

International Civil Aviation Organization

#### MIDANPIRG ATM Sub-Group

First Meeting (ATM SG/1) (Cairo, Egypt, 9 – 12 June 2014)

### Agenda Item 5: Airspace Management Issues

#### COMMON FORMAT LOA BETWEEN ATS UNITS

(Presented by United Arab Emirates)

#### SUMMARY

The purpose of this working paper is to put forward a Common Format LoA to facilitate the implementation of common cross-border ATC procedures and enhance the common interpretation and application of these procedures.

### 1. Introduction

1.1. Common Format LoA at **Appendix A** to this working paper was developed based on Eurocontrol guidelines "Common Format Letter of Agreement between Air Traffic Service Units" *Edition 4* and enhanced by GCAA of UAE in order to fit the need of region and to assist MID Region States and the Air Traffic Service Providers in drafting their operational Letters of Agreement (LoA). The purpose of this Common LoA Format is to ensure uniformity in the signatory procedures of the LoAs and to draw the attention to those legal aspects related to the signing of a LoA.

#### 2. DISCUSSION

- 2.1 The Common Format, Letter of Agreement between Air Traffic Services Units (Common LoA Format) is designed as an instrument that seeks to harmonize the widest possible spectrum of coordination procedures. The widespread use of Common Format LoA will contribute to the achievement of a high level of uniformity in respect of operational requirements throughout ICAO MID Region.
- 2.2 However this document may not cover all aspects of a given situation between two ATS units. The structure and the content of the LoA template was designed to accommodate ICAO requirements pertaining to coordination and transfer of control of aircraft between ATC units, as promulgated in ICAO Annex 11, Doc 4444 (PANS-ATM).

#### 2.3 Guidelines to Common Format LoA:

- a. When drafting a Letter of Agreement, the "Common Format" should be used to the extent possible to achieve the level of uniformity throughout ICAO MID region states:
- b. All LoA's should be signed by both agreed Air Traffic Service Units;
- c. Depending on the nature of the Agreement, there may be a requirement that the Agreement is also signed by the approving authorities;

- d. The approving authorities should consider the legal aspects of signing an LoA;
- e. Deviations from ICAO standard procedures or special requirements to be applied by the Air Traffic Service Unit providing the service shall be clearly specified in the LoA's.
- f. Appendix A of the Common Format LoA may be amended subject to each Air Traffic Service Unit.

#### 2.4 Conventions:

- 1. The detailed procedures shall be published as an Appendix to the Letter of Agreement, and will form an integral part of the LoA;
- 2. In order to have all LoA's in a common format, Appendix A H shall always be attached to the LoA, even in the case where a specific Appendix is not applicable in which case it shall state so on the Appendix page;
- 3. The same will apply in case a specific paragraph within the LoA does not apply, it shall be stated after the paragraph number;
- 4. For a quick and easy reference to specific paragraphs in the LoA and the Appendixes, the listed below should be applied:
  - a) The LoA and the Appendices shall have separate page numberings;
  - b) The Appendices shall be named Appendix A, Appendix B, etc;
  - c) The numbering of the Appendix pages/paragraphs shall include the relevant letter of the Appendix as prefix
  - d) A revision to an Appendix shall result in the revision of the entire relevant Appendix;
  - e) Each page of the LoA shall include the effective dates
- 5. The term "Not Applicable" will indicate that either an entire Appendix or a particular paragraph does not apply;
- 6. The strength of the operational requirements in the agreement shall be classified, the following conventions shall be used:
  - a) The word "shall" Mandatory requirements;
  - b) The word "should" Preferred requirements;
  - c) The word "may" an Option;
  - d) The word "will" a Statement of intent.
- 7. Reference to Appendix C, there are two common formats:
  - a) Appendix C(1): for the use in the development of an LoA in an automated flight data exchange environment;
  - b) Appendix C(2): for the use in the development of an LoA where flight data is exchanged verbally;
  - c) The actual Appendix C will drop the reference to either of the (1) or (2).

