

Air Traffic Services Standards and Procedures

Contents

	Effective Date
Preface	18 May 2007
<i>Contents</i>	<i>22 July 2009</i>
<i>Section 1 Glossary</i>	<i>22 July 2009</i>
Chapter 1 Definitions	
Chapter 2 Abbreviations	
Chapter 3 Conversion Tables	
Chapter 4 Cross-Wind Component Table	
<i>Section 2 Air Traffic Services</i>	<i>22 July 2009</i>
Chapter 1 Air Traffic Services	
Introduction	
Air Traffic Services	
Objectives of Air Traffic Services	
Safety and Expedition	
Airspace Organisation and Management	
Combining Function of an ATSU	
Chapter 2 Division of Airspace	
General	
Flight Information Regions	
Classification of Airspace:	
➤ Controlled Airspace	
➤ Uncontrolled Airspace	
➤ Designated Uncontrolled Airspace	
Chapter 3 ATS System Capacity and Air Traffic Flow Management	
Capacity Management:	
➤ Capacity Assessment	
➤ Regulation of ATS Capacity and Traffic Volumes	
➤ Enhancement of ATS Capacity	
➤ Flexible Use of Airspace	
Air Traffic Flow Management:	
➤ General	
➤ Flow Management Procedures	

Chapter 4 Military Operations

Responsibility in Regard to Military Traffic
Responsibility in Respect of Military Aircraft in Controlled
Airspaces
Formation Flights
Reduced Weather Minima for SAAF Helicopters

Chapter 5 Flight Rules

Rules of Flight Types
Visual Flight Rules
Instrument Flight Rules
Changing From IFR to VFR
Special VFR
Types of Approaches

- IFR in Controlled Airspace
- Instrument Approach
- Visual Approach
- Approach Maintaining VMC

IFR Flight Leaving Controlled Airspace
IFR in uncontrolled Airspace
VMC Approach in Uncontrolled Airspace

Chapter 6 Altimeter Setting Procedure

Introduction
System of Flight Levels
Transition Altitude
Transition Levels
Transition from Flight Levels to Altitudes and Vice Versa
Take-off and Climb
En-route:

- Vertical Separation
- Terrain Clearance

Approach and Landing
Missed Approach
Procedures Applicable to ATSUs:

- General
- Responsibility for Determining Current Transition
Level
- Determination of the Current Transition Level
- Recording of Transition Level in Force
- Check on Pressure Sensor Instruments

Chapter 7 Semi-Circular Rule

Flights Obligated to Comply with the Semi-Circular Rule
Semi-Circular Rule Table

Chapter 8 Flight Plans

Filing of Flight Plans
Acceptance of Flight Plans:
 ➤ Acceptance of IFR Flight Plans
Repetitive Flight Plans
Booking Out

Chapter 8 Air Traffic Control Clearances

General
Contents of Air Traffic Control Clearances
Clearance Limit
Routes
En-Route Aircraft:
 ➤ General
 ➤ Cruising Levels
 ➤ Clearances Relating to Supersonic Flight
Read-Back of Clearances
Withholding Clearance
Priorities for the Issuance of ATC Clearances

Chapter 9 Presentation and Updating of Flight Plan and Control Data

General
Information and Data to be Presented
Presentation of Information and Data

Chapter 10 Position Reporting

Transmission of position Reports
Contents of Voice Position Reports
Action on Receipt of a Position Report

Chapter 11 Diversion Procedures

Introduction
Types of Diversion:
 ➤ Diversions Originated by the Pilot-In-Command
 ➤ Diversions Originated by the Ground Organisation
Choice of Diversion Aerodromes
Detailed Diversion Procedures

Chapter 12 Meteorological Liaison Procedures

Introduction
Supply of meteorological Information:
 ➤ Verification of Meteorological Information
Transmission of meteorological Information to Aircraft in Flight:
 ➤ General
 ➤ Meteorological Information Request/Reply Procedures
Automatic Terminal Information Service:

- Voice - ATIS Broadcast
- Data link ATIS Broadcast
- Criteria for Voice ATIS and Data link ATIS

Chapter 13 Holding Aircraft in Flight

Introduction
Onward Clearance Time
Holding Procedures:

- Holding at Facilities for which Procedures have not been published.

