snow

SNOWTAM	A special series NOTAM notifying the presence or removal or hazardous conditions due to snow, ice, slush or standing water associated with snow, slush and ice on the movement area, by means of a specific format	
SNSH	Snow Showers	
SR	Sunrise	
SS	Sunset	
SSB	Single side band	
STN	Station	
STOL	Short Take-Off and Landing	
SUP	Supplement (AIP Supplement)	
SVCBL	Serviceable	

T

TA	Transmission altitude
TCAS	Traffic Alert and Collision Avoidance System
TDZ	Touch Down Zone
TEMPO	Temporary or Temporarily
TFC	Traffic
THR	Threshold
TKOF	Take-off
TWR	Aerodrome control tower
TWY	Taxiway

U

UFN	Until Further Notice
UNL	Unlimited
U/S	Unserviceable
UTC	Co-ordinated Universal Time

V

V	Cleared over a reporting point
VASIS	Visual Approach Slope Indicator System
VFR	Visual Flight Rules
VIP	Very Important Persons
VVIP	Very Very Important Persons
VIS	Visibility
VMC	Visual Meteorological Conditions
VTOL	Vertical Take-Off and Landing

W

WDI	Wind Direction Indicator
WEF	With Effect From or Effective From
WIP	Work In Progress
WX	Weather

X

| XX | Heavy (used to quality weather phenomena such as rain, e.g. heavy rain - XXRA) |

Y

| YES | Yes (affirmative) |
| YR | Your |

CHAPTER 4

4.1.   ORGANISATION STRUCTURE OF TENZING HILLARY AIRPORT CIVIL AVIATION OFFICE

4.1.1.   Tenzing Hillary Airport Civil Aviation Office is an entity directly under Air Navigation Service Directorate, Civil Aviation Authority of Nepal (CAAN). It's main goal is to provide flight information useful for the safe and efficient conduct of aerodrome traffic operating within Kathmandu FIR under its jurisdiction. For jurisdiction of Tenzing Hillary Airport see 6.5.

4.1.2.   Tenzing Hillary Airport Civil Aviation Office is commnly known as Lukla Airport.

4.1.3.   The Radiotelephony call sign of Lukla Airport will be LUKLA INFORMATION.

4.1.4.   Organization structure of Tenzing Hillary Airport Civil Aviation Office is presented in Appendix A.

4.2.   LUKLA AFIS Unit

4.2.1.   A TOWER has been established at Tenzing Hillary Airport CAO which is designated as a LUKLA AFIS unit.

4.2.2.   LUKLA AFIS unit will provide flight information service and alerting service under its jurisdiction and within the area of responsibility as given in 6..5

4.2.3.   The Lukla AFIS unit is not an air traffic control unit. It is therefore the responsibility of pilot-in-command using the service provided by this unit to maintain proper separation in conformity with the rules of the air and other provisions.

Note: The pilot-in-command of an aircraft should, whether manipulating the controls or not, be responsible for the operation of the aircraft in accordance with the rules of the air, except that the pilot-in-command may depart from these rules in circumstances that render such departure absolutely necessary in the interests of safety.

4.2.4.   Airport Manager (AM) of the Tenzing Hillary Airport Civil Aviation Office should also play supervisory role that has the sole responsibility for safe, efficient conduct of flight operation in Lukla Airport.

4.2.5.   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 for Lukla Airport is shown in the organization chart as specified in Appendix A *(ATS Section).*

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

4.3.   THE HOURS OF OPERATION

Lukla AFIS unit provides Aerodrome Flight Information Service in between;

1) Jan, Feb, Nov & Dec. 0100-1215 UTC
2) Mar, Apr, Sept & Oct 0030-1245 UTC
3) May, June, July & Aug 0015-1300 UTC

Note: Any changes or amendments are notified through NOTAM and subsequently through AIP amendment.

4.4. HANDLING OF CLEARANCES, COMPANY AND OTHER MESSAGES.

4.3.1. Messages including instructions or advice received from other ATS units to aircraft e.g. instructions from the Kathmandu ACC will be relayed in timely manner.

4.3.2. Any other information contributing to safety will be transmitted immediately.

4.3.3. Company messages requesting that an aircraft be recalled to a specified position of the aerodrome should be accepted for transmission. The transmission of other company messages should be at the discretion of the ATS officer on duty.

CHAPTER 5

5. PROCEDURES FOR AERODROME FLIGHT INFORMATION SERVICE (AFIS)

5.1. GENERAL

5.1.1. Aerodrome flight information service will be provided by the Lukla AFIS unit located at Tenzing Hillary Airport CAO and is called LUKLA INFORMATION in radio telephony.

5.1.2. Essential information will be provided at Lukla Airport and pilots are required to decide themselves the actions to be taken and maintain their own separation.

5.1.3. Nothing should preclude ATS officer to use their best judgment to handle the situation that may demand the deviation from the published applicable rules. However, they may be asked to justify their action(s).

5.1.4. Lukla AFIS unit will use English language in providing AFIS.

5.2. CLASSIFICATION OF AIRSPACES

5.2.1. ATS airspaces within the jurisdiction of Lukla AFIS unit are classified and designated as G airspace where only VFR flights are permitted and receive flight information service.

5.2.2. **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 ATC
G	VFR	NIL	Flight information service	250 KTS IAS below 10000 ft	Continuous two-way

Note: The Area of jurisdiction of Lukla AFIS unit other than Lukla FIZ has been delegated as per Letter of agreement (LOA) between Lukla AFIS unit and Kathmandu ACC. LOA between Lukla Tower and Kathmandu ACC is attached in Appendix B.

5.3.   **READ BACK OF SAFETY RELATED INFORMATION**

5.3.1.   The flight crew will read back to the ATS officer of safety-related information or advice issued by ATS officer which are transmitted by voice. The following items should always be read back: Runway condition (clear), altimeter settings & level.

5.3.2.   The ATS officer will listen to the read back to ascertain that the information or advise has been correctly acknowledged by the flight crew and will take immediate action to correct any discrepancies revealed by the read back.

5.4.   **WAKE TURBULENCE**

5.4.1.   The responsibility for wake turbulence avoidance rests entirely with the pilot-in-command at Lukla Aerodrome.

5.4.2.   In providing information, Lukla AFIS unit should take into account the hazards caused by helicopter downwash turbulence and propeller slipstream to taxiing aircraft, to aircraft taking off or landing, particularly when vehicles and personnel operating on the aerodrome.

Note1.— helicopter downwash turbulence and propeller slipstream can produce localized wind velocities of sufficient strength to cause damage to other aircraft, vehicles and personnel operating within the affected area. Further guidance on these effects are contained in the ICAO Air Traffic Services Planning Manual (Doc 9426), Part II, Section 5, Chapter 3.

5.5.   **ALTIMETER SETTING PROCEDURES**

5.5.1.   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.

5.5.2.   Lukla AFIS unit will supply local QNH (Lukla QNH) to all air traffic operating in Lukla FIZ.

Note: If local QNH is not available or faulty at Lukla AFIS unit, Lukla AFIS unit will use Kathmandu QNH.

5.5.3.   Altimeter settings provided to aircraft should be rounded down to the nearest lower whole HPA

5.6.   **TAKE OF AND CLIMB**

5.6.1.   A QNH altimeter setting will be made available to aircraft by Lukla AFIS unit prior to take off, except when it is known that the aircraft has already received the information.

5.6.2.   Vertical positioning of aircraft during climb is expressed in terms of altitudes until reaching the transition altitude, above which vertical positioning is expressed in terms of flight levels.

5.7. **CRUISING LEVELS**

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

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

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

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

```
                    359° | 000°
                         |
                Even     |
                  +      |   Odd
                 500     |
        270°             |             089°
        ------------------------------------
        269°             |             090°
                         |   Odd
                Even     |    +
                         |   500
                         |
                    180° | 179°
```
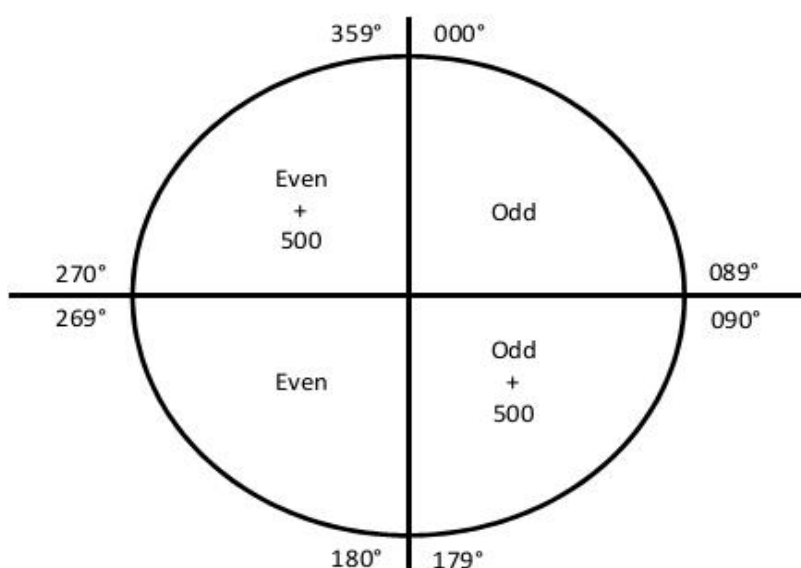
Quadrantal System of Cruising Levels

5.8. **POSITION REPORTING**

5.8.1. TRANSMISSION OF POSITION REPORTS

5.8.1.1.   On inbound to Lukla Airport, position reports should be made by the aircraft when over or as soon as possible after passing the following Points subsequently:
  a.   Lamjura Pass or Abeam Lamjura Pass (or, if inbound via south of track, then North abeam Phaplu or North abeam Rumjatar).
  b.   Entering Lukla Valley or Lukla FIZ
  c.   Right base RWY 06
  d.   Final RWY O6
  e.   Any additional reports over other points as may be requested by the Lukla AFIS unit.

Note: If such reporting is not received in appropriate expected time then ATS officer on duty should initiate a call with pilot to obtain their position reports.

5.8.1.2.   On outbound from Lukla Airport, position reports should be made by the aircraft when over or as soon as possible after passing the following Points subsequently:
   a. On Setting Course
   b. Leaving Lukla valley or Lukla FIZ(or, if tracking outbound via south, then PEEKAY pass : 2-3 NM South of Lamjura Pass or Abeam Kangel)

   c. Any additional reports over other points as may be requested by the Lukla AFIS unit.

5.8.1.3.   On routes, position reports should be made by the aircraft as soon as possible after the first half hour of flight. Additional reports at shorter intervals of time may be requested by the Lukla AFIS unit.

5.8.1.4.   The ATS Officer 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.

5.8.1.5.   Estimates for all subsequent reporting points within the jurisdiction of the Lukla AFIS unit will be amended, if pilot estimate varies by more than 3 minutes.

5.8.1.6.   If the ATS Officer 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 should inform the pilot accordingly. If practicable, this will be done before the pilot makes his/ her estimates for the rout segment concerned.

5.8.1.7.   If there is any doubt about the actual level occupied by the reporting aircraft, checked at once with the aircraft itself.

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

5.9. CONTENTS OF POSITION REPORTS

5.9.1.1. Initial call to AFIS

 For aircraft being provided with aerodrome flight information service, the initial call will contain:

   a) Lukla Information;
   b) call sign and type of aircraft;
   c) position;
   d) level;
   e) intentions; and
   f) Additional elements, as required by Lukla AFIS unit.

5.10. TRAFFIC INFORMATION TO AIRCRAFT

5.10.1.   Traffic information contains the following items:

    a) identification of the aircraft to which the information is transmitted;
    b) the words 'TRAFFIC ' or 'ADDITIONAL TRAFFIC';
    c) type of aircraft concerned;
    d) direction of flight of aircraft concerned;
    e) cruising level of aircraft concerned
    f) The route and ETA of aircraft at next position or the point nearest to where the aircraft will cross levels.

5.10.2. Traffic information will be provided by ATS officer, Lukla under following conditions :

    a) When to alert a pilot in command about other known or observed air traffic which may be in proximity to the position or intended route of the flight and help the pilot to enable to determine the position of another aircraft visually and take action to avoid collision.

    b) When aircraft are operating with less than the prescribed separation minima either in emergency or other case,

    c) When aircraft leaving controlled airspace and entering uncontrolled airspace and it is known that other aircraft is operating in proximity to the boundary and the intended path of the aircraft.

    d) When requested by the pilot in command of an aircraft.

Note: As traffic information may be based on data of doubtful accuracy and completeness and as it may be subject to communication delay, this does not relieve the pilot in command of an aircraft of his responsibilities of avoiding collision hazards.

5.11. ESSENTIAL LOCAL TRAFFIC INFORMATION

5.11.1. Information on essential local traffic will be issued in a timely manner, either directly or through other ATS unit when, in the judgment of the ATS office, Lukla, such information is necessary in the interests of safety, or when requested by aircraft.

5.11.2. 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 Lukla , which may constitute a hazard to the aircraft concerned.

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

5.12. **ESSENTIAL INFORMATION ON AERODROME CONDITIONS**

5.12.1. 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 must be confined to runways, that fact will be considered as essential aerodrome information to any aircraft not familiar with the aerodrome.

5.12.2. Essential information on aerodrome conditions should 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 or an apron, whether marked or not;
   c) snow, slush or ice on a runway or an apron;
   d) water on a runway or an apron;
   e) snow banks or drifts adjacent to a runway or an apron;
   f) other temporary hazards, including parked aircraft and birds on the ground or in the air;
   g) failure or irregular operation of part or all of the aerodrome lighting system;
   h) any other pertinent information.

5.12.3. Essential information on 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. The information will be given in sufficient time for the aircraft to make proper use of it, and the hazards should be identified as distinctly as possible.

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

5.12.4. When a not previously notified condition pertaining to the safe use by aircraft of the manoeuvring area is reported to or observed by the Lukla AFIS unit, the Tenzing Hilary Airport CAO will be informed and operations on that part of the manoeuvring area terminated until otherwise advised by the Lukla AFIS unit.

5.13. **AERODROME WEATHER OBSERVATIONS**

5.13.1. Lukla AFIS unit will supply with up-to-date information on existing meteorological conditions as necessary for the performance of their functions.

5.13.2. Any change in weather will be communicated to the pilot by the Lukla AFIS unit as soon as possible.

5.13.3. ATS Officer will be the sole responsible authority 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.

5.13.4. ATS Officer will use his own observations for determining whether the prevailing conditions are above or below the minima prescribed for aircraft operations.

Note: The visibility provided by the Lukla AFIS unit is the visibility observed and determined by the ATS officer on duty by taking a reference with the help of visibility reference chart (Appendix H).

5.13.5. When observing weather conditions, the ATS Officer on duty will make general observations over the whole of the visual horizon for the purpose of closing or opening the aerodrome or in response to a request by other ATS units.

5.13.6. Final decision on whether analysis, closure and open of aerodrome rests on ATS Office on duty of Lukla AFIS unit.

5.13.7. Weather observation for departure and landing should include such of the following items as are significant to the circumstance:
   a) Wind Velocity.
   b) Altimeter setting.
   c) Temperature.
   d) Low could.
   e) Visibility in meters.
   f) Intensity of rain, reported or known wind shear, turbulence, etc.

   Note: Significant weather, if present, towards the north sides of Lukla airfield will be passed to aircraft.