### 2.5 Structure of proposed LoA

#### **Letter of Agreement:**

- 1. General
- 2. Areas of Responsibility for the Provision of ATS
- 3. Procedures
- 4. Revisions and Deviation
- 5. Cancellation
- 6. Interpretation and Settlement of Disputes
- 7. Validity

### Appendix A (Definitions and Abbreviations)

- 1. Definitions
- 2. Abbreviations
- 3. Validity

### Appendix B (Area of Common Interest)

- 1. Airspace Structure and Classification within the Area of Common Interest
- 2. Sectorisation
- 3. Special Areas within the Area of Common Interest
- 4. Non-published Coordination Points
- 5. Validity

### Appendix C (1) (Exchange of Flight Data) (With automatic data exchange)

- 1. General
- 2. Means of Communication and their Use
- 3. Failure of Ground/Ground Voice Communications
- 4. Attachment to the Appendix with details for Automatic Data Exchange
- 5. Validity

### Appendix C(2) (Exchange of Flight Data) (Without automatic data exchange)

- 1. General
- 2. Means of Communication and their Use
- 3. Failure of Ground/Ground Voice Communications
- 4. Validity

#### **Appendix D (Procedures for Coordination)**

- 1. General Conditions for Acceptance of Flights
- ATS Route, Coordination Points COPs/ Transfer of Control Points TCPs and Level Allocation
- 3. Special Procedures
- 4. Coordination of Status of Special Areas in the Area of Common Interest
- 5. Validity

### **Appendix E (Transfer of Control and Transfer of Communications)**

- 1. Transfer of Control
- 2. Transfer of Communications
- 3. Specific Points for Transfer of Control and Transfer of Communications
- 4. Validity

### **Appendix F (ATS Surveillance Based Coordination Procedures)**

- 1. General
- 2. SSR Code Allocation
- 3. Transfer of Control
- 4. Validity

### **Appendix G (Air Traffic Flow Management)**

- 1. General
- 2. ATFM Procedures
- 3. Reporting
- 4. Validity

## **Appendix H (Contingency Procedures)**

- 1. General
- 2. Disruption of the provision of ATS at Unit 1
- 3. Disruption of the provision of ATS at Unit 2
- 4. Validity

### 3. ACTION BY THE MEETING

3.1 The meeting is invited to encourage States to use the Format LoA at **Appendix A** to this working paper.

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#### APPENDIX A

### **LETTER OF AGREEMENT**

between

Authority and Authority
ATS Unit 1 ATS Unit 2

Revision: xxxx

Effective: xx xxxx xxxx

Revised: xxx

1 General.

### 1.1 Purpose.

The purpose of this Letter of Agreement is to define the co-ordination procedures to be applied between Unit 1 and Unit 2 when providing ATS to General Air Traffic (IFR/VFR) and/or Operational Air Traffic.

These procedures are supplementary to those specified in ICAO, Community Regulations, inter-State or inter air traffic services provider's agreements and/or National Documents.

### 1.2 **Operational Status.**

Both ATS units shall keep each other advised of any changes in the operational status of the facilities and navigational aids which may affect the procedures specified in this Letter of Agreement.

- 2 Areas of Responsibility for the Provision of ATS.
- 2.1 Areas of Responsibility.

The lateral and vertical limits of the respective areas of responsibility are as follows:

### 2.1.1 Unit 1

Lateral limits:

Vertical limits:

ICAO airspace classification for the area of responsibility of Unit 1 along the common boundary of the areas of responsibility of Unit 1 and Unit 2 is described in Appendix B to this Letter of Agreement.

**UNIT 2 LOGO UNIT 1 LOGO** 

#### Unit 2 2.1.2

Lateral limits:

Vertical limits:

ICAO airspace classification for the area of responsibility of Unit 2 along the common boundary of the areas of responsibility of Unit 1 and Unit 2 is described in Appendix B to this Letter of Agreement.

#### 2.2 Areas for Cross Border Provision of ATS.

The areas defined as a result of the:

- An inter-State Level Agreement for the delegation of the responsibility for the provisions of ATS; or
- A direct designation by a Member State of an air traffic service provider holding a valid certificate in the Community; or
- An air traffic service provider availing itself of the services of another service provider that has been certified in the Community

are to be considered areas for cross border provision of ATS.