Expected Approach Time (EAT)
Holding for Weather Improvement
Visual Holding Points

Chapter 14 VHF Direction Finding

Introduction
Information provided by a VDF Station
Classification of VDF equipment

Chapter 15 Hand-over Procedure

Introduction
Procedures Prior to Hand-over
Procedures for Handing-Over an Operational position:

- Considerations before a Position hand-over
- Considerations during a position hand-over
- Considerations after a hand-over

Chapter 16 Co-ordination Procedures

General
Point-out Procedure

Section 3 Aerodrome Services

22 July 2009

Chapter 1 Aerodrome Control

Provision of Service
Responsibilities:

- Aerodromes Situated Within a CTR
- Selection of Runway-In-Use
- Alerting Service Provided by Aerodrome Control Towers
- Failure or irregularity of aids and equipment
- Co-ordination

Effect of Weather on Operations:

- Suspension of visual flight rule operations
- Resumption of Visual Flight Rule Operations

- Essential Information on Aerodrome Conditions
 - Braking Action Characteristics of Wet Paved Surfaces
- Runway Visual Range:
- Observing Techniques
- Low Visibility Operations
- General
 - Surface Movement Guidance Control System
 - Control of aerodrome surface traffic in conditions of low visibility
 - Procedures for control of aerodrome traffic when category II/III approaches are in use
- Control of Surface Traffic:
- Control of Other Than Aircraft Traffic
 - Control of Taxiing Aircraft
 - Taxi Clearance
 - Taxi Clearance Limit
 - Helicopter Taxiing Operations
 - Jet Blast Hazards
 - Use of Runway-Holding Positions
- Control of Departing Traffic:
- Departure sequence
 - Take-off Clearance
 - Cancelling Take-off Clearance
- Control of Arriving Aircraft:
- Joining the Circuit
 - Essential Local Traffic Information
 - Clearance to Land
 - Landing and Roll-out Manoeuvres
 - Abnormal Aircraft Configuration and Condition
- Control of Aerodrome Traffic:
- General
 - Entry of Traffic Circuit
 - Priority for landing
 - Designated Positions of Aircraft in the Aerodrome Traffic and Taxi Circuits
- Reporting of Hazardous Surface Wind Conditions

Chapter 2 Aerodrome Flight Information Service (AFIS)
 General
 Basic Elements of information Provided to Aircraft
 Declaration of IMC
 R/T Phraseologies
 General

Chapter 3 Reporting of Windshear
 Introduction
 Conditions Conducive to Windshear
 Effects of Windshear
 ATC Action
 ATIS Broadcasts

Chapter 4 Use of Surveillance Systems in Aerodrome Control Services
Air Situation Display (ASD)
Use of Advanced Surface Movement Ground Control Systems (ASMGCS)
General Provisions
Functions
Identification of Aircraft

Chapter 5 Aerodrome Lighting Aids
Operational of Aerodrome Lights
Monitoring of Visual Aids
Period of Operation
Approach Lighting
Runway Lighting
Stopway Lighting
Taxiway Lighting
Stop Bars
Obstacle Lighting

Chapter 6 Aerodrome Serviceability
Closure or Restricted Operation of Aerodromes
Responsibility of the Aerodrome Authority
Responsibility of the Air Traffic Control Unit
Work on the Manoeuvring Area
Inspection of Runways
Aerodrome Fire / Rescue Service
General
Aerodrome Categories
Temporary Depletion
Practice Exercises and Drills
Exercise on the Manoeuvring Area
Other Duties of the Aerodrome Fire Service

Section 4 Approach Control Services

6 December 2007

Chapter 1 Area Control Service

- Provision of Service
- Responsibilities
- During IMC
- During VMC
- In All Weather Conditions