5.14. INFORMATION RELATED TO THE OPERATION OF AIRCRAFT - DEPARTING TRAFFIC

5.14.1. Prior to start up for takeoff, the flight crew will advise to Lukla AFIS unit, through a VHF voice report of the following elements of flight plan information:
   a) Call Sign or Identification of Aircraft
   b) Type of Aircraft
   c) Destination
   d) Intended level
   e) EET or flight time
   f) Fuel endurance
   g) Persons On-Board (POB)
   h) Alternate aerodrome
   i) Pilot in command

5.14.2. Upon receiving such information as mentioned in 5.14.1, the Lukla AFIS unit will advise the following available elements of information in the order listed,

   a) The runway;
   b) The surface wind direction and speed, including significant variations;
   c) The QNH altimeter setting;
   d) The air temperature for the runway to be used, in case of turbine engine aircraft;
   e) The visibility representative of the direction of take off and initial climb, if less than 10km;
   f) The correct time.

   Note1.   Significant changes in surface wind information are:
   Mean head-wind component: 19 km/h (10 kt)
   Mean tail-wind component: 4 km/h (2 kt)
   Mean cross-wind component: 9 km/h (5 kt)

5.14.3. 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 clouds/cumulonimbus or thunderstorm, moderate or severe turbulence, wind shear, hail, moderate or severe icing, severe squall line, freezing precipitation, severe mountain waves, sandstorm, dust storm, blowing snow, or waterspout in the take-off and climb-out area.

5.14.4. 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 Lukla ATS officer on duty in the interest of safety, or when requested by an aircraft.

5.15. **INFORMATION RELATED TO THE OPERATION OF AIRCRAFT - ARRIVING TRAFFIC**

5.15.1.1. Arriving aircraft, at first contact, should report following information to the Lukla AFIS unit.

         a) point of departure
         b) present position and level
         c) intended descending level
         d) EST/ETA
         e) Other information useful for safe and efficient conduct of flight

e.g. 9N-AET FROM KATHMANDU, POSITION LAMJURA 11500 FT DESCENDING TO 10500 FT, ETA LUKLA 0315.

5.15.1.2.   In order to keep the Lukla AFIS unit continuously informed on the traffic situation and enable the AFIS unit to provide correct and current information to other aircraft, it is essential that every arriving aircraft reports its intentions and manoeuvres to the extent applicable, as specified below:

a) Position, level and estimated time of arrival at the Lukla aerodrome
b) Intention to enter left-hand traffic circuit, if required.
c) Making ,entering and leaving a visual hold;
d) entering the traffic circuit;
e) the arrival over, or passing significant positions(e.g. 10500 ft Hill);
f) turning on to right base leg or final approach;
g) taxiing to apron or parking area after landing;
h) any other intention, manoeuvre or action that could affect other traffic;
i) Any abnormalities

5.15.2.   Prior to entering the traffic circuit or commencing its approach to land, an aircraft should be provided with the following elements of information, in the order listed:
a) the runway
b) the surface wind direction and speed, including significant variations
c) the QNH altimeter setting
d) the air temperature
e) other information useful for the safe and efficient conduct of flight

5.16. REPORTING OF OPERATIONAL AND METEOROLOGICAL INFORMATION

5.16.1.   When operational and/or meteorological information is to be reported, by an aircraft en route, the special aircraft observations should be reported as special air-reports as soon as practicable.

5.16.2.   Contents of special air-reports

5.16.2.1. 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, with or without hail that are obscured, embedded, widespread or in squall lines; or

5.16.2.2. When receiving special air-reports by voice communications, Lukla AFIS unit will forward them without delay to Kathmandu ACC or their associated meteorological watch offices and concerned flights.

5.17. **ABNORMAL AIRCRAFT CONFIGURATION AND CONDITION**

5.17.1.   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 Lukla AFIS unit, the aircraft concerned will be advised without delay.

5.17.2.   When requested by the flight crew of a departing aircraft suspecting damage to the aircraft, the runway used will be inspected by the 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.

5.18. **VVIP MOVEMENT HANDLING PROCEDURE**

5.18.1.   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, Lukla AFIS unit is authorized to provide special priority for all VVIP fights over all other normal traffic within their areas of responsibility,

5.18.2.   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

5.18.3.   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.

5.18.4.   The Airport Manager, and/or Air Traffic Services Chief, Tenzing Hillary Airport CAO will inform all concerned relating to VVIP flight some or all of the following details:

a) Period and area of restrictions imposed on other fights.
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

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

5.18.6.   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.

5.18.7.   VVIP Flight Operation outside Controlled Airspace

No other aircraft should 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 TRAFFIC

LUKLA AFIS UNIT	
CALL SIGN	LUKLA INFORMATION
FREQUENCY (ADC)	122.3 MHZ
SSB	5805.5 KHZ

6.1. GENERAL

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

6.2. OBJECTIVES OF LUKLA AFIS UNIT

6.2.1. Lukla AFIS unit will issue information to aircraft in its area of responsibility to achieve a safe, orderly and expeditious flow of air traffic on and in the vicinity of an aerodrome with the object of assisting pilots in preventing collision(s) between:

  a. aircraft flying within the FIZ of the Lukla AFIS unit, including the aerodrome traffic circuits;
  b. aircraft operating on the manoeuvring area;
  c. aircraft landing and taking off;
  d. aircraft and vehicles operating on the manoeuvring area;
  e. Aircraft on the manoeuvring area and obstructions on that area.

6.2.2. Lukla AFIS unit will maintain a continuous watch on all flight operations on and in the vicinity of an aerodrome as well as vehicles and personnel on the manoeuvring area. Traffic will be handled in accordance with the procedures set forth herein and all applicable traffic rules specified by the CAAN.

6.3. FUNCTION OF LUKLA AFIS UNIT

6.3.1. Lukla AFIS unit will provided Flight Information Services and Alerting Service to aerodrome traffic.

6.3.2. Lukla AFIS unit will issue information and advice to aircraft operating in the manoeuvring area of an aerodrome and aircraft flying within its jurisdiction so as to promote a safe and efficient flow of air traffic.

6.3.3. Movement of vehicles and pedestrian on the manoeuvring area of an aerodrome will be under the authorization of Lukla AFIS unit. When such authorization is granted, it should be rigidly controlled.

6.3.4. Lukla AFIS unit is responsible to alert the rescue and fire fighting services, if applicable, as and when required.

6.3.5. Lukla AFIS unit is responsible for timely reporting to concern services /offices/units about 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 AFIS.

6.3.6. Lukla AFIS unit should, to the extent possible, be supplied with the same information as that provided to aerodrome control Tower

6.4. FLIGHT INFORMATION ZONE (FIZ) OF TENZING HILLARY AIRPORT

Lateral Limit: An area of a circle of radius 5NM from the middle of the runway and

Vertical limit: From Ground level to 12500 ft AMSL.

6.5. JURISDICTION OF LUKLA AFIS UNIT

Jurisdiction of Lukla AFIS unit will be within an area of a circle of radius 5NM from the middle of the runway extended upward from ground level to 12500 ft AMSL.

Note: This should be done by disseminating information by issuing NOTAM or incorporating in AIP.

6.6. AUTHORIZATION OF FLIGHT INTO TENZING HILLARY AIRPORT.

6.6.1. IFR flight shall not be permitted to operate at Tenzing Hillary Airport, Lukla.

6.6.2. No VFR flight shall take off or land at Tenzing Hillary Airport, if

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

   b. the ground visibility is less than 5000m. for fixed wing and 1500m. for helicopter.

6.6.3. ATS Officer on duty or Airport Manager of Tenzing Hillary Airport Civil Aviation Office shall declare runway closure or aerodrome closure in the following cases:

   a) runway condition is not suitable for the aircraft operation due to rain, mud, snow and /or slush; or

   b) the ceiling is less than 1500 ft, or when the ground visibility is less than 5000m for the fixed wing aircraft and 1500m. for helicopter; or
   c) When tail wind exceeds 10 KTS. or,

d) When the intensity of the rain is light.

Note 1: If the base of the cloud is below the 10500 ft DANDA(Ridge), then Lukla airport will be closed.

Note 2:Even if small patches of fog lifted up from Dudh Koshi River or small patches of cloud is visible from AFIS unit on final Rwy 06 , then Airport will be closed.

Note3: If the weather tendency of decreasing from VFR minima, AFIS Officer of Lukla will inform this to all arriving aircraft as soon as possible.

6.7. DESIGNATION OF RUNWAY AND AERODROME TRAFFIC CIRCUITS IN TENZING HILLARY AIRPORT.

6.7.1. GENERAL

6.7.1.1. In Tenzing Hillary Airport, aircraft shall use Runway 06 for landings and runway 24 for takeoffs. There should be no prospect of a successful go-around on final due to the terrain.

6.7.1.2. ATS officer will provide information to departing and arriving aircraft that the runway is clear when no aircraft, vehicles or other obstructions are on the runway or closer to the runway.

6.7.1.3. The following positions of aircraft in the traffic and taxi circuits should be watched closely as they approach these positions so that proper and adequate information may be issued without delay. Where practicable, all information and advisories should be issued without waiting for the aircraft to initiate the call.
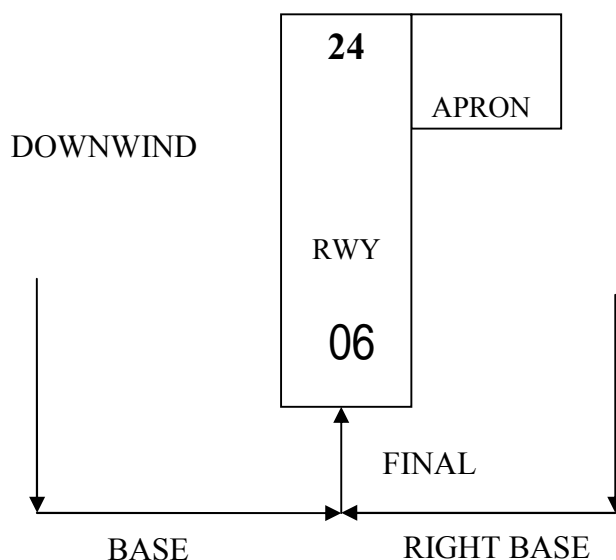

Fig:Designated positions of aircraft the Aerodrome Traffic and Taxi Circuits

6.8. HANDLING OF TRAFFIC IN THE TRAFFIC CIRCUIT

6.8.1. The aerodrome and traffic information should be issued to the traffic entering traffic circuit depending on the circumstances and traffic conditions, an aircraft should join at right base or may join left base (for helicopter coming from north) in the traffic circuit.

6.8.2. In cases of emergency it may be necessary, in the interests of safety, for an aircraft to enter a traffic circuit and make a landing without informing or proper authorization. ATS officer should recognize the possibilities of emergency action and render all assistance possible and keep record in log book. If circumstances warrant, aircraft which are in contact with the ATS officer may be requested to give way so as to remove, as soon as possible, the hazard introduced by such operation.

6.9. TRAFFIC ON THE MANOEUVRING AREA

6.9.1. Taxiing aircraft

On receiving information that an aircraft is about to taxi, the Lukla AFIS unit should determine where the aircraft concerned is parked. Relevant information on local traffic and aerodrome conditions should be provided to assist the flight crew in selecting taxi routes to avoid collision with other aircraft or objects.

6.9.1.1. Taxiing on a runway

If the Lukla AFIS unit is unable to determine that a vacating or crossing aircraft has cleared the runway, the aircraft should be requested to report when it has vacated the runway. The report should be made when the entire aircraft is beyond the relevant runway-holding position.

6.9.2. Helicopter taxiing operations

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

6.9.2.2. A frequency change should not be issued to single-pilot helicopters hovering or air-taxiing. Whenever possible, the relay of advice or information from the Lukla AFIS unit should be delayed as necessary until the pilot is able to change frequency.

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.

6.9.3. Communication requirements and visual signals

6.9.3.1.   At Lukla AFIS aerodromes, all vehicles employed on the manoeuvring area should be capable of maintaining two-way radio-communication with the Lukla AFIS unit, 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 Lukla AFIS unit.

6.9.3.2.   When communications by a system of visual signals is deemed to be adequate, or in the case of radio-communication failure, if available, the Visual ground signals listed in CAR 2, Appendix 1, 4.2 may be displayed by the Lukla AFIS unit or as specified by the ANSP, CAAN.

6.9.3.3.   In the absence of an automatic monitoring system or to supplement such a system, the ATS officer should visually observe such system as can be seen from the AFIS unit 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.

6.10. HOLDING POSITION AND PROCEDURE

6.10.1. Departing aircraft should hold position at runway holding positions. Pilot-in-commands should exercise great caution while holding at holding position.

6.10.2. Aircraft shall not line up and hold on the runway whenever another aircraft is making a landing, until the landing aircraft has passed the point of intended holding.

6.10.3. Specified number of aircraft, one at a time can enter the Lukla valley to hold remaining VMC. Lukla AFIS unit will inform other aircraft to hold outside valley (10500ft Ridge, SE of Lukla, overhead VNLK, West of GUMBA and South West of BHATKEKO DANDA).

6.10.4. Arrival aircraft holding outside Lukla valley due to weather or other reason, after normal operation, Lukla AFIS unit should provide sequence, considering the position and ETA. All holding aircraft should have continuous coordination with each other and Lukla AFIS unit.

6.10.5. If ETA likely to be same, Lukla AFIS unit may advice landing sequence as per the type and performance of the aircraft or leave this matter to the discretion of concern pilots by carrying with mutual understanding.

Note: Aircraft should enter and leave Lukla valley as per the LOA between airline operator and Lukla AFIS unit or as mentioned by CAAN.

6.11. CONTROL OF GROUND VEHICLES AND PERSONNEL

6.11.1.   Entry to the manoeuvring area

The movement of persons or vehicles including towed aircraft on the manoeuvring area will be subject to authorization by the Lukla AFIS unit. Persons, including drivers of all vehicles, should be required to obtain authorization from the Lukla AFIS unit before entry to the manoeuvring area. Notwithstanding such an authorization, entry to a runway or runway strip or change in the operation authorized should be subject to a further specific authorization by the Lukla AFIS unit.

6.11.2. Priority on the manoeuvring area

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

6.12. ORDER OF PRIORITY FOR ARRIVING AND DEPARTING AIRCRAFT

6.12.1. 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 runway.

6.12.2. Priority for landing should 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 prioritized by the CAAN.

6.13. HANDLING OF DEPARTING TRAFFIC

6.13.1. Take-off

6.13.1.1.   ATS officer will provide relevant information on local traffic and aerodrome conditions to assist the flight crew to decide when to take-off. Such information will be updated at ATS Officer discretion or when requested by the pilot. Pilots will inform Lukla AFIS unit of their intentions, e.g. 'holding',

'lining up', 'rolling' or 'taking off'. Pilots shall not take off if there are other aircraft on the runway.

6.13.1.2.   When pertinent safety related information is required prior to take-off, the Lukla AFIS unit will not issue 'Runway Clear' information until the information has been transmitted to and acknowledged by the aircraft concerned. The information will be forwarded to the aircraft with the least possible delay after receipt of a request made or prior to such request if practicable.

6.13.1.3.   Subject to 6.13.1.2, the runway clear information will be transmitted when the aircraft is ready for take-off and at or approaching the departure runway, and the traffic situation permits.

6.13.2. Departure sequence

6.13.2.1.   Departures should normally take place in the order in which they are ready for departure. However, an ATS officer may initiate deviations from this to facilitate departures of faster moving aircraft following the same route or to facilitate aircraft which should be afforded priority.

6.13.3. Spacing of departing aircraft

6.13.3.1.   Departing aircraft should not normally commence take-off until the preceding departing aircraft has crossed the end of the departure runway or has started a turn or until all preceding landing aircraft are clear of the runway

6.13.3.2.   The runway clear information should be issued when the aircraft is ready for departure and at or approaching the landing runway. However, it does not ensure traffic separation.

6.13.3.3.   It is the responsibility of flight crews to ensure that the separation when the aircraft commences take-off.

6.13.4. Clearance

6.13.4.1.   Clearances received from other control units to aircraft (e.g. from the Kathmandu ACC) will be relayed at the time of issuing aerodrome information.