These areas defined in other agreements as shown above will be described in this section. The description should address physical dimension as well as the rules and regulations applicable to those areas.

#### 3 Procedures.

3.1 The procedures to be applied by Unit 1 and Unite 2 are detailed in the Appendices to this Letter of Agreement:

Appendix A: Definitions and Abbreviations

Appendix B: Area of Common Interest

Appendix C: Exchange of Flight Data

Appendix D: Procedures for Co-ordination

Appendix G: Air Traffic Flow Management

Appendix E: Transfer of Control and Transfer of Communications Appendix F: ATS Surveillance Based Co-ordination Procedures

Appendix H: Contingency Procedures

3.2 These procedures shall be promulgated to the operational staff of the ATS units concerned.

#### 4 **Revisions and Deviations.**

When deemed necessary by the signatories, the content of the present Letter of Agreement can be reviewed at regular intervals to assess the need for revisions of the Letter of Agreement and its Appendixes.

#### 4.1 Revision of the Letter of Agreement.

The revision of the present Letter of Agreement, excluding Appendices and their Attachments, requires the mutual written consent of the signatories.

### 4.2 Revision of the Appendices to the Letter of Agreement.

The revision of Appendices to the present Letter of Agreement requires mutual consent of the respective authorities as represented by signatories.

### 4.3 **Temporary Deviations.**

Where special situations or unforeseen developments arising at short notice require immediate action, the Supervisors of the two ATS units may, by mutual agreement, effect temporary provisions to meet such requirements.

Such provisions shall, however, not exceed 48 hours in duration unless sanctioned by signatories to this LoA.

#### 4.4 Incidental Deviations.

4.4.1 Instances may arise where incidental deviations from the procedures specified in the Appendices to this Letter of Agreement may become necessary. Under these circumstances air traffic controllers and operational supervisors are expected to exercise their best judgement to ensure the safety and efficiency of air traffic.

### 5 Cancellation.

5.1 Cancellation of the present Letter of Agreement may take place by mutual agreement of the respective Approving Authorities.

### 6 Interpretation and Settlement of Disputes.

- 6.1 Should any doubt or diverging views arise regarding the interpretation of any provision of the present Letter of Agreement or in case of dispute regarding its application, the parties shall endeavour to reach a solution acceptable to both of them.
- 6.2 Should no agreement be reached, each of the parties shall refer to a higher level of its national aviation administration, to which the dispute shall be submitted for settlement.

**UNIT 1 LOGO** 

Validity.	
This Letter of Agreement be agreement between Unit 1 ar	pecomes effective xxx and supersedes previous Letter of and Unit 2.
Date:	Date:
Name Title	— Name Title
Authority 1	Authority 2

### Appendix A.

#### **Definitions and Abbreviations.**

Unit 1 Unit 2

Revision: xxxx

Effective: xx xxxx xxxx

Revised: xxx

#### A.1 Definitions.

The definitions may change based on the ATS unites requirements

### A.1.1 ATS Area of Responsibility.

An Airspace of defined dimensions where a sole ATS unit has responsibility for providing air traffic services.

### A.1.2 Area of Common Interest.

A volume of airspace as agreed between 2 ATS Units, extending into the adjacent/subjacent Areas of Responsibility, within which airspace structure and related activities may have an impact on air traffic co-ordination procedures.

### A.1.3 **General Air Traffic (GAT).**

All flights which are conducted in accordance with the rules and procedures of ICAO and/or the national civil aviation regulations and legislation.

#### A.1.4 Operational Air Traffic (OAT).

All flights which do not comply with the provisions stated for GAT and for which rules and procedures have been specified by appropriate national authorities.

### A.1.5 Reduced Vertical Separation Minimum (RVSM).

A vertical separation minimum of 300 m (1 000 ft) which is applied between FL 290 and FL 410 inclusive, on the basis of regional air navigation agreements and in accordance with conditions specified therein.

#### A.1.5.1 RVSM Approved Aircraft.

Aircraft that have received State approval for RVSM operations.