Chapter 2 Coordination and Transfer of Control Procedures

- General
- Co-ordination With Other ATSU's or Sectors
- Transfer of Control

Chapter 3 Procedures for Departing Aircraft

- General
- Loss of Communication

Chapter 4 Procedures for Arriving Aircraft

- General
- Information to Arriving Aircraft
- Aircraft in the Hold
- Holding Procedures
- Approach Sequence

Section 5 Area Services

22 July 2009

Chapter 1 Area Control Service

Units
Responsibilities

Chapter 2 Area Control Procedures

Principles of Operation
Co – ordination – Area Control Centres

- Estimates
- Revisions
- Approval Requests
- Transfer Points
- Loss of Communications at Transfer Points
- Transfer of Control

Co – ordination – Approach Control Units

- Arriving Aircraft
- Departing Aircraft
- Release to Approach Control

Loss of Communications
Procedures for Flights transiting through TMA's and CTR's
Information to be given to an Aircraft on first Contact
Radar Separation

- Unidentified known Traffic
- Traffic Outside Radar Cover

Speed Adjustment
Aircraft off Track
Position Reports
Aircraft Crossing and Jointing
Aircraft Holding
Diversion
Cruise Climb
Minimum Flight Levels
Air Traffic Advisory Services

Chapter 3 Flight Information Service

Provision of Service
Recording and Transmission of Information on the Progress of
Flights
Transfer of Responsibility for the Provision of Flight
Information Service

Transmission of Information
Means of Transmission
Transmission of Special Air Report, SIGMET and AIRMET
Information
Transmission of SPECI and Amended
Transmission of Information to Aircraft
Limiting Factors
Proximity Warnings
Map Display
Aircraft Joining or Crossing
Liaison with Aerodromes
Use of Radar in the Flight Information Service

Section 6 ***Separation Methods and Minima***

22 July 2009

Chapter 1 **General**

Introduction
Provision of Standard Separation
Increased Separation
Fuel Dumping
Reduced Separation
Emergencies
Loss of Separation
ACAS Deviations
Essential Traffic Information
Types of Separation

Chapter 2

Vertical Separation
 ➤ Vertical Separation Minima
Minimum Cruising Level
 ➤ Assignment of Cruising Levels
Changing Levels
Vertical Speed Control Instructions
Horizontal Separation

Chapter 3

Lateral Separation
 ➤ Geographical Separation
Lateral Separation on Departure or En-route, Both Aircraft
Outbound Using VOR radials.
Lateral Separation on Departure or En-route; Both Aircraft
Outbound Using VOR radials and a co-located DME station
Lateral Separation for Departure or En-route; Both Aircraft
Outbound Using An NDB
Lateral Separation between Aircraft Inbound and Outbound
Using VOR radial and a Co-located DME Station
Lateral Separation When Both Aircraft Are Inbound Using
VOR radials and a Co-located DME Station
RNAV Operations
 ➤ RNAV Operations where RNP is specified on parallel
 tracks or ATS routes
 ➤ RNAV operations (where RNP is specified) on
 intersecting tracks or ATS routes

Chapter 4	Longitudinal Separation
	General
	Same Track
	Reciprocal Tracks
	Crossing Tracks
	Longitudinal Separation Based on Time
	➤ Same Track – Same Level
	➤ Same Track – Climbing and Descending
	➤ Crossing Track – Same Level or Climbing And Descending
	➤ Reciprocal Track
	➤ Longitudinal Separation Based on Distance
	➤ Same Track – Same Level
	➤ Same Track – Climbing And Descending
	➤ Crossing Track – Same Level or Climbing And Descending
	➤ Reciprocal Track
	Longitudinal Separation Minima with Mach Number Technique
	Based on Distance on Distance Using RNAV
	Same Track – Same Level
	Same Track – Climbing and Descending
	Reciprocal Track
	Longitudinal Separation Minima Based on Distance Using RNAV Where RNP is Specified
	Longitudinal Distance-Based Separation Minima in an RNP RNAV Environment not Using ADS
	Reciprocal Track
	Longitudinal Distance-Based Separation Minima in an RNP RNAV Environment Using ADS
	Same Track – Same Level or Climbing and Descending
	Horizontal Speed Control Instructions
	The Mach Number Technique
	➤ Objectives of the Use of the Mach the Number Technique
	➤ Prerequisites
	➤ General Procedures
	➤ Specific Procedures
	➤ Separation at Entry Point When the Following Aircraft is the Faster
	➤ Longitudinal Separation Minima with Mach Number Technique Based on Time
	➤ Same Track – Same Level or Climbing and Descending
	Hold Aircraft
	Arrival / Departure Separation
	➤ An Arriving aircraft shall be considered as Sector Separation between Arriving and Departing Aircraft (SA-CAA Approved)