6.13.4.2.   The ATS officer will ensure that the aircraft has received and understood such clearances by requiring pilots to read back clearance.

Note: When an ATS officer uses words "Runway clear", it denotes that in his/her opinion no aircraft or vehicle or pedestrian is occupying the runway at the time of transmission. A great caution should be exercised by flight crews at aerodromes where runway or landing area is not distinctly separated from other part of the movement area despite the "runway clear" being received from Lukla AFIS unit.

6.13.5. Aircraft reporting

6.13.5.1.   In order to keep the Lukla AFIS unit continuously informed on the traffic situation and enable the unit to provide correct and current information to other aircraft, it is essential that every departing aircraft reports its intentions and manoeuvres to the extent applicable, as specified below.

6.13.5.2.   A departing aircraft shall report:

a)   Start-up and taxi intention for departure;
b)   selected runway if other than preferred runway advised by Lukla AFIS unit and, when applicable, runway-holding position;
c)   intended route or track after take-off, including intention, if any, to make right turn after take-off.
d)   lining up on the runway for departure;
e)   ready for departure;
f)   any other intention, manoeuvre or action that could affect other traffic.

6.14. HANDLING OF ARRIVING AIRCRAFT

6.14.1. Arriving aircraft

6.14.1.1.   Pilots shall not land if there are other aircraft on the runway. Lukla ATS Officer will provide relevant information on local traffic and aerodrome conditions. Such information will be updated at ATS officer discretion or when requested by the pilot.

6.14.1.2.   A landing aircraft should not normally be informed that the runway is clear 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 have vacated the runway-in-use.

6.15. SPACING BETWEEN LANDING AND DEPARTING AIRCRAFT.

6.15.1. Departing aircraft should not normally be line up and takeoff after landing aircraft crossed 5NM of Lukla AFIS unit.

6.15.2. Landing aircraft should not normally cross the runway threshold on its final approach until all preceding landing aircraft are clear of the runway.

Note: It is the responsibility of flight crews to ensure that the spacing in accordance with 6.13.3. , 6.15.1 and 6.15.2. should exist .

6.15.3. An aircraft may be advised runway clear when the aircraft enters or about to enter the traffic circuit. However, it does not ensure traffic spacing.

6.16. DIRECT PILOT TO PILOT COMMUNICATION PROCEDURE

Whenever considered advantageous or necessary two or more aircraft may establish direct pilot to pilot radio communication to inform each other about their intentions and coordinate their operations to prevent collision. Such radio communication will be informed to Lukla AFIS unit if such information is related to safe conduct of flight.

6.17. RUNWAY INCURSION OR OBSTRUCTED RUNWAY

6.17.1. In the event the ATS officer 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 to 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 missed approach may expose the aeroplane to the risk of a tail strike. Pilots may, therefore, have to exercise their judgment in accordance with CAR 2, 2.4, concerning the authority of the pilot-in-command of an aircraft.

6.17.2. Pilots and ATS officer will report any occurrence involving an obstruction on the runway or a runway incursion. The report may be recorded on the ICAO Model Runway Incursion Initial Report Form (See Appendix F and G).

6.18. INFORMATION ON AERODROME CONDITIONS AND THE OPERATIONAL STATUS OF ASSOCIATED FACILITIES

6.18.1. The equipment and operational status of associated facilities in the Lukla AFIS unit should, to the extent possible, be similar to the equipment required for the tower.

6.18.2. Lukla AFIS unit should have provision to monitor the current operational status of radio navigation services and visual aids essential for surface movement, takeoff, departure, approach and landing procedures within its area of responsibility and those radio navigation services and visual aids essential for such movement.

6.18.3. Lukla AFIS unit will immediately informed 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 AFIS. 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.

6.18.4. Lukla AFIS unit will be kept currently informed of the conditions of the manoeuvring area, Including the existence of temporary hazards, and the operational *status* of any associated facilities at the aerodrome with which they are concerned.

6.19. STRIP MARKING PROCEDURE

6.19.1. Lukla AFIS unit will use paper strip for individual flight.

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

6.19.3. Strip marking will be accomplished in accordance with procedures detailed in Appendix D.

CHAPTER 7

COMMUNICATION TECHNIQUE & PHRASEOLOGY

7.1. COMMUNICATION TECHNIQUE

Note: The communications procedures will be in accordance with Volume II of Annex 10 — Aeronautical Telecommunications, AFIS Officer and pilots shall be thoroughly familiar with the radiotelephony procedures contained therein.

7.1.1. Reasons for Standardization

Standard phrases help in avoiding misunderstanding of advice and information as well as in reducing time requirement for communication. Standard phrases, therefore, included in this chapter should be used by AFIS Officer and Flight crews in all air-ground communications.

7.1.2. Supplementary Phrases

Owing infinite nature of situation that may arise, the example phrases given in this chapter may not be sufficient. ATS officer working at Lukla Airport, therefore, are expected to use additional phrases which should be clear, concise and complete.

Note1: ATS officer working at Tenzing Hillary Airport can use the existing phraseologies prescribed in Chapter12 of MATS Nepal to pass the necessary information to aircraft.

Note2: ATS officer working at Tenzing Hillary Airport are encouraged to refer and gain advantage from Chapter12 of MATS Nepal and ICAO Manual of Radiotelephony (Doc 9432), which should certainly enrich their air-ground communication skills.

7.1.3. Transmission Technique

The following transmitting techniques will assist in ensuring that transmitted speech is clearly and satisfactorily received by the other end.

  i.   Always press the transmit switch fully before speaking.

  ii.   Always precede the transmission with a call sign of the station being called, even on the second or subsequent transmissions to the same station.

iii. A slight pause before and after numbers should assist in making them easier to understand.

iv. Avoid conversational speech.

v. Speak all words plainly and end each word clearly, so as to prevent the running together of consecutive words.

vi. Maintain a formal businesslike manner and avoid informal phrases.

7.1.3.1.   Letters, Figures and Time

7.1.3.1.1. When it is necessary to identify and letter of the alphabet, the following standard phonetic alphabet shall be used.

Letter	Spoken as	Pronunciation	Letter	Spoken as	Pronunciation
A	ALFA	AL-FAH	N	NOVEMBER	NO-VEM-BER
B	BRAVO	BRAH-VOH	0	OSCAR	OSS-CAH
C	CHALIE	CHAR-LEE	P	PAPA	PAH-PAH
D	DELTA	DELL-TAH	Q	QUEBEC	KEH-BECK
E	ECHO	ECK-OH	R	ROMEO	ROW-ME- OH
F	FOXTROT	FOKS-TROT	S	SIERRA	SEE-AIR-AH
G	GOLF	GOLF	T	TANGO	TAN-GGO
H	HOTEL	HOH-TELL	U	UNIFORM	YOU-NEE-FORM
I	INDIA	IN-DEE-AH	V	VICTOR	VICK-TAH
J	JULIET	JEW-LEE-ETT	W	WHISKEY	WISS-KEY
K	KILO	KEY-LOH	X	X-RAY	ECKS-RAY
L	LIMA	LEE-MAH	Y	YANKEE	YANG-KEY
M	MIKE	MIKE	Z	ZULU	Z00-LOO

7.1.3.1.2. Number in whole hundreds or whole thousands will be pronounced by transmitting each digit in the number of hundreds or thousands followed by the word hundred or thousand as appropriate. Combinations of whole thousands and whole hundreds will be transmitted by transmitting each digit in the number of thousands followed by the word thousand, followed by the number of hundreds followed by the word hundred

EXAMPLES :	number transmitted as
10	ONE ZERO
75	SEVEN FIVE
583	FIVE EIGHT THREE
600	SIX HUNDRED
5000	FIVE THOUSAND
7600	SEVEN THOUSAND SIX HUNDRED
11000	ONE ONE THOUSAND
18500	ONE EIGHT THOUSAND FIVE HUNDRED
38143	THREE EIGHT ONE FOUR THREE

7.1.3.1.3. Numbers containing a decimal point will be transmitted with the decimal point, in appropriate sequence, indicated by the word DECIMAL e.g., Number 118.1 – ONE ONE EIGHT DECIMAL ONE.

Numbers will be transmitted using the following pronunciations			
Number	**Pronunciation**	**Number**	**Pronunciation**
0	ZE-RO	7	SEV-EN
1	WUN	8	AIT
2	TOO	9	NIN-ER
3	TREE	Decimal	DAY-SEE-MAL
4	FOW-ER	Hundred	HUN-DRED
5	FIFE	Thousand	THOU-SAND
6	SIX		

7.1.3.1.4. When transmitting time use twenty four hour clock system and transmit each digit separately. When it is certain that no misunderstanding will exist, minutes only may be used. When there is possibility of confusion with other items being transmitted, the prefix TIME should be used. When giving a time check, the time shall be given to the nearest half minute, e.g. Time 0715 and a half.

7.1.3.2. Readability of signal strength.

The readability of signal strength will be referred to as a number taken from the following list as appropriate:

1. Unreadable

2. Readable now and then

3. Readable but with difficulty

4. Readable

5. Perfectly Readable

7.2. PHRASEOLOGIES REGARDING THE PROVISION OF INFORMATION

Following transmissions from Lukla AFIS unit are requests and do not constitute an instruction.

7.2.1 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 (type of aircraft) (level) ESTIMATED (or OVER) (significant point) AT (time); g) TRAFFIC IS (classification) UNMANNED FREE BALLOON(S) WAS [or ESTIMATED] OVER (place) AT (time) REPORTED (level(s)) [or LEVEL UNKNOWN] MOVING (direction) (other pertinent information, if any). *Denotes pilot transmission.

7.2.2 METEOROLOGICALCONDITIONS

a) [SURFACE] WIND (number) DEGREES (speed) KNOTS;

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.

7.2.3 ADDITIONAL REPORTS

... to request a report at a specified place or distance	a) REPORT PASSING (point) b) REPORT (distance) FROM (name of Aerodrome or point);
... to request a report of present position	c) REPORT PASSING (numbers) MILES d) REPORT POSITION
......to report present position	e) * (distance) MILES FROM (name of the station) or point); * Denotes pilot transmission.

7.2.4 AERODROME INFORMATION

a) [(location)] RUNWAY SURFACE CONDITION or RUNWAY (number) (condition);

b) LANDING SURFACE (condition);

c) CAUTION CONSTRUCTION WORK (location);

d) CAUTION (specify reasons) RIGHT (or LEFT), (or BOTH SIDES) OF RUNWAY[number];

e) CAUTION WORK IN PROGRESS (or OBSTRUCTION) (position and any necessary advice);

f) BRAKING   ACTION   REPORTED   BY(aircraft type) AT (time) GOOD (or MEDIUM, or POOR);

g) LUKLA AFIS UNIT OBSERVES (weather information);

h) PILOT REPORTS (weather information);

7.2.5	OPERATIONAL STATUS OF VISUAL AND NON-VISUAL AIDS

NA

7.3. PHRASEOLOGIES FOR USE ON AND IN THE VICINITY OF THE AERODROME

7.3.1 IDENTIFICATION OF AIRCRAFT	SHOW LANDING LIGHTS.
7.3.2 ACKNOWLEDGEMENT BY VISUAL MEANS	a) ACKNOWLEDGE BY MOVINGAILERONS (or RUDDER); b) ACKNOWLEDGE BY ROCKING WINGS; c) ACKNOWLEDGE BY FLASHING LANDING LIGHTS;
7.3.3 STARTING PROCEDURES … Lukla AFIS unit will not control start up, AFIS unit replies	a) START UP AT OWN DISCRETION; b) EXPECT DEPARTURE (time) START UP AT OWN DISCRETION c) START UP AT OWN DISCRETION (local information) * Denotes pilot transmission.

7.3.4 TAXI

	a) *READY TO TAXI (position) b) TRAFFIC (details) AERODROME CODITIONS (details) RUNWAY (number) c) *WILL TAXI TO HOLDING POINT (name) RUNWAY (number) d) * HOLDING * Denotes pilot transmission.

7.3.5 RELAYING CLEARANCE

a) … Lukla AFIS unit CLEARS(details of clearance) ... confirmation or otherwise of the read back of clearance SAY AGAIN] … (as appropriate);	a) (ATC unit) CLEARS (details of clearance) b) [THAT IS CORRECT] (or NEGATIVE) [I SAY AGAIN] … (as appropriate);

7.3.6 TAKE OFF

a) [REPORT READY]

b)   READY FOR DEPARTURE

c) TRAFFIC (details) or NO REPORTED TRAFFIC RUNWAY (number)

d) (traffic information) RUNWAY (number) RUNWAY CLEAR FOR DEPARTURE or

   RUNWAY   (number) OCCUPIED (or BLOCKED) BY (aircraft or vehicles or persons)

   WAIT FOR DEPARTURE.

e) REPORT AIRBORNE;

f) * HOLDING;

g) WILL LINE UP RUNWAY (number)

h) WILL TAKE OFF RUNWAY (number)

         * Denotes pilot transmission.

7.3.7. AFTER TAKE –OFF

... to request airborne time	a) REPORT AIRBORNE; b) AIRBORNE (time); c) REPORT ON COURSE d) AFTER PASSING/SEETING COURSE/LEVEL (contact instructions);

7.3.8 ENTERING AN AERODROME

a) * [aircraft type] (position) (level) FOR LANDING;

b) ROGER (direction of circuit in use) [RUNWAY (number)] [SURFACE] WIND (direction and speed) KNOTS

c) [TEMPERATURE [MINUS] (number)] QNH (or QFE) (number) [TRAFFIC(detail)];

7.3.9 IN THE CIRCUIT

a) (Position in circuit, e.g. (RIGHT BASE or FINAL);

b) ROGER [RUNWAY (number) FREE] or TRAFFIC (detail) [additional information if required].

7.3.10 APPROACH

Note.— The report ―FINAL is made when aircraft turn on to final approach at a distance 4 NM from touchdown.	a) REPORT BASE (or FINAL, or LONG FINAL); b) * BASE [or FINAL, or LONG FINAL]; c) TRAFFIC (details); d) NO REPORTED TRAFFIC RUNWAY (number); e) RUNWAY (number) CLEAR or [RUNWAY(number) OCCUPIED]; f) WILL LAND [RUNWAY (number)]; * Denotes pilot transmission

7.3.11 INFORMATION TO AIRCRAFT	
... propeller-driven aircraft slipstream	a) CAUTION SLIPSTREAM.

7.3.12 **RUNWAY   VACATING   AND COMMUNICATIONS AFTER LANDING**

a) TAXIWAY AVAILABLE TO APRON

b) * RUNWAY VACATED.

c) HOLD POSITION;

d) EXPEDITE [(reason)];

e) EXPEDITE CLEARING THE RUNWAY

Note: The existing phraseology in the MATS chapter 12 (PANS-ATM), part IX may be used by the Lukla AFIS unit, where appropriate, to pass information to an aircraft.

CHAPTER 8

COORDINATION

8.1. COORDINATION IN RESPECT OF THE PROVISION OF AFIS AND ALERTING SERVICES

8.1.1. To reduce the verbal communication, avoid conflicts and clarify area of responsibility of all adjacent control units for the control of arriving and departing aircraft, Tenzing Hillary Airport CAO has signed letter of agreement (LOA) with Kathmandu Area Control Centre (ACC) as per guidance of MATS Nepal.

Coordination between Kathmandu Area Control Centre (ACC) and Lukla AFIS unit should be affected as specified in letter of agreement. *Refer Appendix – B*

8.1.2. Coordination between Kathmandu ACC, AFIS aerodrome and other Control AFIS units which provides flight information service adjacent to Tenzing Hillary FIZ should be effected, in order to ensure continued flight information service to such aircraft in specified areas or along specified routes. Such coordination should be effected in accordance with an agreement between the AFIS units concerned.

8.1.3. This information should be forwarded to the concerned tower in which the aircraft should operate prior to the aircraft entering such unit.