#### A.1.6 Release.

#### A.1.6.1 Release for Climb.

An authorization for the accepting unit to climb (a) specific aircraft before the transfer of control.

Note: The transferring unit/sector remains responsible within its Area of Responsibility for separation between the transferred aircraft and other aircraft unknown to the accepting unit/sector, unless otherwise agreed.

#### A.1.6.2 Release for Descent.

An authorization for the accepting unit to descend (a) specific aircraft before the transfer of control.

Note: The transferring unit/sector remains responsible within its Area of Responsibility for separation between the transferred aircraft and other aircraft unknown to the accepting unit/sector, unless otherwise agreed.

### A.1.6.3 Release for Turn.

An authorization for the accepting unit to turn (a) specific aircraft away from the current flight path by not more than 45 ° before the transfer of control.

Note: The transferring unit/sector remains responsible within its Area of Responsibility for separation between the transferred aircraft and other aircraft unknown to the accepting unit/sector, unless otherwise agreed.

### A.1.7 State Aircraft.

For the purposes of RVSM, only aircraft used in military, customs or police services shall qualify as State aircraft.

#### A.1.8 Transfer of Control Point (TCP).

A TCP is a defined point, located along a flight path of an aircraft, at which the responsibility for providing ATS to the aircraft is transferred from one ATC unit of control position of the next.

# A.2 Abbreviations. (Should be review at last)

<b>A</b> BI	Advance Boundary Information	LAM	Logical Acknowledge (Message Type Designator)
ACC	Area Control Centre	LoA*	Letter of Agreement
ACI*	Area of Common Interest	LOF*	Logon Forward Message (OLDI)
ACT	Activation Message	MAC*	Message for Abrogation of Coordination (OLDI)
AIP	Aeronautical Information Publication	MFC*	Multi Frequency Coding (telephone system)
AoR*	Area of Responsibility	NAN*	Next Authority Notified Message (OLDI)
APP	Approach Control	NM	Nautical Mile
ATC	Air Traffic Control	<b>O</b> AT	Operational Air Traffic
ATCA	Air Traffic Control Assistant	OLDI	On Line Data Interchange
ATCO	Air Traffic Control Officer	REV*	Revision Message
ATS	Air Traffic Services	RTF	Radio Telephony
CBA*	Cross Border Area	RVSM	Reduced Vertical Separation Minimum
CDR*	Conditional Route	SID	Standard Instrument Departure
COP*	Coordination Point	SSR	Secondary Surveillance Radar
ETO	Estimated Time Over Significant Point	STAR	Standard Terminal Arrival Route
<b>F</b> DPS	Flight Data Processing System		
FIC	Flight Information Centre	TSA*	Temporary Segregated Airspace
FIR	Flight Information Region	TCP	Transfer of Control Point
FMP*	Flow Management Position	UIR	Upper flight information region
<b>G</b> AT*	General Air Traffic		
ICAO	International Civil Aviation Organization		
IFR	Instrument Flight Rules		

Note: Abbreviations marked with an \* are non-ICAO abbreviations.

UNIT 1 LOGO

# A.3 Validity

This Appendix to the LoA ta	kes effect on	XXX XXXX	xxxx and	supersedes	previous
Appendix to Letter of arrangem	nents between	Unit 1 and	l Unit 2.		
Date:		[	Date:		
	-	-			
Name				Name	
Title				Title	
Authority 1				Authority 2	

### Appendix B.

#### Area of Common Interest.

Unit 1 Unit 2

Revision: xxxx

Effective: xx xxxx xxxx

Revised: xxx

Controllers are required to be familiar with the airspace structure and restrictions existing immediately beyond the area of responsibility. This airspace has been called the Area of Common Interest (ACI). The extent to which that airspace will be described will be determined at the level of development of a particular Letter of Agreement. The description of the ACI is a mandatory element of a Letter of Agreement. The ACI, as a minimum, shall contain all of the cross-border ATS Routes.

- **B.1** Airspace Structure and Classification within the Area of Common Interest.
- B.1.1 Unit 1 FIR/UIR

Area	Vertical limits	Airspace Classification

#### B.1.2 Unit 1 FIR/UIR

Area	Vertical limits	Airspace Classification

**B.2** Sectorisation within the Area of Common Interest.

The sectorisation within the ACI is shown in Attachment 1 of Appendix B.