Chapter 5 Aerodrome Traffic Separation

Departure
Separation of Landing Aircraft and Preceding Landing and
Departing Aircraft Using the Same Runway
Minimum Separation between Departing Aircraft
Wake Turbulence Separation
En-route and Intermediate Approach
Radar Wake Turbulence Separation Minima
Arriving Aircraft – Non- Radar Wake Turbulence Longitudinal
Separation Minima
Departing Aircraft – Non – Radar Wake Turbulence
Longitudinal Separation Minima
Displaced Landing Threshold
Opposite Direction
Aircraft Initiating a Touch and Go
Helicopter Aerodrome Operations

Chapter 6 Radar Separation Minima

General
Separation Application

Section 7 ATIS Surveillance Procedures

22 July 2009

Radar Services

- Provision of Services
- Type of Service
- Radar Control Service
- Radar Advisory Service
- Radar Information Service
- Limiting a Service

Establishment of Radar Identity

Identification using Primary Radar

- The Turn Method
- Identification Using either Primary or Secondary Radar
- Identification Using Secondary Radar

Validation for Mode A Codes

- Special Purpose Codes
- Conspicuity Code

Transfer of Radar Identity

Lost Identity

Position Information

Termination of Radar Services

Use of Mode C for Vertical Separation

- Mode C Responses
- Verification of Mode C
- Level Assessment Using Mode C

Transfer of Radar Control

- Silent Radar Handover between Radar Sectors

Radar Vectoring

- Responsibility
- VOR/DME Holding

Navigational Assistance

- Weather Avoidance
 - Action by Controller
 - Action by Pilot
- Terrain Clearance
- Unknown Aircraft
- Traffic Information
- Clutter on the Radar Display
- Radar Display Serviceability
- Radar Failure
- Limitation in the use of Radar
- Combined Radar / Procedural Control
 - Monitoring
 - Procedural Clearance

Section 8 **Communications Procedures and Standard Phraseology** 22 July 2009

Chapter 1 **General Operating Procedures**

- Introduction
- Radio Guard
- Speech Technique
 - General
 - Radiotelephone
 - Land Line and ATS / DS Telephone
 - Phonetic Alphabet
 - Numerals
 - Time
 - Standards Speech Abbreviations
- Radiotelephony Callsigns
 - Air Traffic Control Units
 - Aircraft Callsigns
 - Callsign Confusion
- Communication with Aircraft
 - Establishment of Contact
 - Continuation of Communications
 - Text
 - Standards Phases
 - Acknowledgement of Messages
 - Pilot Read Back of Messages
 - Climb and Descent Clearances
 - Conditional Clearances
 - Vehicle Driver Read Back of RTF Messages
 - Transfer of Communications
 - Transmission of Company Messages by Controllers
 - Test Transmissions
 - Broadcast Transmissions

Chapter 2 **Standards Phraseology**

- ATC Phraseology
 - General Phraseology
 - Transfer of Control and / or Frequency Change