8.1.4. A LOA should be done by Lukla AFIS unit with Airline Operators in accordance with a model of LOA as mentioned in appendix C. The LOA should be affected immediately after getting approval from the DGCA.

8.1.5. Transferring unit shall supply all necessary information to accepting unit such as :

a)   A/C Call sign

b)   Type of aircraft

c)   Departure point

d)   Route

e)   Level of A/C and changes of level there to

f)   ETA as and when required

g)   Destination

h)   Any other pertinent information

8.1.6. Coordination should be effected at the earliest after the departure of A/C but not later than 3 minutes of the departure time of A/C

8.1.7. When the Lukla AFIS unit has received an ETA/DEP for an arriving aircraft, it will provide the ATC unit with information about known traffic which the arriving aircraft should be aware of before transfer of communication to the Lukla AFIS unit. The information should be provided in such a time as being relevant and should be revised as necessary. The ATC unit should relay the information to the arriving aircraft.

CHAPTER 9

ALERTING SERVICE

9.1. APPLICATION

9.1.1.   Alerting service should be provided:

   a) in so far as practicable, to all aircraft having filed a flight plan or otherwise known to the air traffic services; and

   b) to any aircraft known or believed to be the subject of unlawful interference.

9.1.2.   Kathmandu ACC shall serve as the central point for collecting all information relevant to a state of emergency of an aircraft operating within the VNSM and for forwarding such information to the Kathmandu ACC as a RCC.

9.1.3.   In the event of a state of emergency arising to an aircraft while it is in contact with the Lukla TWR, Lukla TWR shall notify immediately to the Kathmandu ACC.

9.1.4.   Nevertheless, whenever the urgency of the situation so requires, the Lukla TWR shall 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.

9.2. EMERGENCY, COMMUNICATIONS FAILURE AND CONTINGENCIES

9.2.1.   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 should 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 which 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.

9.3. ALERTING SERVICE PROVIDED BY LUKLA AFIS UNIT

9.3.1. Lukla AFIS unit 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 should come under the jurisdiction of the Lukla AFIS unit may have or has been impaired; or
c)   requested by the flight crew; or
d)   when otherwise deemed necessary or desirable.

9.3.2. Procedures concerning the alerting of the rescue and fire fighting services should specify the type of information to be provided to the rescue and fire fighting services, including type of aircraft and type of emergency and, when available, number of persons on board, and any dangerous goods carried on the aircraft.

9.3.3. Aircraft which fail to report after having been transferred to the Lukla TWR, or, having once reported, cease radio contact and in either case fail to land five minutes

after the expected landing time, should be reported to the approach control unit, ACC, or to the RCC.

9.4. USE OF COMMUNICATION FACILITIES

The Lukla AFIS unit should, as necessary, use all available communication facilities to endeavour to establish and maintain communication with an aircraft in a state of emergency, and to request news of the aircraft.

9.5. PLOTTING AIRCRAFT IN A STATE OF EMERGENCY

When a state of emergency is considered to exist, the flight of the aircraft involved should 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 shall also be plotted in order to determine their probable future positions and maximum endurance.

9.6. INFORMATION TO AIRCRAFT OPERATING IN THE VICINITY OF AN AIRCRAFT IN A STATE OF EMERGENCY

9.6.1.   When it has been established by Lukla AFIS unit that an aircraft is in a state of emergency, other aircraft known to be in the vicinity of the aircraft involved should be informed of the nature of the emergency as soon as practicable.

9.6.2.   When Lukla AFIS unit knows or believes that an aircraft is being subjected to unlawful interference, no reference should 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 should not aggravate the situation.

9.7. INFORMATION TO THE OPERATOR

9.7.1.   When Lukla AFIS unit decides that an aircraft is in the uncertainty or the alert phase, it should, when practicable, advise the operator prior to notifying the RCC.

If an aircraft is in the distress phase, the RCC or Kathmandu ACC has to be notified immediately.

9.7.2.   All information notified to the RCC should, whenever practicable, also be communicated, without delay, to the operator.

9.8. CLASSIFICATION OF EMERGENCIES

Aircraft emergencies are classified into ten categories as follows:

9.8.1.   **"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).

9.8.2. "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).

9.8.3. "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 should cause or is likely to cause an aircraft accident.

9.8.4. "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.

9.8.5. "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.

9.8.6. "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.

9.8.7. "ALERT 7" -AIRCRAFT GROUND INCIDEN

When an incident occurs involving an aircraft on the ground which should affect the safety of that aircraft.

9.8.8. 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

9.8.9. "ALERT 9" - LOCAL STANDBY

When an aircraft approaching the airport has developed - or suspected to have developed – some defect, but this defect should 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.

9.8.10. "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 - should be used for initial notification of emergency situations. If the emergency condition changes, complete additional notifications should be made for the new condition - Example: an Alert 9 (Local Standby) may escalate to an alert 3 (Full Emergency) condition.

9.8.11. **"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.

CHAPTER 10

AIRCRAFT EMERGENCY, COMMUNICATIONS FAILURE AND ATS CONTINGENCIES

10.1. AIRCRAFT EMERGIENCIES

10.1.1. GENERAL

The various circumstances surrounding each emergency situation preclude the establishment of exact detailed procedures to be followed. The procedures outlined in this section are intended as a general guide to ATS officer, Lukla, they should use their own judgment when handling a particular emergency.

10.1.2. LUKLA ATS OFFICER'S RESPONSIBILITY

10.1.2.1. ATS Officer 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.

10.1.2.2. ATS Officer will offer as much assistance as possible to any aircraft that is considered to be in an emergency situation. Assistance to the aircraft can include the provision of information on the availability of aerodromes and their associated 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.

10.1.2.3. The supervisor, and/or Airport Manager, will be informed as soon as practicable and complete co-ordination will be maintained between other ATS units.

10.1.2.4. When an emergency is declared by an aircraft, the Lukla AFIS unit should take appropriate and relevant action as follows:

a) unless clearly stated by the flight crew or otherwise known, take all necessary steps to ascertain aircraft identification and type, the type of emergency, the intentions of the flight crew as well as the position and level of the aircraft;

b) decide upon the most appropriate type of assistance which can be rendered;

c) enlist the aid of any other ATS unit or other services which may be able to provide assistance to the aircraft;

d) provide the flight crew with any information requested as well as any additional relevant information such as weather information;

e) obtain from the operator or the flight crew such of the following information as may be relevant: number of persons on board, amount of fuel remaining, possible presence of hazardous materials and the nature thereof; and

f) Notify the Kathmandu ACC and DGCA Nepal or as specified in local instructions.

10.1.2.5. Changes of radio frequency should be avoided if possible and should normally be made only when or if an improved service can be provided to the aircraft concerned. When appropriate, other aircraft operating in the vicinity of the aircraft in emergency should be advised of the circumstances.

Note.— Requests to the flight crew for the information should be made only if the information is not available from the operator or from other sources and should be limited to essential information.

10.1.3. RECOGNIZING AN EMERGENCY SITUATION

10.1.3.1.   The ATS Officers 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 behaviour of persons on-board;
d) the erratic behaviour of an aircraft;
e) it is overdue at an aerodrome; or
f) The pilot reports that the aircraft is short of fuel.
g) If the controller is in radio contact with the aircraft he/she should ask the pilot.
h) if he wishes to declare an emergency and, if not specified by the pilot, the class of emergency being declared.

10.1.3.2.   More positive indications that an aircraft is in an emergency are described in the following paragraphs.

10.1.4. DISTRESS AND URGENCY MESSAGES

10.1.4.1. Pilots have been advised that, in the event of an emergency situation, the ATS Officer 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 the Lukla AFIS unit should be able to offer assistance should 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 facing an emergency situation, to declare it as early as possible and cancel it later if they decide that the situation allows.

10.1.4.2.   There are two classes of emergency message:

   i.   **Distress:** A condition of being threatened by serious and/or imminent danger and of requiring immediate assistance.

   ii.   **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.

10.1.4.3.   The message should 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.

10.1.4.4.   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. If Tenzing Hillary Airport officer considers that another ATS Units may be able to give more assistance and, in the circumstances, it is reasonable to do so, the pilot should be asked to change frequency.

10.1.5. ACTION ON RECEIVING URGENCY CALLS

10.1.5.1.   The Lukla ATS Officer should take the following action at an aerodrome on receiving an urgency call:

a) If the pilot elects to land at Tenzing Hillary Airport, 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 ACC and Tenzing Hillary Airport Manager/Chief ATS giving full details;
d) If any doubt exists that the aircraft can reach Tenzing Hillary Airport, request Kathmandu ACC to alert RCC stating that the Alert phase exists;
e) Inform the airline operator or representatives if possible.

10.1.6. URGENCY MESSAGE

10.1.6.1.   An urgency message should 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.

10.1.6.2. Urgency call should be made on the frequency in use at the time.

10.1.6.3. Urgency message should be addressed to the station in those areas of responsibility the urgency aircraft is operating.

10.1.7. ACTION ON RECEIVING DISTRESS CALLS

10.1.7.1.   Lukla AFIS unit should take the following action at an aerodrome on receiving a Distress Call;

   i.   Plot aircraft's position on map;'

   ii.   Assist pilot in every way possible to make a safe landing;

   iii. Advise pilot of nearest aerodrome if aircraft position is known inform the Kathmandu ACC giving full details (Kathmandu ACC should 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.

   iv.   Inform Airport Manager and local safety services (Fire Station, Airport security Police, Nepal Army, Armed Police Force, Chief District Officer etc);

   v.   Inform airline operator or representative if possible.

10.1.8. TRANSFERRING COMMUNICATION

10.1.8.1. If the Lukla AFIS unit 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 should either:

   a) consult the Kathmandu ACC 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.

10.1.8.2. Before transferring aircraft, Lukla AFIS unit should obtain sufficient information from the pilot to be convinced that the aircraft should receive more assistance from another unit. If a change of frequency is desirable the pilot should be instructed to revert immediately if there is no reply on the new frequency. Controllers should then listen out on the original frequency until the aircraft is known to be in two-way communication with the other unit.

10.1.9. SOME MAJOR AIRCRAFT EMERGENCIES

- Unlawful interference and aircraft bomb threat
- Air-ground communications failure
- Hydraulic Failure
- Urgency Message
- ATS contingencies

10.1.9.1.   UNLAWFUL INTERFERENCE AND AIRCRAFT BOMB THREAT

10.1.9.1.1. ATS officer should be prepared to recognize any indication of the occurrence of unlawful interference with an aircraft.

10.1.9.1.2. Tenzing Hillary Airport ATS Officer responsibility should be to assist as follows:

- Do not initiate any further RTF unless confirmed by pilot.
- Immediately after it is confirmed that aircraft is hijacked, inform it to Airport Manager and Kathmandu ACC and proceed as per local procedure.
- Convey the message of designated authority to hijacker, and vice-versa.
- Comply with pilot's request as for as possible.
- Transmit pertinent information without expecting a reply.
- Monitor and plot all flight manoeuvres and coordinate transfer of control without requiring the response from the aircraft.
- Collect any necessary information e.g. Destination aerodrome, WX situation at destination, routing, etc.
- If aircraft lands, direct it to the isolated area as determined my DGCA with coordination with Chief of Military unit of the District.

10.1.9.1.3. Whenever unlawful interference with an aircraft is known or suspected or a bomb threat warning has been received, Lukla AFIS unit will promptly provide assistance as far as practicable and inform the Kathmandu ACC.

10.1.9.1.4. The following additional procedures should apply if a threat is received indicating that a bomb or other explosive device has been placed on board a known aircraft. The Lukla AFIS unit receiving the threat information should:

a) if in direct communication with the aircraft, advise the flight crew without delay of the threat and the circumstances surrounding the threat; or

b) if not in direct communication with the aircraft, advise the flight crew by the most expeditious means through other ATS units or other channels.

10.1.9.1.5. The Lukla AFIS unit in communication with the aircraft should ascertain the intentions of the flight crew and report those intentions to other ATS units which may be concerned with the flight.

10.1.9.1.6. The aircraft should be handled in the most expeditious manner while ensuring, to the extent possible, the safety of other aircraft, and that personnel and ground installations are not put at risk.

10.1.9.1.7. An aircraft on the ground should be advised to remain as far away from other aircraft and installations as possible and, if appropriate, to vacate the runway. The aircraft should be suggested to taxi to a designated area in accordance with local instructions. The flight crew will disembark passengers and crew immediately, other aircraft, vehicles and personnel will be kept at a safe distance from the threatened aircraft.

10.1.9.1.8. Lukla AFIS unit should not provide any suggestions concerning action to be taken by the flight crew in relation to an explosive device.

10.1.9.1.9. An aircraft known or believed to be the subject of unlawful interference or which for other reasons needs isolation from normal aerodrome activities should be suggested a route to the designated isolated parking position. Where such an isolated parking position has not been designated, or if the designated position is not available, the aircraft should be suggested to proceed to a position within the area or areas selected by prior agreement with the Tenzing Hillary Airport CAO.

Note.- See CAR 14, Volume I, Chapter 3.

10.1.9.2.   AIR-GROUND COMMUNICATIONS FAILURE

10.1.9.2.1. 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.

10.1.9.2.2. When unable to maintain two-way communication with an aircraft operating in a Lukla FIZ , Lukla AFIS unit should;

    i.   Inform the Kathmandu ACC and Airport Manager or appropriate ATS unit immediately.

   ii.   Transmit blind the pertinent information on the available frequencies.

  iii.   Other aircraft in the vicinity are to be informed about the RCF aircraft, and requested to establish two way communications with the aircraft.

  iv.   Inform all ATS units concerned along the route of the flight and are requested to attempt to establish communication with the aircraft.

   v.   Inform all alternate aerodromes about possible diversion of the RCF aircraft.

  vi.   Inform all previously notified regarding termination of RCF situation, if communication re-established or aircraft has landed.

 vii.   Resumed normal operation, if the aircraft unable to land within 30 minutes of ETA , after desire of and prior consultation with airline operators or their designated representative and PIC of other aircraft.

10.1.9.2.3. PHRASEOLOGY

LUKLA INFORMATION	9NAET DO YOU READ ME
9NAET	(NO RESPONSE)
ATC	9NAET IF YOU READ ME (any suitable information considering that aircraft receiver operating normal.)

10.1.9.2.4. As soon as it is known that two-way communication has failed, action should be taken to ascertain whether the aircraft is able to receive transmissions from the Lukla AFIS unit by requesting it to transmit, if possible, a specified signal in order to indicate acknowledgement.

10.1.9.2.5. If the aircraft fails to indicate that it is able to receive and acknowledge transmissions in VMC, it is assumed that the aircraft should:

    1) Continue to fly in visual meteorological conditions;

    2) land at the nearest suitable aerodrome; and

    3) Report its arrival by the most expeditious means to the appropriate ATS unit; or

10.1.9.2.6. As soon as it is known that two-way communication has failed, appropriate information describing the action taken by the Lukla AFIS unit should be transmitted blind for the attention of the aircraft concerned.

10.1.9.2.7. Pertinent information should be given to other aircraft in the vicinity of the presumed position of the aircraft experiencing the failure.

10.1.9.2.8. As soon as it is known that an aircraft which is operating in its area of responsibility is experiencing an apparent radio-communication failure, Lukla AFIS unit should forward information concerning the radio-communication failure to the air traffic services unit concerned.

10.2. ATS CONTINGENCIES

10.2.1. GENERAL

10.2.1.1. The various circumstances surrounding each contingency situation preclude the establishment of exact detailed procedures to be followed. The procedures outlined below are intended as a general guide to ATS officer.

10.2.1.2. As soon as Lukla AFIS unit becomes aware of a strayed aircraft, it should take all necessary steps as outlined in 10.2.1.3 & 10.2.1.4 to assist the aircraft and to safeguard its flight.