**B.3** Special Areas within the Area of Common Interest.

This section should describe the special areas within the area of common interest

B.3.1 Areas for Cross-Border Provision of ATS defined with other ATS Units within the ACI.

**UNIT 1 LOGO** 

### B.3.2 Other Areas.

Those areas that can directly influence the exchange of traffic, such as CBAs, TSAs, AMC-manageable Restricted or Danger Areas and Prohibited Areas, shall be depicted here.

### **B.4** Non-published Co-ordination Points.

COPs that are not related to significant points published in relevant AIPs

COP	Coordinate

### **B.5** Validity

This Appendix to the LoA takes effect on xxx xxxx xxxx and supersedes previous Appendix to Letter of arrangements between the Unit 1 and Unit 2.

Date:	Date:
Name	Name
Title	Title
Authority 1	Authority 2

# Attachment 1 of Appendix B

Sectorisation.

A Map detailing the sectors boundaries shall be added

UNIT 1 LOGO

Not to scale

### Appendix C (1).

## **Exchange of Flight Data.**

(With automatic data exchange)

Unit 1 Unit 2

Revision: xxxx

Effective: xx xxxx xxxx

Revised: xxx

#### C.1 General.

### C.1.1 Basic Flight Plans.

Basic flight plan data should normally be available at both ATS Units.

### C.1.2 Current Flight Plan Data.

Messages, including current flight plan data, shall be forwarded by the transferring ATS unit to the accepting ATS unit either by automatic data exchange or by telephone to the appropriate sector/position.

### C.1.2.1 Automatic Data Exchange.

ABI/ACT/LAM/PAC/REV/MAC messages are exchanged between the two ATS units in accordance with Attachment 1 to Appendix C.

### C.1.2.2 Verbal Estimates.

For conditions that are not supported by the automatic data exchange, verbal estimates will be exchanged.

A verbal estimate shall be passed to the appropriate sector at the accepting ATS unit at least value minutes prior, but not earlier than 30 minutes before the aircraft is estimated to pass the transfer of control point.

### A verbal estimate shall contain:

#### a) Callsign.

Note: To indicate that the flight plan is available, the accepting ATS unit should state aircraft type and destination after having received the callsign.

#### b) SSR code:

Note: Normally, the notification of a SSR code indicates that the selection of that code by the aircraft was verified.

- c) ETO for the appropriate COP as laid down in Appendix D to this LoA.
- d) Cleared level, specifying climb or descent conditions if applicable, at the transfer of control point.

Requested level if different from cleared level.

e) Other information, if applicable.

Normally, verbal estimates will not be passed in parallel with ACT messages.

In all cases, verbally passed data shall take precedence over data exchanged automatically.

### C.1.2.3 Failure of Automatic Data Exchange.

In the event of a failure which prevents the automatic transfer of data, the Supervisors shall immediately decide to revert to the verbal exchange of estimates.

After recovery from a system failure, the Supervisors shall agree as to when they will revert to automatic data exchange.

#### C.1.3 Non-availability of Basic Flight Plan Data.

If the accepting ATS unit does not have basic flight plan data available, additional information may be requested from the transferring ATS unit to supplement the ACT message or a verbal estimate.

Within the context of RVSM, such additional information should include:

- a. the RVSM approval status of the aircraft; and
- b. whether or not a non-RVSM approved aircraft is a State aircraft.

#### C.1.4 Revisions.

Any significant revisions to the flight data are to be transmitted to the accepting ATS unit.

Time differences of value minutes or more are to be exchanged.

Any levels which different than describe in Appendix D of this LOA are subject to an Approval Request.

### C.1.5 Expedite Clearance and Approval Requests.

Whenever the minimum time of value minutes for a verbal estimate, or those prescribed in Attachment 1 to Appendix C for ACT messages, cannot be met, either an expedite clearance request, an approval request (or a PAC), as appropriate, shall be initiated.