- Change of Callsign
 - Traffic Information
 - Meteorological Conditions
 - Position Reporting
 - Additional Reports
 - Aerodrome Information
 - Operational Status of Visual and Non-Visual Aids
- Area Control Services
- Issuance of a Clearance
 - Indication of Route and Clearance Limit
 - Maintenance of Specified Levels
 - Specification of Cruising Level
 - Emergency Descent
 - If Clearance Cannot be Issued Immediately Upon Request
 - Separation Instructions
 - Instructions Associated with Flying A Track (offset), Parallel to the Cleared Route
- Approach Control Service
- Departure Instructions
 - Approach Instructions
 - Holding Clearances
 - Expected Approach Time
- Phraseologies for use on And in the Vicinity of the Aerodrome
- Identification of Aircraft
 - Acknowledgement by Visual Means
 - Starting Procedures
 - Push – Back Procedures
 - Towing Procedures
 - To Request Time check and / or Aerodrome Data for Departure
 - Taxi Procedures
 - Holding
 - To Cross A Runway
 - Preparation For Take – off
 - Take – off Clearance
 - Turn or Climb Instructions After Take – off
 - Entering An Aerodrome Traffic Circuit
 - In the Circuit
 - Approach Instructions
 - Landing Clearance
 - Delaying Aircraft
 - Missed Approach
 - Information to Aircraft
 - Runway Vacating And Communications After Landing
- Co-Ordination Between ATS Units
- Estimates And Revisions
 - Transfer of Control
 - Change of Clearance
 - Approval Request
 - Inbound Release
 - Radar Handover

- Expedition of Clearance
- Failure of CPDLC
- General Radar Phraseologies
 - Identification of Aircraft
 - Position Information
 - Vectoring Instructions
 - Termination of Radar Vectoring
 - Manoeuvres
 - Speed Control
 - Position Reporting
 - Traffic Information and Avoiding Action
 - Communications And Loss of Communications
 - Termination of Radar Service
 - Radar Equipment Degradation
- Radar in an Approach Control Service
 - Vectoring for Approach
 - Vectoring for ILS and Other Pilot – Interpreted Aids
 - Manoeuvre during Independent and Dependant Parallel Approaches
- Surveillance Radar Approach
 - Provision of Service
 - Elevation
 - Position
 - Checks
 - Completion of Approach
- PAR Approach
 - Provision of Service
 - Communications
 - Azimuth
 - Elevation
 - Position
 - Checks
 - Completion of Approach
 - Missed Approach
- Secondary Surveillance Radar (SSR) Phraseologies
 - To Request The Capability of the SSR Equipment
 - To Instruct Setting of Transponder.
 - To Request the pilot to Reselect the Assigned Mode and Code
 - To Request Reselection of Aircraft Identification
 - To Request the Pilot To Confirm the Code Selected on the Aircraft's Transponder.
 - To Request the Operation of the IDENT Feature
 - To Request Temporary Suspension of Transponder Operation
 - To Request Emergency Code
 - To Request Termination of Transponder Operation
 - To Request Transmission of Pressure Altitude
 - To Request Pressure Setting Check And Confirmation of Level
 - To Request Termination of Pressure Altitude Transmission Because of Faulty Operation

- To Request Level Check
- General ADS Phraseologies
 - ADS Degradation
- Alerting Phraseologies
 - Low Altitude Warning
 - Terrain Alert
- Readback of ATS Co-ordination Messages

Section 9 *Emergency Procedures*
Chapter 1 **Aircraft Emergencies**

22 July 2009

- Introduction
- Controllers Responsibility
- Recognising an Emergency Situation
- Distress and Urgency Messages
- Indication on Radar
- Emergency Aircraft – Selection of Controlling Unit
 - Retaining Control
 - Transferring Control
 - Intercepted Messages
- Aircraft Emergencies – General Principles
 - Local Emergency Services
 - Nearest Aerodromes
 - Plot Position
 - Uninterrupted Approach
 - Emergency Descent
 - Alerting Action
 - Other Aircraft
 - Aircraft Operator
- Fuel Jettisoning

Chapter 2 **Unlawful Interference (Hijack) and Aircraft Bomb Threat**

- Introduction
- ATS Operations
 - General
 - Procedures to Be Followed By ATSU's or Sectors
 - Procedures For Bomb Threat
 - Designated or Isolated Parking Area