10.2.1.3. If the aircraft's position is not known, the Lukla AFIS unit should:

    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 data concerning the strayed

aircraft; request from other aircraft in flight every assistance in establishing communication with the aircraft and determining its position

10.2.1.4. When the aircraft's position is established, the Lukla AFIS unit should:

   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 advise given to that aircraft.

10.2.1.5. As soon as Lukla AFIS unit becomes aware of an unidentified aircraft in its area, it should endeavour 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, Lukla AFIS unit should 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 about the flight and request their assistance in establishing two-way communication with the aircraft;

   c) attempt to obtain information from other aircraft in the area.

10.2.1.6. The Lukla AFIS unit should, as necessary, inform the Kathmandu ACC, APP or appropriate military unit as soon as the identity of the aircraft has been established.

10.2.1.7. The Lukla AFIS unit should consider that a strayed or unidentified aircraft may be the subject of unlawful interference, the appropriate authority designated by the State should immediately be informed, in accordance with locally agreed procedures.

   Note 1. — 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 2. — A strayed or unidentified aircraft may be suspected as being the subject of unlawful interference.

10.3. RADIO-COMMUNICATIONS CONTINGENCIES

10.3.1. GENERAL

ATS contingencies related to communications, i.e. circumstances preventing an ATS Officer from communicating with aircraft in the area of responsibility, may be caused by either a failure of ground radio equipment, a failure of airborne equipment, or by the frequency being inadvertently blocked by an aircraft transmitter. The duration

such events may be for prolonged periods and appropriate action to ensure that the safety of aircraft is not affected should therefore be taken immediately.

10.3.2. GROUND RADIO FAILURE

10.3.2.1. ATC contingencies related to communications, i.e. circumstances preventing a ATS Officer from communicating with aircraft, 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 should therefore be taken immediately.

10.3.2.2. In the event of complete failure of the ground radio equipment used for Tenzing Hillary Airport, the Lukla AFIS unit should:

    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; or

    b) without delay inform the adjacent ATS unit, as applicable, of the failure;

    c) appraise such positions or units of the current traffic situation; and

    d) if practicable, request their assistance, in respect of aircraft which may establish communications with those positions or units.

10.3.2.3. In order to reduce the impact of complete ground radio equipment failure (**VHF/HF problem**) on the safety of air traffic, Lukla AFIS unit should follow the following procedure;

    i. When HF on 5805.5 is U/S, Use Automatic Message Handling System (AMHS) for the exchange of flight data with different aerodromes

    ii. When 122.3 MHz is U/S, provide AFIS on 121.5 MHz and or when both 122.3 MHz and 121.5 MHz are U/S, then
        ‒ Advise other adjacent ATS unit/ Kathmandu ACC about the existing situation & to relay to concern traffic.

        ‒ Advise all inbound to divert nearest station.

        ‒ Stop departures to/from Lukla, except rescue flight and other mercy flights.

        ‒ Give priority to ARRIVALS.

－   Stop local flights within Tenzing Hillary Airport FIZ.

－   Whenever feasible use portable VHF to provide information for landing and take-off and surface movement; or

－   Whenever feasible use Light gun for landing, if available.

10.4.   BLOCKED FREQUENCY

In the event that the Lukla VHF is inadvertently blocked by an aircraft transmitter, the following additional steps should be taken:

a)   attempt to identify the aircraft concerned;

b)   if the aircraft blocking the frequency is identified, attempts should be made to establish communication with that aircraft, e.g. on the emergency frequency 121.5 MHz or through the aircraft operator's company frequency.

c)   if communication is established with the aircraft concerned, the flight crew should be instructed to take immediate action to stop inadvertent transmissions on the affected frequency.

10.5.   UNAUTHORIZED USE OF LUKLA VHF

10.5.1.   Instances of false and deceptive transmissions on LUKLA VHF which may impair the safety of aircraft can occasionally occur. In the event of such occurrences, the Lukla AFIS unit should:

a)   correct any false or deceptive information which have been transmitted;

b)   advise all aircraft on the affected frequency that false and deceptive information is being transmitted;

c)   advise all aircraft on the affected frequency to verify information before taking any action;

d)   if practical, advise aircraft to change to another frequency; and

e)   if possible, advise all aircraft affected when the false and deceptive information is no longer being transmitted.

10.6.   UNAUTHORIZED ENTRY OF AIRCRAFT INTO NEPALESE AIRSPACE

10.6.1.   As soon as Lukla AFIS unit learns that an aircraft has entered Nepalese airspace without getting permission from CAAN, it should advise aircraft to land at Tribhuvan International Airport (TIA). If the aircraft does not follow with the ATC advise to land at TIA then the Lukla AFIS unit should:

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.

d) Inform relevant information to Kathmandu ACC and DGCA for the necessary action.

e) If the aircraft does not comply with the ATS advice, instruct aircraft to contact Kathmandu APP or act as instructed by DGCA.

10.6.2. The procedure in relation to an aircraft intentionally or unintentionally entering into the airspace of Nepal should be prescribed by the Director General of CAAN.

10.6.3. The pilot in command of a civil aircraft, when instructed to land in a specified aerodrome, should comply with the ATS instructions.

10.7. DISABLE AIRCRAFT REMOVABLE PALN (DARP)

10.7.1. 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.

10.7.2. 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.

10.7.3. The registered owner or aircraft operator should 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 Tenzing Hillary Airport are expected to have aircraft recovery plans.

10.7.4. In any event, if the registered owner or operator cannot recover the aircraft or cannot proceed in timely manner, the Tenzing Hilary Airport CAO should take over the authority and act on behalf of the aircraft owner or operator. To perform this task, Tenzing Hilary Airport CAO should appoint coordinator to coordinate the aircraft recovery operation and ensure that the disabled aircraft is removed in a timely and efficient manner.

10.7.5. All expenses incurred for the removal of disable aircraft should be borne by concerned aircraft operator, and Tenzing Hilary Airport CAO or any other agency involved on during the removal should have no liability for any damaged caused. Concerned aircraft operator should bear all responsibilities of any damaged caused.

10.7.6. Tenzing Hillary Airport DARP should detail at least the following:

a) Duties and responsibilities of all involve in removal of disable aircraft; such as; Airport Manager, AFIS unit, Airline Operator, RFF Section, Security Police/Army, Tenzing Hilary Airport CAO Admin etc..)

b) Procedure for removal of aircraft

c) Equipment for removal of aircraft

10.7.7. 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 Lukla. However, Tenzing Hilary Airport CAO should prepare its own Procedure for Removal of Disable aircraft and should submit to CAAN for its approval from DGCA.

10.7.8. Among the duties and responsibilities of all involved , the duties and responsibilities of Lukla Aerodrome officer should be as follows:

- Notify the RFFS with the following information and advice for remain standby.

    ‒ Call sign of aircraft
    ‒ Type of aircraft
    ‒ Operator of aircraft
    ‒ Location
    ‒ POB if available,
    ‒ FOB if available

- Notify the Airport Manager with above detail.
- Inform all arrival aircraft and airline operators.
- Close all arrivals and departures until the further instructed by Airport Manager.
- 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
- Take necessary action to Issue NOTAM if necessary with the approval from Airport Manager.

10.7.9. 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.

10.7.10.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.

10.7.11. 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.

10.7.12. Tenzing Hilary CAO Civil Section should mark the unserviceable portions of the maneuvering area

10.7.13. Regardless of any DARP provision mentioned above, Runway will not be use for aircraft operation even if there is usable portion remaining.

CHAPTER 11

DOCUMENT AND RECORD KEEPING SYSTEM

11.1. DOCUMENTS

11.1.1. A document control system covers the authorization, standardization, publication, distribution and amendment of all documentation issued by the CAAN, or required by the CAAN for the provision of air traffic services.

11.1.2. These processes must ensure:

(a) authorization is by a designated authority appropriate to the management and safety accountability structures;

(b) currency can be readily determined;

(c) availability at locations where needed by ATS officer;

(d) only current versions are available;

(e) a master copy is securely held;

(f) Archival where superseded.

11.1.3. Reference Materials.

For the purposes of sub-regulations, the manuals and documents to be maintained are the following:

a) manuals for equipment used by staff in the provision of air traffic services;

b) the relevant sections of the Aerodrome Emergency Plan (aerodrome services only)

11.2. RECORDS

11.2.1. A system for records covers identification, collection, indexing, storage, security, maintenance, access and disposal of records necessary for the provision of air traffic services.

11.2.2. Records systems must provide an accurate chronicle of ATS activities for the purpose of reconstruction of events for air safety investigation, and for system safety analysis.

11.3. **RECORD TO BE KEPT**

11.3.1. Automatic recordings.

The direct pilot-controller two-way radiotelephony used for the provision of air traffic services must be recorded automatically and retained at least 30 days.

11.3.2. Time Injection.

Automatic recordings must have a means of establishing accurately the time, in hours/minutes/seconds, at which any recorded event occurred

11.3.3. Document Records.

The following items should be kept for a minimum of 90 days

      a)   ATS messages, including flight plans; (If available)

      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;

11.3.4. Record retention for investigation.

Where requisitioned, by an appropriate authority, for the purposes of investigation, records must be isolated and kept in a secure place until their release by that authority.

11.4. **MAINTAINING OPERAITONAL LOG BOOKS**

11.4.1. All significant occurrences and actions relating to operations, facilities, and equipment at AFIS unit should be recorded on the Log book.

11.4.2. A working record or Log Book entry should not be inserted between earlier entries. In the event of an out of sequence entry being necessary, it should 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.

11.4.3. All Log Book entries should be recorded against the times of the occurrence, or time of the Log Book entry.

11.4.4. Forms such as fault reports or Air safety Incident Reports (as mentioned in Appendix E) must also be completed but duplication of information should be avoided.

11.4.5. **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(see also voice recordings);
During operation of the unit	• Air Safety Incidents, including accidents and breaches of the Regulations such as noncompliance with ATS officer advice; [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. (If any)
Closure of TWR and/or Position	• Time of closure and conditions and actions relating to the closure, followed by changes to equipment status, and any outstanding action; • The time of intended reopening, and the signature of the officer closing the unit/position

11.4.6. VOICE AND DATA RECORDING

11.4.7. Details of opening and closing watch, or the identification of staff assuming responsibility for a position should be recorded in the log book entry. The procedures used must be sufficient to readily establish, for the purposes of

investigation, the status of the position (active/inactive) and the person responsible for any active position, at any given time.

11.4.8. When an automatic voice recording facility fails, a manual record of communications must be maintained, to the possible extent.

CHAPTER 12

ATS FACILITIES AND EQUIPMENT

12.1. INTRODUCTION

12.1.1. This chapter provides the guidelines for the design, sitting, construction, equipping and maintenance of ATS facilities where applicable.

12.1.2. Lukla AFIS unit should always have updated advisory Circular and ATS related documents together with other needful log-books.

12.2.   AFIS UNIT ORIENTATION

12.2.1. Visibility. The Lukla AFIS unit should have:

    a.   adequate vision to all the manoeuvring area and airspace which are under the ATS Officer's area of responsibility;

    b.   a view of all runway ends and taxiways,

    c.   maximum vision of airborne traffic patterns with primary consideration given to the view from the aerodrome position(s);

    d.   unobstructed line of sight from the AFIS unit eye level to the manoeuvring area of the aerodrome;

    e.   sufficient visual resolution of all aerodrome movement areas for which he/she has a responsibility;

12.2.2. In addition, procedures or facilities are required to ensure:

    (a)   protection from glare, reflection and noise;

    (b)   Unobstructed view from an existing AFIS unit cab.

12.2.4. Communication. Lukla AFIS unit should 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. between operational positions within the Lukla AFIS unit;
    ii. with adjacent ATS units;
    iii. 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) AMHS terminal or other means to provide information.

g) binoculars;

12.2.5. Displays.

The Lukla AFIS unit should have the following displays:

a) flight data displays (e.g. flight progress boards);

b) meteorological displays which provide at least the following information:

    i.   Wind velocity;
    ii.   Barometric pressure;
    iii.   Temperature.

c) operational data displays for:

    i.   Relevant maps and charts;
    ii.   NOTAMS;

d) A time display.

e) Automatic Message Handling System (AMHS)

12.3. MONITORS AND CONTROLS FOR AERODROME EQUIPMENT.

12.3.1. The AFIS unit should have appropriate monitors, and controls for aerodrome equipment for which the AFIS unit has responsibility,.

12.3.2. The Lukla AFIS unit should have a means to readily recognize the failure of any available system or equipments being used for the handling of aircraft.

CHAPTER 13

ADMINSTRATIVE INSTRUCTIONS

13.1. INTRODUCTION

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

13.2. DUTIES AND RESPONSIBILITIES

13.2.1.   ATS OFFICER

ATS Officer on duty should performs their tasks to handle Traffic and weather information to aircraft in its area of responsibility and performs coordination tasks in accordance with the AFISOM, letters of agreement and advises in particular;

   i)   Ensure the safe, orderly and expeditious flow of air traffic on and in the vicinity of an aerodrome

   ii)   Maintain a continuous watch by visual observation and subject to conditions prescribed by Tenzing Hillary Airport CAO, on all flight operations on and in the vicinity of an aerodrome.

   iii)   Exercise judgment in the provision of landing and take-off information to aircraft.

   iv)   Close or reopen a runway, the airport or any specific approach landing area.

   v)   Determine the use of weather observations to permit aircraft operations as applicable.

   vi)   Maintain coordination with other ATS units (Kathmandu ACC/APP/ADC, Other Domestic Aerodromes) for exchange of operational data.

   vii)   Coordinate the activities of the aerodrome TWR with technical maintenance authorities, emergency services and department officers.

   viii)   Handle HF, AMHS, telephone, portable VHF/UHF sets; coordinate with local units (RFF, Admin, Terminal, Airlines), check and assist the making strip, maintain movement log book.

13.2.2. AIRPORT MANAGER/ SENIOR ATS OFFICER

The following duties and responsibilities are specified for Tenzing Hillary Airport Manager/Senior ATS Officer.

   i.   To ensure ATS are provided in accordance with the AFISOM.

ii.   To inspect all equipment and facilities within AFIS unit and to ensure normal operation.

iii.   To assign all ATS Officer 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 Airport Manager 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 ATS position as per the published roster. It is the duty of the senior duty ATS officer to notify the Airport Manager 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.

13.2.3. AFIS UNIT DISCIPLINE

13.2.3.1. VISITORS

No unauthorized person should be allowed access to the Lukla AFIS unit. Allowing such visitors to the AFIS unit is the explicit authority of the watch supervisor and before bringing in authorized visitors a check should be made with the watch supervisor or the ATS officer on duty as to whether the traffic situation permits such a visit. At no time should visitors be allowed to interfere with the smooth running of the watch and cell phone should be kept in manner mode.

13.2.3.2. CLEANLINESS

1. The ATS Officer on duty at Lukla AFIS unit should ensure that the AFIS unit kept in a clean and tidy condition at all times.

2. All equipment should be ensured in serviceable condition and stowed away when not in use.

13.2.3.3. SUPERVISION

The watch supervisor or the senior ATS officer, depending on the Lukla AFIS unit should be responsible for the supervision of all staffs and the maintaining of a good condition.

13.3. DUTY ROSTER

13.3.1. A watch keeping roster should be prepared by the senior ATS officer or airport manager, not later than the 20th day of each month and should show the hours of watch-keeping and hours of duty required of individuals ATS officer throughout the following month.

13.3.2. ATS Officers should adhere to the time and periods of watch-keeping duties details in this roster and should arrive at their place of duty in time to carry out the procedures detailed under 'procedures for taking over handing over watch.'

13.3.3. No alterations are to be made to the watch rosters without reference to, and approval by the Airport Manager or senior ATS officer.