#### C.2 Means of Communications and their Use.

## C.2.1 **Equipment.**

The following lines are available between Unit 1 and Unit 2:

Line Type	Amount	Additional Information
Data Line		
Telephone Lines		

<sup>&</sup>quot;Additional Information" column should indicate if telephone lines meet the requirements for Direct Controller-Controller Voice Communication (DCCVC) or Instantaneous Direct Controller-Controller Voice Communication (ICCVC)

### C.2.2 Verbal Co-ordination.

All verbal communications between non-physically adjacent controllers should be terminated with the initials of both parties concerned.

Exchange of flight plan data, estimates and control messages by voice shall be carried out in accordance with the following tables:

## C.2.2.1 Messages from Unit 1 to Unit 2.

Receiving Sector/COPs	Message	Position
	Flight Plan Data and Estimates	
Sector Name COPs	Control Messages, Expedite Clearances, Approval Requests and Revisions	
	Surveillance Co-ordination	

# C.2.2.2 Messages from Unit 2 to Unit 1.

Receiving Sector/COPs	Message	Position
Sector Name	Flight Plan Data and	
	Estimates	

COPs	Control Messages, Expedite Clearances, Approval Requests and Revisions	
	Surveillance Co-ordination	

### **C.3** Failure of Ground/Ground Voice Communications.

#### C.3.1 Fall-Back Procedures for Co-ordination.

To mitigate the effects of failures of direct speech circuits, both parties will establish and maintain dial-up facilities via PABX and ATC Voice Communications Systems (VCS) as follows:

Sector Name Tel Number (For Both Units)

Stand-alone telephones with auto-dial facilities will be maintained as a second level of fall-back to cover the event of failure of PABX or VCS:

Sector Name Tel Number (For Both Units)

#### C.3.2 Alternate Fall-Back Procedures for Co-ordination.

In case of communications failure where the alternatives described in paragraph C.3.1 above are not available or practicable, pilots shall be instructed, at least 5 minutes prior to the transfer of control point, to pass flight data on the appropriate frequency of the accepting ATS unit for the purpose of obtaining an ATC entry clearance from the accepting ATS unit.

If the accepting ATS unit cannot issue an entry clearance to the pilot upon his initial contact, the pilot shall be instructed to inform the transferring ATS unit accordingly via RTF.

The transferring ATS unit shall hold the aircraft within its AoR and after a minimum of 10 minutes instruct the pilot to re-establish RTF contact with the accepting ATS unit.

This procedure shall be repeated until an onward clearance has been obtained from the accepting ATS unit.

#### C.4 Validity

This Appendix to the LoA takes effect on xxx xxxx xxxx and supersedes previous Appendix to Letter of arrangements between the Unit 1 and Unit 2.

Date: Date:

UNIT 1 LOGO	UNIT 2 LOGO
Name	Name
Title	Title
Authority 1	Authority 2

UNIT 1 LOGO

# Attachment 1 to Appendix C (1)

# **Automatic Data Exchange.**

ABI/ACT/LAM messages are exchanged between the two ATS units in accordance with the table below:

		Time and/or Distance Parameters		
Messages	COPs	Messages from Unit 1	Messages from Unit 1	
		To Unit 2	To Unit 2	
ABI				
ACT				
LAM				
D ((V)				
REV				
PAC				
MAC				
LOF				
NAN				

# Appendix C (2).

### **Exchange of Flight Data.**

(Without automatic data exchange)

Unit 1 Unit 2

Revision: xxxx

Effective: xx xxxx xxxx

Revised: xxx

#### C.1 General.

### C.1.1 Basic Flight Plans.

Basic flight plan data should normally be available at both ATS Units.

### C.1.2 Current Flight Plan Data.

Messages, including current flight plan data, shall be forwarded by the transferring ATS unit to the accepting ATS unit by telephone to the appropriate sector/position.

#### C.1.2.1 Verbal Estimates.

A verbal estimate shall be passed to the appropriate sector at the accepting ATS unit at least value minutes prior, before the aircraft is estimated to pass the transfer of control point.

#### A verbal estimate shall contain:

#### a) Callsign.

Note: To indicate that the flight plan is available, the accepting ATS unit should state aircraft type and destination after having received the callsign.