Chapter 3 **Aircraft Lost (Strayed VFR Flights)**

- General
- Radar and VDF
- Terrain Clearance

Chapter 4	Loss of Communications (Radio Failure) Introduction Standard Procedure for Controllers Standard Radio Failure Procedures for Aircraft	
Chapter 5	ATC Contingencies (Radio Communication) Introduction Blocked Frequency Unauthorised Use of ATC Frequency	
Chapter 6	Interception of Civil Aircraft Introduction Procedures Relating to the Interception of Civilian Aircraft	
Chapter 7	<i>Communicable Diseases</i>	<i>22 July 2009</i>
Chapter 8	<i>PROCEDURES RELATED TO EMERGENCIES, COMMUNICATION FAILURE AND CONTINGENCIES</i>	<i>22 July 2009</i>
Section 10	Air Traffic Services Messages	6 December 2007
Chapter 1	Introduction General Origination	
Chapter 2	Composition of Messages General Shortened Address and Diversion Indicator Address Origin Text	
Chapter 3	Categories of Messages General Emergency Messages Movement and Control Messages Flight Information Messages General Provisions Origination and Addressing of Messages Use of the AFTN Priority Indicator Address Filing Time Originator Indicator Supplementary Information on the Address and the Origin	
Chapter 4	Emergency Messages Radio Communication Failure Messages (RCF) <ul style="list-style-type: none"> ➤ Priority ➤ Addressing ➤ Filing Time ➤ Originator ➤ Text 	

Other Emergency Messages

- Priority
- Addressing
- Filing Time
- Originator
- Text

Chapter 5 **Flight Plan Form**

General Instructions for the Completion of the Plan form

Instructions for Insertion of ATS Data

- Item 3 – Messages Type (FPL)
- Item 7 – Aircraft Identification
- Item 8 – Flight Rules and Types of Flight
- Items 9 – Number and Type of Aircraft & Wake Turbulence Category
- Wake Turbulence Category
- Item 15 – Cruising Speed, Flight Level & Route
- Route – Flight along Designated ATS Route
- Route – Flights Outside Designated ATS Routes
- ATS Route
- Significant Point
- Change of Speed or Level
- Change of Flight Rules
- Cruise Climb
- Item 16 – Destination Aerodrome, Total Estimated Elapsed Time & Alternate Aerodrome (s)
- Alternate Aerodrome (s)
- Item 18 - Other Information
- Item 19 – Supplementary Information

Example of Flight Plan Form

Chapter 6 **Flight Plan Messages**

Supplementary Flight Plan Message (SPL)

Departure Message (DEP)

Delay Messages (DLA)

Arrival Message (ARR)

Boundary Estimate Messages (EST)

Modification Message (CHG)

Cancellation Messages (CNL)

Supplementary Messages

- Request Flight Plan Messages (RQP)
- Supplementary Flight Plan Messages (SPL)
- Request Supplementary Flight Plan Message (RQS)

Modification Messages (CHG)

Chapter 7 **System NOTAM**

General

- NOTAM Classification
- NOTAM Addresses
- Filing Time
- Originator
- Text

- Message Identifies
 - Standard NOTAM Format
- Example of NOTAM Format

Chapter 7 Aeronautical Administrative Messages

General
Priority
Addressing
Filing Time
Originator
Text

Chapter 8 Search and Rescue, Accident & Incident Reports

Search and Rescue Reports
Accidents Reports
Incidents Reports

Section 11 Aeronautical Information Management

18 May 2007

Chapter 1 General
Introduction

Chapter 2 NOTAM
Origination
General Specifications
Distribution

Chapter 3 Summary of Documents
Aeronautical Information Regulation and Control (AIRAC)
AIP Supplements (AIP Supp)

- Specifications for AIP Supplements)

Aeronautical Information Circulars (AIC)

- General Specifications of AIC

Aeronautical Information Publication (AIP)

- General (GEN)
- En-Route (ENR)
- Aerodromes (AD)
- General Specifications