13.3.4. Local notices to staff should be displayed on a board placed preferable in the AFIS unit hung specifically for this purpose.

13.3.5. ATS Officers are encouraged to put forward suggestions for improving the general operating efficiency of the services, such suggestions should be put forward through the normal channels for onward transmission to CAAN as necessary.

13.4. PROCEDURE FOR TAKING OVER AND HANDING OVER WATCH

13.4.1. TAKE OVER WATCH

13.4.1.1. Prior to taking over watch ATS officer should:

a) 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.

b) Obtain full information and briefing regarding the weather position and tendencies for the period of their watch whenever necessary as justified by the general weather condition.

     c) Familiarize themselves with the serviceability of all equipment under their charge and likely to be used during the period of their watch.

     d) Ensure that they are acquainted with any special movements or manoeuvres likely to occur during their watch.

13.4.1.2.   At least two ATS officers should be employed at one time on Lukla AFIS unit.

13.4.1.3.   The ATC watch log should be signed by the watch supervisor or Senior ATS officer on duty. Other ATS officer should record taking over their specific duties as required. To accommodate all the above work ATS officers should report to the AFIS unit at least 10 minutes ahead of relieving the shift.

13.4.2. HAND OVER WATCH

13.4.2.1.   ATS officer handing over watch should ensure that they provide their successors with the complete 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 ensuring watch.

13.4.2.2.   Should any situation have developed during the watch such as action in the event of distress, emergency or accident whereby in the interests of safety or efficiency it is considered beneficial for the ATS officer on duty to complete such actions and subsequent reports and records rather than to transfer the responsibility for completion to another officer. Notwithstanding the fact that watch roster defines the appointed time to hand over, the ATS officer handing over watch should remain on until such time as this responsibility has been discharged.

13.4.3. ATS WATCH LOG

13.4.3.1. Tenzing Hillary Airport surface inspection log should be maintained and entries should be made after the inspection of movement area has been carried out. Arrangement to issue NOTAM should be made to ensure that information on un-serviceability recorded is forwarded as soon as possible to the Airport Manager and ANS, Directorate. CAAN HO.

13.4.3.2.   Tenzing Hillary Airport facility status of navigational aids including Fire vehicle, AMHS, aerodrome conditions etc should be maintained in the ATC watch log for distribution of information on un- serviceability recorded. Arrangement should be made to ensure that information on un-serviceability recorded is forwarded as soon as possible to the Airport Manager and ANS, Directorate. CAAN HO.

13.5. **PROCEDURES FOR MAINTAINING ATS WATCH LOG, LUKLA**

13.5.1. The ATS watch log should be maintained at all times. Entries should be made in ink and no erasures should be made.

    i.   In no circumstances should pages be removed from the log book.
    ii.   Entries should be made in chronological order and as far as possible concurrently with the incident being recorded.
    iii. When during emergencies or rush periods it is impossible to make detailed entries at the time of the occurrence, rough notes should be kept with exact times and a detailed entry made as soon as possible. The rough notes should be attached to the log book for future reference, should it appear at all likely that they may be required.
    iv.   Entries should be in sufficient detail to enable anyone investigating an incident to have a complete understanding of all actions taken during the watch period.
    v.   Items to be logged should include changes in the serviceability of radio aids, other essential aerodrome information, and reports of incorrect procedures by aircraft, technical failures in aircraft, visits of VIPs, clock synchronization checks and any unusual occurrence.

    Note: The accident investigation committee or authority has full authority to impound any ATS log book if they consider that its contents throw any light on a particular accident. When such action is taken the log book should be withdrawn as soon as possible after the request is made and handed over the committee or authority. In this circumstance a replacement log book should be opened.

13.6. **PROCEDURE FOR MOVEMENT AREA INSPECTION**

13.6.1. Every morning, before declaring airport status, Movement Area should be inspected thoroughly as below:

    –   An inspection team should comprise personnel as directed by Airport Manager, Tenzing Hillary CAO. They may be from Rescue and Fighting or other available concern unit jointly and should call Lukla AFIS unit to get permission to enter Runway.

13.7. **PROCEDURE FOR INCIDENT REPORTING AND AIRMISS REPORTING**

13.7.1. INCIDENT REPORTING

13.7.1.1. An air traffic incident report should be submitted, normally to the Lukla AFIS unit for incidents specifically related to the provision of air traffic services involving such occurrences as aircraft proximity (AIRPROX), or other serious difficulty resulting in a hazard to aircraft, caused by, among others, faulty

procedures, non-compliance with procedures, or failure of ground facilities. The report should be recorded on the air traffic incident report form as per Appendix E

13.7.1.2.   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. Defects in the aircraft or its equipment, loss of control due to MET conditions, etc.
   e. Aircrew and aircraft
   f. Negligence, incompetence, failure to comply with procedures and instructions, incorrect practices and errors of judgment etc.
   g. Wild life animal and bird hazard

13.8. AIRMISS REPORTING

13.8.1. 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 E for the format of the form)*

13.8.2. The majority of AIRMISS Reports should be made by radio or by telephone shortly after the pilot has landed, which be confirmed in due time.

13.8.3. Any information on incident, event or occurrence relating to the air navigation services (ATS incidents , air traffic incident received from pilot, bird strike) should 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 E ,F and G)*

13.8.4. Such reports should 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 E, F, and G.

13.8.5. The pilot should make his initial report to Lukla AFIS unit as soon as after the incident has occurred. If the report is made by R/T the message should 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: Should a pilot omit the prefix while reporting on R/T, the ATS Officer should ask him if it is his intention to file an AIRMISS REPORT.

13.8.6. If the initial report is made by radio or telephone, the pilot should confirm by submitting in written within 7 days of the incident to Tenzing Hillary CAO which should 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.

13.8.7. Occurrence should be reported in the prescribed form as mentioned in *Appendix G, H and I. (in accordance with MATS Appendix 4, 5 & 6).*

Note: 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).

13.9. PROCEDURE OF BIRD STRIKE/WILD ANIMAL STRIKE

13.9.1. Bird strike to aircraft, as a potential source of danger, is seen in its most serious form. ATS Officer on duty at Lukla AFIS unit should take the best known methods to eliminate or reduce bird strike hazards.

13.9.2. It is difficult to drive away all the birds at all times. Nevertheless, every reasonable effort should be taken to reduce the bird hazard.

13.9.3. During bird activity and movement of wild animals, inform to fire section or and office service staff (Karyalaya Sahayogi) through intercom number/UHF Set or other available device. Provide location of bird activity/wild animal movement.

13.9.4. 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 G.

13.10.   **RELATIONS WITH PRESS AND GENERAL PUBLIC**

13.10.1. Discussions on matters to ATS policy and the operational issues should be avoided with persons other than officials of the ATS services.

13.10.2. Reports on accidents, breaches of regulations, reprimands to pilots, or other personnel, etc. should be treated as confidential matters and should not be discussed in public or passed to the media.

13.10.3. Any request for information by representatives of the press should be referred to Airport Manager.

13.10.4. Lukla AFIS unit should 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 should be submitted to Tenzing Hillary CAO after acknowledgement has been made to the originator.

13.10.5. The movement of VVIPs and other special Flights and their position reports should be treated as confidential. On request from the public such information should not be given out except to the appropriate bodies.

CHAPTER 14

MISCELLANEOUS

14.1. RESPONSIBILITIES OF AND PROCEDURES FOR PILOTS

14.1.1. When operating on or in the vicinity of theTenzing Hillary Airport, pilots must, on the basis of the information received from the Lukla AFIS unit combined with their own knowledge and observations, decide on the course of action to be taken to ensure separation from other aircraft, ground vehicles and obstacles.

14.1.2. It is essential that pilots establish and maintain two-way radio communication with the Lukla AFIS unit and that they report their positions, levels and all significant manoeuvres and intentions to the Lukla AFIS unit, since the efficiency of the AFIS unit is dependent on the information received.

14.2.PROMULGATION OF INFORMATION

14.2.1. Information regarding the availability of Lukla AFIS unit and related procedures should be included in the relevant parts of the aeronautical information publication (AIP) in the same manner as in the case of aerodromes provided with air traffic control service.

14.3.AERODROME INFORMATION

1	AERODROME (AD) LOCATION INDICATOR	VNLK
2	NAME OF AERODROME	TENZING HILARY AIRPORT CIVIL AVIATION OFFICE/DOMESTIC
3	ATS UNITS CALL SIGN	LUKLA AFIS UNIT
4	ATS UNITS RADIOTELEPHONY CALLSIGN	LUKLA INFORMATION
5	ARP COORDINATES AND SITE AT AD	274116 N * 0864353 E
6	FAC/SVC	AFIS
7	ELEVATION	9337 FT (2846 M)
8	RUNWAY DIMENSION	1728 × 65 FT (527 × 20 M)

9	RUNWAY DESIGNATION	**06/24** T/O RWY 24 LAND RWY 06 11.7% UPSLOPE
10	FREQUENCY	VHF 122.3 MHZ HF 5805.5 KHZ
11	TYPES OF TRAFFIC PERMITTED	VFR
12	ATS AIRSPACE	LUKLA FIZ: LATERAL LIMIT= AN AREA OF A CIRCLE OF RADIUS 5 NM CANTERED AT MIDDLE OF THE RUNWAY AND VERTICAL LIMITS = FROM GND TO 12500 FT AMSL
13	AD CATEGORY FOR FIRE FIGHTING	CATEGORY NOT DECLEARD
14	RESCUE EQUIPMENT	ONE FIRE VECHICLE IS AVILABLE
15	SEASONAL AVAILABILITY	AERODROME IS AVAILABLE THROUGHOUT THE YEAR.
16	HELICOPTER LANDING AREA	SPECIFIED
17	CARGO-HANDLING	FACILITIES AVAILABLE WITH LOCAL AIRLINES OPERATOR
18	HEALTH/SANITATION	FIRST AID/DURING OPRATION HOUR
19	AUTOMATIC MESSAGE HANDLING SYSTEM (AMHS)	AVILABLE DURING OPERATION HOURS
20	APRON SURFACE AND STRENGTH	SURFACE- ASPHALT CONCRETE,

21	RWY AND TWY MARKINGS	RWY: 06/24, THR, TDZ, Center line, RWY Edge, Apron marked and RWY, THR, RWY edge have Color. TWY: Center line, holding at all TWY marked and edge with color.
22	OPERATING HRS	AERODROME ADMINISTRATIVE HOURS: SUN-THU 10:00-17:00 LT (SUMMER) 10:00-1600 LT(WINTER) FRI 10:00-1500 LT AERODROME OPERATION HOURS: JAN, FEB, NOV, DEC0100-1215 UTC MAR., APR., SEPT, OCT.0030-1245 UTC MAY, JUNE, JULY, AUG 0015-1300 UTC
23	AD ADMINISTRATION, ADDRESS TELEPHONE, TELEFAX, TELEX AFS	CIVIL AVIATION AUTHORITY OF NEPAL TENZING HILARY AIRPORT CIVIL AVIATION OFFICE, SOLUKHUMBU 0977-038- 550044 (TOWER) Ncell: 9825797440 0977-038- 550197 (ADMIN) FAX - 0977-038-550197 A/P MANAGER – VNLKYDYX TOWER- VNLKZTZX
24	LANGUAGE(S) USED	ENGLISH
25	MET BRIEFING	NIL
26	FUELLING	NIL
27	DE-ICING FACILITIES	NIL
28	SECURITY	H24
29	HANGER SPACE FOR VISITING AIRCRAFT	NIL

30	BANK/ POST OFFICE/ HOTELS	IN CITY
31	MEDICAL FACILITIES FOR PAX	FIRST AID/DURING OPRATION HOUR
32	CAPABILITY FOR REMOVAL OF DISABLED	NIL
33	REMARKS	ANY CHANGE WILL BE NOTIFIED BY NOTAM

Note: Maps and charts of the Tenzing Hillary Airports will be as per the Standards mentioned in CAR-4.

14.4. PROVISIONS FOR AIRPORT OPERATION

14.4.1.   The Air Traffic Service to be provided in Nepal should be as per the standards specified in the Civil Aviation Requirements/circulars issued by the Authority.

14.4.2.   The responsibility of ensuring the service as per the standard pursuant to 14.4.1 should be that of the Airport manager, Tenzing Hillary Airport CAO.

14.4.3.   Any information on incident, event or occurrence relating to the air navigation services that affects or may affect the safety of air navigation should be reported by The AFIS unit to Airport Manager, Tenzing Hillary Airport CAO 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 should be submitted through the prescribed format *(refer : appendix E, F, G) .*

14.4.4.   The Airport Manager should 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 the airport manager should have the only option to coordinate with Air Navigation Service Directorate, CAAN and its concerned Departments.

14.4.5.   In the case of minor incidents involving installations or personnel on the aerodrome, or aircraft in contact with Lukla AFIS unit, the ATS Officers & Airport Manager should deal with the matter locally.

14.4.6.   Those incidents which cannot be dealt with locally should be reported to CAAN.

14.4.7.   Helicopter operations are authorized in designated areas (Helipad) in Tenzing Hillary Airport.

14.4.8. Lukla AFIS unit does not maintain the landing areas or provide security in those designated area (helipad) which are not located in the Tenzing Hillary Airport. Operators are therefore, required to obtain necessary information before conducting flight on those locations.

14.5. RESPONSIBILITY IN REGARD TO MILITARY TRAFFIC

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 should be asked, whenever practicable, to notify the Lukla AFIS unit prior to undertaking such manoeuvres.

14.6. INFORMATION ON UNMANNED FREE BALLOONS

14.6.1. Lukla AFIS unite should be kept informed of details of flights of unmanned free balloons in accordance with *the* provisions contained in CAR 2 (Appendix 3).

14.6.2. The operation of Drones within the jurisdiction of Lukla AFIS unit should be in accordance with the Flight Operations Directives No. 7 (May 2015) issued by the CAAN.

14.6.3. Depending upon the situation, any designated official of CAAN may grant permission for such type of flight verbally. The report of such permission should be submitted to the Civil Aviation Safety Directorate m CAAN HO as soon as possible.

14.7. NOTIFICATION OF SUSPECTED COMMUNICABLE DISEASES, OR OTHER PUBLIC HEALTH RISK, ON BOARD AN AIRCRAFT

14.7.1. The flight crew of an en-route aircraft should, upon identifying a suspected case(s) of communicable disease, or other public health risk, on board the aircraft, promptly notify the Lukla AFIS unit 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.

14.7.2. The Lukla AFIS unit, upon receipt of information from a pilot regarding suspected case(s) of communicable disease, or other public health risk, on board the aircraft, should forward a message as soon as possible to the ATS unit serving the

destination/departure aerodrome in coordination with Tenzing Hillary Airport Manager.

14.7.3. When a report of a suspected case(s) of communicable disease, or other public health risk, on board an aircraft is landing in Tenzing Hillary Airport, the Lukla AFIS unit should 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 should prevent the potential spread of communicable disease, or other public health risk, through other aircraft departing from the same aerodrome.