### b) SSR code:

Note: Normally, the notification of a SSR code indicates that the selection of that code by the aircraft was verified.

- c) ETO for the appropriate COP as laid down in Appendix D to this LoA.
- d) Cleared level, specifying climb or descent conditions if applicable, at the transfer of control point.

Requested level if different from cleared level.

### e) Other information, if applicable.

### C.1.3 Non-availability of Basic Flight Plan Data.

If the accepting ATS unit does not have basic flight plan data available, additional information may be requested from the transferring ATS unit to supplement verbal estimate.

Within the context of RVSM, such additional information should include:

- a. the RVSM approval status of the aircraft; and
- b. whether or not a non-RVSM approved aircraft is a State aircraft.

#### C.1.4 Revisions.

Any significant revisions to the flight data are to be transmitted to the accepting ATS unit.

Time differences of value minutes or more are to be exchanged.

Any levels which different than describe in Appendix D of this LOA are subject to an Approval Request.

### C.1.5 Expedite Clearance and Approval Requests.

Whenever the minimum time of value minutes for a verbal estimate, cannot be met, either an expedite clearance request, an approval request, as appropriate, shall be initiated.

#### C.2 Means of Communications and their Use.

#### C.2.1 **Equipment.**

The following lines are available between Unit 1 and Unit 2:

Line Type	Amount	Additional Information
Telephone Lines		

"Additional Information" column should indicate if telephone lines meet the requirements for Direct Controller-Controller Voice Communication (DCCVC) or Instantaneous Direct Controller-Controller Voice Communication (ICCVC)

### C.2.2 Verbal Co-ordination.

All verbal communications between non-physically adjacent controllers should be terminated with the initials of both parties concerned.

Exchange of flight plan data, estimates and control messages by voice shall be carried out in accordance with the following tables:

## C.2.2.1 Messages from Unit 1 to Unit 2.

Receiving Sector/COPs	Message	Position
	Flight Plan Data and Estimates	
Sector Name COPs	Control Messages, Expedite Clearances, Approval Requests and Revisions	
	Surveillance Co-ordination	

### C.2.2.2 Messages from Unit 2 to Unit 1.

Receiving Sector/COPs	Message	Position
	Flight Plan Data and Estimates	
Sector Name COPs	Control Messages, Expedite Clearances, Approval Requests and Revisions	
	Surveillance Co-ordination	

### **C.3** Failure of Ground/Ground Voice Communications.

#### **C.3.1** Fall-Back Procedures for Co-ordination.

To mitigate the effects of failures of direct speech circuits, both parties will establish and maintain dial-up facilities via PABX and ATC Voice Communications Systems (VCS) as follows:

Sector Name Tel Number (For Both Units)

Stand-alone telephones with auto-dial facilities will be maintained as a second level of fall-back to cover the event of failure of PABX or VCS:

Sector Name Tel Number (For Both Units)

#### C.3.2 Alternate Fall-Back Procedures for Co-ordination.

In case of communications failure where the alternatives described in paragraph C.3.1 above are not available or practicable, pilots shall be instructed, at least 5 minutes prior to the transfer of control point, to pass flight data on the appropriate frequency of the accepting ATS unit for the purpose of obtaining an ATC entry clearance from the accepting ATS unit.

If the accepting ATS unit cannot issue an entry clearance to the pilot upon his initial contact, the pilot shall be instructed to inform the transferring ATS unit accordingly via RTF.

The transferring ATS unit shall hold the aircraft within its AoR and after a minimum of 10 minutes instruct the pilot to re-establish RTF contact with the accepting ATS unit.

This procedure shall be repeated until an onward clearance has been obtained from the accepting ATS unit.

### C.4 Validity

This Appendix to the LoA takes effect on xxx xxxx xxxx and supersedes previous Appendix to Letter of arrangements between the Unit 1 and Unit 2.