14.8. ACCESS TO THE AERODROME MANOEUVERING AREA

   i.   The 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, implementing and updating 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 Lukla AFIS unit has the responsibility for handling of vehicles on the manoeuvring area. No person or vehicle may enter this area without getting permission from ATS Officer on duty or The Chief of the Airport. Any person entering the manoeuvring area should also hold, or be escorted by a person who holds, a valid airport pass having access.
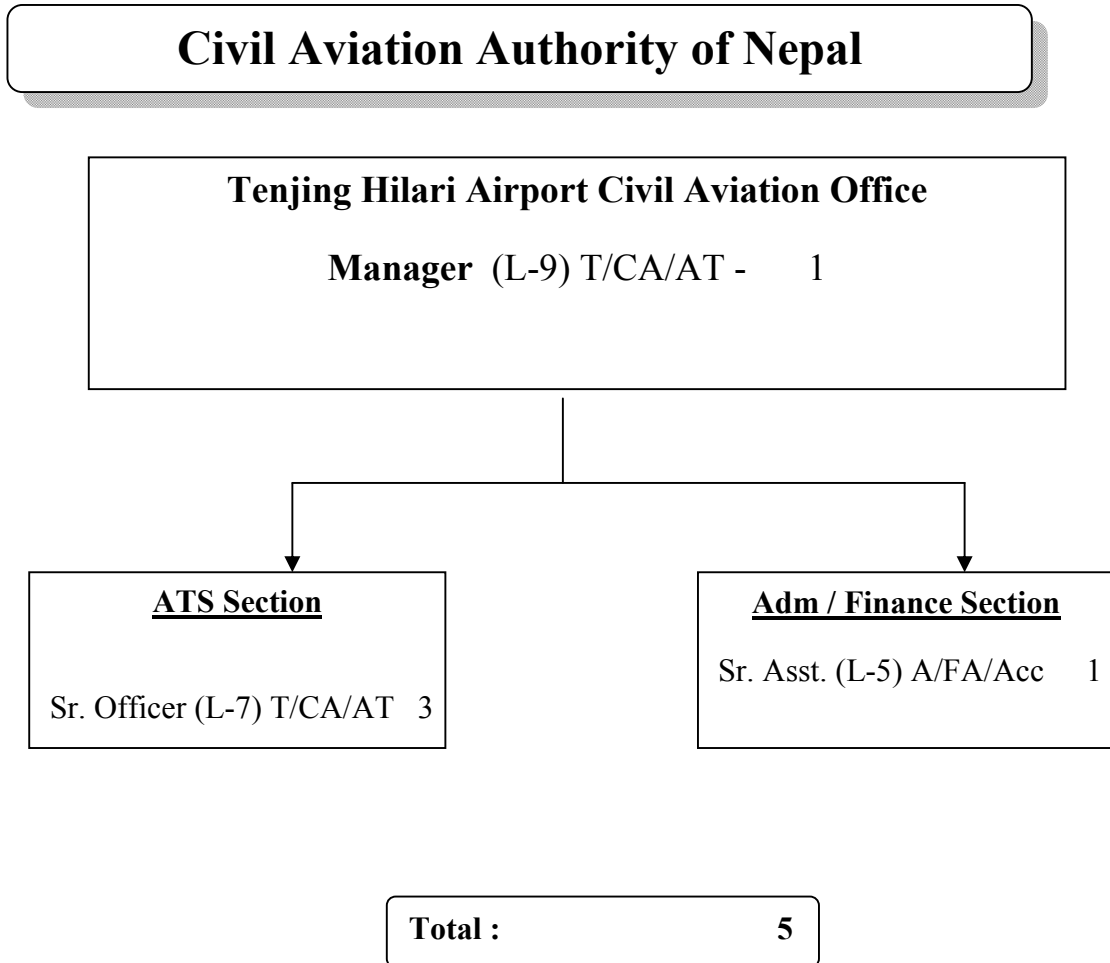
APPENDICES………………………………….................…. 90

APPENDIX- A

ORGANIZATION STRUCTURE

Civil Aviation Authority of Nepal

Tenjing Hilari Airport Civil Aviation Office **Manager** (L-9) T/CA/AT -   1

ATS Section Sr. Officer (L-7) T/CA/AT 3	Adm / Finance Section Sr. Asst. (L-5) A/FA/Acc 1

Total :   **5**

APPENDIX- B

OPERATIONAL LETTER OF AGREEMENT (LOA) BETWEEN KATHMANDU AREA
CONTROL CENTER (ACC) AND LUKLA TOWER.

1. General

1.1 Purpose

The purpose of this letter of agreement is to establish the agreed procedure applicable between Kathmandu Area Control Center (KT ACC) and Lukla Tower (LK TWR) for the safe, expeditious and efficient conduct of Air Traffic Services within their jurisdictions.

1.2 Scope

The procedure contained in this document should be applicable in the jurisdiction of KT ACC and Lukla Tower (LK TWR).

2. Air Space

Within Kathmandu FIR the airspace is classified as follows:

   i.   Class C - Airways, Terminal Control Areas, Control Zones and Aerodrome traffic Zones.
   ii.   Class G - Airspace other than in class C

3. Jurisdictions and Area of the Responsibility for the provision of ATS

3.1 Sectors of VNSM

  i. Kathmandu Sector

Kathmandu sector includes all Kathmandu FIR airspace to the East of 83ºE longitude from ground level to unlimited.

  ii. Nepalgunj Sector

Nepalgunj sector includes all Kathmandu FIR airspace to the West of 83ºE Longitude from ground level to unlimited.

3.2 Jurisdictions

   i.   Jurisdiction of Kathmandu ACC should be the whole airspace within the Kathmandu FIR excluding control Zones, Jurisdiction of KT APP, NG TWR and AFIS aerodromes.

   ii.   Jurisdiction of LK TWR should be the FIZ (inside Lukla valley *5* NM with a radius of circle centered at Lukla TWR) and vertically from ground to 12500ft AMSL.

3.3 Areas of Responsibility

i. KT ACC should be responsible for providing air traffic services in the area other than the area of responsibility of KT APP, Lukla Tower (LK TWR), control zones of other aerodromes, and the area of responsibility of NG TWR and AFIS aerodromes.

ii. LK TWR should be responsible for providing air traffic services inLukla AFIS aerodromes.

4. Altimeter setting procedure

Change of altimeter setting from KT QNH to LK QNH and vice versa should be at "GUMBA".

5. Separation

Separation is not applicable in Class G airspace.

6. Transfer of control and co-ordination procedure

6.1. Transfer of control point

Not applicable.

6.2. Transfer of communication

i. KT ACC should transfer the communication of aircraft to LK TWR at LAMJURA PASS.

ii. LK TWR should transfer the communication of aircraft to KT ACC at LAMJURA PASS or PHAPLU PASS as applicable.

6.3 Co-ordination procedure

i. Transferring unit should 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.

ii. Lk Tower should get release clearance before departure for traffic which will enter in KT TMA provided Kathmandu airport ATS operation is operating as IFR status.

iii. LK Tower should advise the outbound traffic to proceed via PHAPLU PASS as and when required. Period between mid Sep to mid Dec and 1st March to mid-May are considered as the rush months.

iv. Traffic bound for LK should not overtake other traffic after crossing GUMBA or within LK valley.

  v. KT ACC should release departure keeping in view of parking bay availability at LK.

  vi. Coordination should be effected at the earliest after the departure of A/C but not later than 5 minutes of the departure time of A/C.

  vii. The accepting unit should immediately confirm and notify any specific requirements for flights upon receipt of co-ordination notice.

  viii. 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.

  ix. 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.

  x. If any estimates varies by 3 minutes or, more from that previously coordinated, coordination should be re-made.

  xi. If the accepting ATS unit cannot accept a flight offered in accordance with the conditions specified above, it should clearly indicate its inability and specify the conditions under which the flight will be accepted.

  xii. For any proposed deviation from route or level the transferring unit should inform to accepting unit.

  xiii. The accepting ATS unit should 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 unit should 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
    ii. AMHS
    iii. HF/RT
    iv. Telephone

8. Revisions

8.1 This agreement should be subject to revision when ever required

  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 should 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 period, 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 or modifying unit declares its intention to cancel or modify the LOA with a minimum of 30 days pre-notification before the datethe cancellation or modification 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 should endeavor to reach a solution acceptable to both ofthem.

ii. Should no agreement be reached, each of the units should refer to CAAN Head office, to which the dispute should be submitted for settlement.

11. Validity

This letter of agreement becomes effective from1st Dec 2016.

Signed by:	**Signed by:**
Sudhir Kumar Chaudhary	Bachhu Ram Shrestha
Director	Manager
Flight Operation Department, TIACAO	Tenzing-Hilary Airport CAO, Lukla.
Date:	Date:

Witness

GrihaLaxmiGuragain

Dy. Director, ATS/SAR Division,TIACAO CAAN

Date: 21st November 2016

Witness

Dinesh Raj Ghimire

Manager, ATM Department,

Date: 21st November 2016

APPENDIX C

LETTER OF AGREEMENT(LOA) BETWEEN LUKLA TOWER AND AIRLINE OPERATORS **(MODEL)**

Directives for the co-ordination between ATS/SAR Section and operators
Effective date: immediately after the approval of AFIS0M-Tenzing Hillay Airport CAO by DGCA CAAN

1. OBJECTIVE

1.1. The objective of this Letter of Agreement between ATS/SAR Section and operators is to establish the directives for the necessary co-ordination between Lukla Tower and operators to ensure the provision of safe and efficient operation of aircraft.

1.2. This LOA specifies the responsibility of Lukla Tower in relation to the safe orderly and expeditious flow of air traffic.

1.3. This LOA includes the responsibilities of Lukla Tower 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 (Air Traffic Services) 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 LOA becomes necessary, the respective chiefs, through mutual agreement may affect temporary changes.

2.2. Permanent revisions to this LOA may be made by the authorities who approve and sign this agreement. A complete cancellation of this LOA 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. Lukla Tower, in carrying out their objectives, should 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, should 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 Lukla Tower and relating to the operation of the aircraft for which operational control services is provided by that operator should, so far as practicable, be made available to the operator or a designated representative in accordance with locally agreed procedures.

3.3. Lukla Tower should receive and clear the flight details submitted by PIC or accredited flight dispatcher in person and in case the flight detail cannot be accepted, Lukla Tower must immediately provide reasons for not accepting the flight details.

3.4. AFIS comprises two services, as follows:

    a. Flight information service; and
    b. Alerting service

3.5. The flight information service provides advice and information useful for the safe and efficient conduct of flights.

3.6. 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 Lukla Tower as indispensable factors in the liaison between flight operations and operators, ATS sections and operators should 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 passenger list, load sheet, trim sheet and operational flight details either by the PIC or a airline representative; otherwise Lukla Tower should not accept the flight.

4.2.2. The operators are responsible to follow ATC advices 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 should 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 should be in written, mandatorily in the prescribed format and must be sealed and signed by the in charge. While requesting for such permission, operator should provide a letter stating that the pet/s is healthy written by a certified vet/ veterinary doctor.

4.2.5 CAAN or Lukla Tower should not be responsible for any consequences arising due to the transport of the pet/s. All responsibilities should be of the concerned airlines.

4.2.6 Airlines operators are required to provide name lists of their trained manpower to handle the flights prior to the effective date of this LOA. Lukla Tower should be provided with details of newly hired or transferred or flight dispatchers along with proofs of them being trained dispatchers.

4.2.7 Any subsequent changes in the flight details that has to be introduced in due course of time post submission and advice of flight details has to be immediately forwarded to Lukla Tower by concerned operator in the form of a revised flight details.

5.   ATS   UNITS   AND   OPERATORS   CO-ORDINATION   MEETINGS

Regular and /or ad hoc co-ordination meetings between Lukla Tower and concern operators and other parties deemed appropriate by Tenzing Hillary Airport CAO, aimed at improving the services provided to aircrafts, will be convened as required.

Signed on : ....

………………………………..   …………………………………………
          Mr.   Mr.

Airport Manager   Station In charge
Tenzing Hillary Airport CAO, Lukla   Airline Operators

APPENDIX D

STRIP MARKING PROCEDURE

1. INTRODUCTION

1.1. This chapter specifies the procedures and standards that are to be applied to the processing of flight data by the AFIS Personnel. Data concerning the progress of flight are normally displayed on the Flight Progress Strips to facilitate the prediction and resolution of conflicts between aircraft.

1.2. ATS Officer working at Lukla, should maintain proper strip marking procedure.

1.2.1. The strips mentioned below should be maintained for all flights arriving at and departing from AFIS aerodromes within the Kathmandu FIR.

1.2.2. Keep all the strips safe for a period of three months, and then can be disposed of.

2. DEFINITIONS

2.1. **Strip Bay**. A strip bay or simply a bay is a board, metallic or non-metallic, on which strip holders are arranged.

2.2. **Active Bay**. An active bay is a bay which is used to accommodate strip holders that are holding active aircraft strips.

2.3. **Strip Holder**. A strip holder is rectangular in shape usually made of plastic material to hold the flight progress strip.

2.4. **Flight Progress Strip**. A flight progress strip is a rectangular paper strip, color coded and having different boxes, used to record and display all the data necessary for ATS purposes.

2.5. **Departure Strip**. A departure strip is a strip, yellow in color, used to display essential details of a departing flight.

2.6. **Arrival Strip**. An arrival strip is a strip, blue in color, used to display essential details of an arriving flight.

2.7. **Local Strip**. A local strip is a strip, pink in color, used to display essential details of a local traffic.

Note: It is similar to a departure strip, but pink in color.

3. STRIP WRITING TECHNIQUES

3.1.   Unless otherwise noted all markings in the strip should be written in black ink. Do not erase or overwrite any item. Draw horizontal line through the items that need correction and write the new item immediately adjacent to it.

3.2.   Letter should be printed in Capital.

3.3.   Arabic numerals should be used to record figures.

3.4.   Time should be recorded in 4 digits.

3.5.   Time Changes

3.5.1. When the hour changes, draw a line through all four digits and place new time beneath the original time.

<div align="center">

~~1550~~

1605

</div>

3.5.2. When the minute changes, draw a line through last two minute digits and place new time beneath the original minute digits.

<div align="center">

15~~45~~

55

</div>

3.5.3. Departure Strip (yellow)

TYPE A/C (1a) A/C CALL SIGN (1) TYPE OF FLT SPEED (1b) (1c)	DEP A/D (2)		RWY (3)	REP PT/PSN (4)		REP PT/PSN (5)		TFR PT/PSN (6)		DEST A/D (7)	MISC BOX (8)
	EOBT (2a)	LEVEL (2c)	1ST CONT. PSN.	EST (4a)	LEVEL (4c)	EST (5a)	LEVEL (5c)	EST (6a)	LEVEL (6c)	ETA	
	ATD (2b)		(3a) ____ __ TIME (3b)	ACT. TIME (4b)		ACT. TIME (5b)		TFR TIME (6b)			

1. AIRCRAFT (A/C) CALL SIGN

   1a   A/C TYPE

   1b   TYPE OF FLIGHT

   1c   SPEED OF A/C

2. DEPARTURE/AERODROME POINT OF DEPARTURE

   2a   ESTIMATED OFF BLOCK TIME (IF EOBT NOT AVBL, READY FOR T/O TIME.)

   2b   ACTUAL TIME OF DEP

   2c   CRUISING LEVEL OF A/C

3. RUNWAY NOTIFIED BY AIRCRAFT (OR, RUNWAY PREFERRED ADVISED BY AFIS PERSONNEL)

   3a   START UP TIME

   3b   TAXI TIME

4. 1st REPORTING POINT OR POSITION

   4a   ESTIMATE OVER REPORTING PT OR PSN

   4b   ACTUAL TIME

   4c   LEVEL OF THE A/C

5. 2nd REPORTING POINT OR POSITION

   5a   ESTIMATE OVER REPORTING PT OR PSN

   5b   ATUAL TIME

   5c   LEVEL OF THE A/C

6. TRANSFER POINT OR POSITION

   6a   ESTIMATE OVER TFR PT OR PSN

6b   TRANSFER TIME

6c   LEVEL OF THE A/C

7.   DESTINATION AERODROME

7a   ESTIMATED TIME OF ARRIVAL

7b   ACTTUAL TIME OF ARRIVAL (**NOT NECESSARY**)

8.   MISCELLANEOUS BOX

INFORMATION OTHER THAN MENTIONED IN THE PREVIOUS BOXES SHALL BE MENTIONED IN THIS BOX (SUCH AS TFC INFO, TECHNICAL PROBLEMS, SIGNIFICANT WEATHER INFO, A/C REQ, FLT DETAIL, ETC).

3.5.4. Arrival Strip (blue)

A/C TYPE (1a)	DEP A/D (2)		RW Y (3)	REP PT/PSN (4)		REP PT/PSN (5)		REP PT/PSN (6)		DEST A/D (7)	MISC BOX (8)
	EOBT (2a)	LEVEL (2c)	1ST CONT.	EST (4a)	LEVEL (4c)	EST (5a)	LEVEL (5c)	EST (6a)	LEVEL (6c)	ETA (7a)	
A/C CALL SIGN (1)	ATD (2b)		PSN. (3a)	ACT. TIME (4b)		ACT. TIME (5b)		ACT. TIME (6b)		ATA (7b)	
TYPE OF FLT SPEED (1b) (1c)			─── ─── ─ TIME (3b)								

1. A/C CALL SIGN

    1a   A/C TYPE

    1b   TYPE OF FLT

    1c   SPEED OF A/C

2. DEPARTURE/AERODROME POINT OF DEPARTURE

    2a   ESTIMATED OFF BLOCK TIME

    2b   ACTUAL TIME OF DEP

    2c   CRUISING LEVEL OF A/C

3. RWY NOTIFIED BY A/C (OR, RWY PREFERRED BY AFIS PERSONNEL)
   3a1st CONTACT POINT, POSITION OR LEVEL

    3b1st CONTACT TIME

4. 1st REPORTING POINT OR POSITION

    4a   ESTIMATE OVER REPORTING PT OR PSN

    4b   ACTUAL TIME

    4c   LEVEL OF THE A/C

5. 2nd REPORTING POINT OR POSITION

    5a   ESTIMATE OVER REPORTING PT OR PSN

    5b   ATUAL TIME

    5c   LEVEL OF THE A/C

6. 3$^{rd√}$ REPORTING POINT OR POSITION

    6a   ESTIMATE OVER REPORTING PT OR PSN

    6b   ACTUAL TIME

    6c   LEVEL OF THE A/C

7. DESTINATION AERODROME

    7a   ESTIMATED TIME OF ARRIVAL

    7b   ACTTUAL TIME OF ARRIVAL

8.   MISCELLANEOUS BOX

INFORMATION OTHER THAN MENTIONED IN THE PREVIOUS BOXES SHOULD BE MENTIONED IN THIS BOX (SUCH AS TFC INFO, TECHNICAL PROBLEMS, SIGNIFICANT WEATHER INFO, A/C REQ, OTHER DETAIL, ETC).

3.5.5. USE OF ABBREVIATIONS AND SYMBOLS

ATS Officer can use the approved abbreviations and symbols as mentioned in this document to expedite writing in the flight progress strip.

APPENDIX E

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, shaded items should be included.

A — AIRCRAFT IDENTIFICATION	B — TYPE OF INCIDENT
	AIRPROX / PROCEDURE / FACILITY*

C — THE INCIDENT

1. **General**

   a) Date / time of incident UTC

   b) Position

2. **Own aircraft**

   a) Heading and route

   b) True airspeed _____ measured in ( ) kt _____ ( ) km/h _____

   c) Level and altimeter setting

   d) Aircraft climbing or descending

   ( ) Level flight   ( ) Climbing   ( ) Descending

   e) Aircraft bank angle

   ( ) Wings level   ( ) Slight bank   ( ) Moderate bank

   ( ) Steep bank   ( ) Inverted   ( ) Unknown

   f) Aircraft direction of bank

   ( ) Left   ( ) Right   ( ) Unknown

   g) Restrictions to visibility (select as many as required)

   ( ) Sunglare   ( ) Windscreen pillar   ( ) Dirty windscreen

   ( ) Other cockpit structure ( ) None

   h) Use of aircraft lighting (select as many as required)

   ( ) Navigation lights   ( ) Strobe lights   ( ) Cabin lights

   ( ) Red anti-collision lights ( ) Landing / taxi lights   ( ) Logo (tail fin) lights

   ( ) Other   ( ) None

   i) Traffic avoidance advice issued by ATS

   ( ) Yes, based on radar   ( ) Yes, based on visual sighting   ( ) Yes, based on other information

   ( ) No

   j) Traffic information issued

   ( ) Yes, based on radar   ( ) Yes, based on visual sighting   ( ) Yes, based on other information

   ( ) No

   k) Airborne collision avoidance system — ACAS

   ( ) Not carried   ( ) Type   ( ) Traffic advisory issued

   ( ) Resolution advisory issued   ( ) Traffic advisory or resolution advisory not issued

   l) Radar identification

   ( ) No radar available   ( ) Radar identification   ( ) No radar identification

   m) Other aircraft sighted

   ( ) Yes   ( ) No   ( ) Wrong aircraft sighted

*Delete as appropriate

---

	n)	Avoiding action taken				
		( ) Yes		( ) No		
	o)	Type of flight plan	IFR / VFR / none*			

3. 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

( ) Yes, based on radar   ( ) Yes, based on visual sighting ( ) Yes, based on other information
( ) No   ( ) 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)   Closest horizontal distance

    b)   Closest vertical distance

5.   Flight weather conditions

    a)   IMC / VMC*

    b)   Above / below* clouds / fog / haze or between layers*

    c)   Distance vertically from cloud _____ m / ft* below _____ m / ft* above

    d)   In cloud / rain / snow / sleet / 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 _____ destination

    f)   Reported by radio or other means to _____ (name of ATS unit) at time UTC

    g)   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 AFTN / radio / telephone / other (specify)* _____

   b) Report received by _____ (name of ATS unit)

2. **Details of ATS action**

   Clearance, incident seen (radar/visually, 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.

VIEW FROM ABOVE

VIEW FROM ASTERN
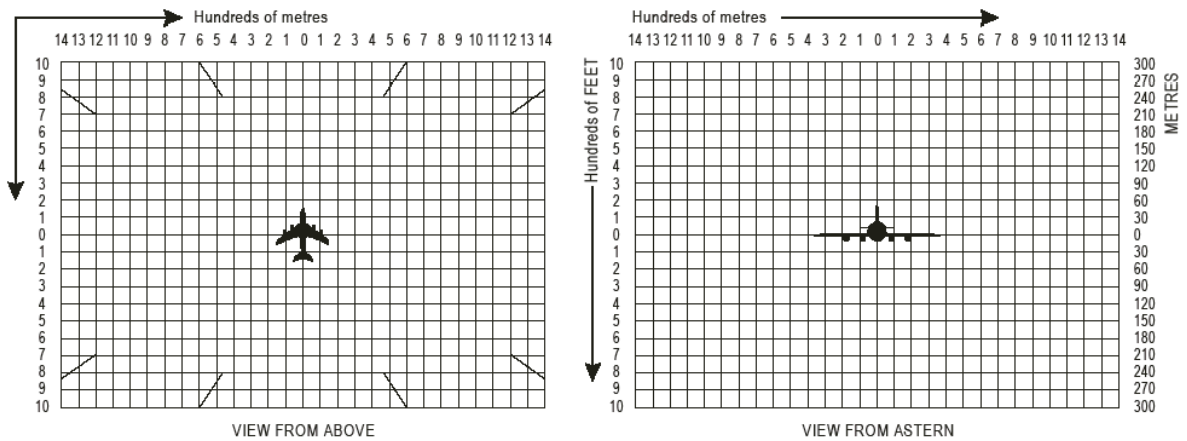
*Delete as appropriate

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 F

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

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

45 NARRATIVE -use a diagram if necessary (Include NOTAM if necessary.) *Use additional sheet if necessary*

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 List other agencies advised …………………………….. ……………………………..	54 Signature …………………………….. 	55 Date (dd/mm/yyyy) ……………………………..

56 Address

……
…….

……………………………………………………………………………………Telephone …………………

APPENDIX G

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 *(Should 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. FL/ALT/HT (ft)	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

☐ None
☐ Aborted Take-off
☐ Precautionary Landing
☐ Engine Shut Down
☐ Other: (Specify)

16. Sky Condition

☐ No Cloud
☐ Some Cloud
☐ Overcast

17. Precipitation

☐ Fog
☐ Rain
☐ Snow
☐ None

18. Bird/Other Wildlife Species	19. Number of Bird(s)/Wildlife			20. Size of Bird(s)/Wildlife
	Number	Seen	Struck	☐ Small
	1	☐	☐	☐ Medium
	2-10	☐	☐	☐ Large
	11-100	☐	☐	
	More than 100	☐	☐	

21. Pilot warned of Birds   ☐ Yes   ☐ No

22. Detail Information *(Describe damage, injuries and other pertinent information)*

(Use additional sheet if necessary.)

23. Reported by	24. Title, Office	25. Date

Reported to: GM ☐   ANSSSD ☐   ASO ☐   ASSD ☐   FOD ☐   AMD ☐
other ☐

APPENDIX H

VISIBILITY REFERENCE CHART

| S.N.	REFERENCE POINT	DISTANCE FROM TOWER (Approx)	BEARING FROM TOWER (Approx)
1	RWY 06	500 M	236 Degree
2	FIRST RIDGE	1500 M	238 Degree
3	SECOND RIDGE	3000 M	223 Degree
4	10500 FT DANDA	5 KM	217 Degree
5	NAMCHE PASS(NNW)	3000 M	317 Degree
6	KONDGE HIMAL	10 KM	296 Degree
Note: Distance and Bearing are reference to Lukla Tower			

APPENDIX I

FLIGHT INFORMATION ZONE (FIZ)
TENZING HILLARY AIRPORT, LUKLA
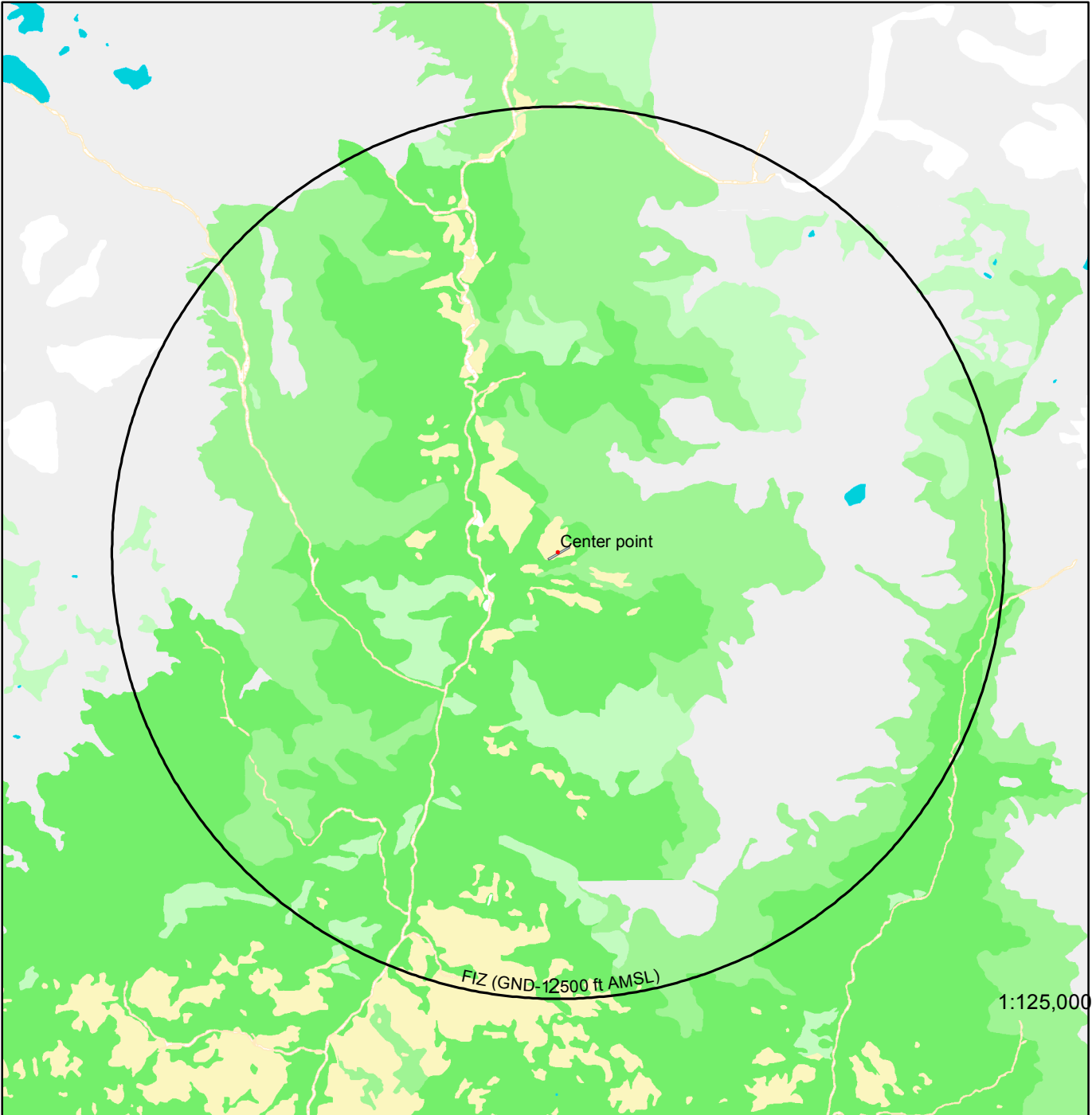
Airspace	Vertical Limit	Lateral Limit	Remarks
Flight Information Zone (FIZ)	12 500 ft AMSL / GND	5 NM centered with reference to middle of the RWY	

APPENDIX J

SYMBOLS AND CODES

1.3   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 should not be used.

Clearance Instruction

RSYD   = Release subject to your discretion with regard to……….

CE   = Clearance expires……………. (time)

……   = Release not before ……………….. (time)

            = Maintain ………. (level) …………….

↓   = Descend

-           = To: (used to indicate "Form ……….. to ………..)

/   = After passing

TFC   = Traffic is ……………………. (c/s of aircraft 0)

↰   = Left turnout

↳   = Right turnout

RLS   = Release

⊥   = Abeam

DLA   = Delay

EFC   = Expect further clearance (time)

RP   = Report passing

TCP   = Transfer of Control point

UFN   = Until Further Notice

Some other useful symbol and abbreviation frequently used in practice

@   = At

ABV   = Above …………. ft =+ …………………..

BLO   = Below ………. ft =+ …………………

>   = Before

<   = After

TKOF   = Take off

V< (TIME)   = Clearance void after ……………(time)

ADNL TFC   = Additional traffic is ……………..

UFA   = Until further advise

√   = Information forwarded

—C→   = Coordination effected

↑   = Climb coordinated
Ç

C↓   = Descent coordinated

…....+   = At or above …………... ft

…….-   = At or below ………… ft

APPENDIX K

CHECKLIST FOR OPENING AND CLOSING OF ATS WATCH, TENZING HILLARY AIRPORT

A. A checklist for opening of ATS Watch, Tenzing Hillary Airport CAO

1. Duty on;

2. Switch on VHF on 122.3 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 MET display system;

6. Switch on computer for AMHS;

7. Check operational status and power of standby portable VHF;

8. Check flight program or flight strips, if any, filed on the previous day;

9. Check notice board for current information;

10. Check Hot line;

11. Get report on Movement area condition and airfield status;

12. Check the digital clock from available sources;

13. Declare airport status;

14. Log any FAULT and report it to TIACAO/ANSD/Airport Manager; Take necessary action to issue NOTAM.

B. A checklist for closing of ATS Watch, Tenzing Hillary Airport CAO

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 ;

3. Inform Kathmandu about night stop aircraft making at Lukla, if any;

4. Switch off all lights;

5. Inform Fire section and other concern unit 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 (TWR 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 operation related documents in allocated place.

13. Enter movement record in the movement log book.

Note: Normally time required for the closing of operation is 00:30 minute while performing above closing procedure. Hence, 00:30 minutes should 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 extended operation hour.