Date:			Date:	
		-		_
	Name		Name	
	Title		Title	
	Authority 1		Authority 2	

### Appendix D.

#### **Procedures for Co-ordination.**

Unit 1 Unit 2

Revision: xxxx

Effective: xx xxxx xxxx

Revised: xxx

- D.1 General Conditions for Acceptance of Flights.
- D.1.1 Co-ordination of flights shall take place by reference to the coordination point (COP) and in accordance with the appropriate levels specified for the relevant route (see paragraphs D.2 and D.3).
- D.1.2 Flights shall be considered to be maintaining the co-ordinated level at least (value) prior to transfer of control point unless climb or descent conditions have been clearly stated by use of crossing conditions in the *PAC/ACT(OLDI)* or by verbal co-ordination, except if otherwise described in paragraphs D.2 or D.3.
- D.1.3 If the accepting ATS unit cannot accept a flight offered in accordance with the conditions specified above, it shall clearly indicate its inability and specify the conditions under which the flight will be accepted.
- D.1.4 For any proposed deviation from the conditions specified in this Appendix (e.g. COP, route or level) the transferring unit shall initiate an Approval Request.
- D.1.5 The accepting ATS unit shall not notify the transferring ATS unit that it has established ground-air communications with the transferred aircraft unless specifically requested to do so. The Accepting Unit shall notify the transferring Unit in the event that communication with the aircraft is not established as expected.

Reference to: ICAO Doc 4444, Chapter 10, Paragraph 10.1.2.4.3:

D.2 ATS-Routes, Co-ordination Points and Level Allocation.

Available ATS-routes, COPs to be used and level allocation to be applied, unless otherwise described in paragraph D.3, are described in the tables below.

- D.2.1 Flights from Unit 1 to Unit 2.
- D.2.1.1 General
- D.2.1.1.1 All information regarding transfer procedures shall be included.

ATS-Route	СОР	Receiving Sector	Level Allocation	Special Conditions

- D.2.2 Flights from Unit 2 to Unit 1.
- D.2.2.1. General
- D.2.2.1.1 Same shall be applied.

ATS-Route	СОР	Receiving Sector	Level Allocation	Special Conditions

### **D.3** Special Procedures.

All special procedures which cannot be accommodated in the "Special Conditions" column of paragraph D.2 shall be outlined in this section

- D.3.1 Flights from Unit 1 to Unit 2.
- D.3.2 Flights from Unit 2 to Unit 1.
- D.4 Co-ordination of Status of Special Areas in the Area of Common Interest.

Both ATS units shall keep each other advised on any changes of the activation times of CDRs and of activation times for the following CBAs, TSAs and AMC-manageable restricted or danger areas:

- D.4.1 Unit 1 shall inform Unit 2 about changes for the following areas:
- D.4.2 Unit 2shall inform Unit 1 about changes for the following areas:
- D.5 VFR flights.
- D.5.1 Flights from Unit 1 to Unit 2.
- D.5.2 Flights from Unit 2 to Unit 1.

D.6	Validity		
	This Appendix to the LoA takes effect of Appendix to Letter of arrangements between	· ·	previou
	Date:	Date:	
	Name Title Authority 1	Name Title Authority 2	

# Appendix E

### Transfer of Control and Transfer of Communications.

Unit 1 Unit 2

Revision: xxxx

Effective: xx xxxx xxxx

Revised: xxx

In order to optimize the provision of ATS, it is recommended that the Transfer of Communication takes place before the Transfer of Control, at a point/time/distance as agreed upon between the transferring and accepting ATS Units.

#### **E.1** Transfer of Control.

The transfer of control takes place at the AoR-boundary, unless otherwise specified in paragraph E.3.

#### **E.2** Transfer of Communications.

E.2.1 The transfer of communications shall take place not later than (time, distance or level parameter), and not sooner than (time, distance or level parameter) before the transfer of control and as specified in paragraph E.3, unless otherwise co-ordinated.

A parameter (time, distance or level) should be specified for the transfer of communications, whenever it is operationally significant. (e.g. for protection of a communication channel).

### **E.2.2** Frequencies

### E.2.2.1 <u>Unit 1</u>

Sactors	Frequencies	
Sectors	Primary Secondary	

### E.2.2.2 Unit 2

Costors	Frequencies	
Sectors	Primary	Secondary

# UNIT 1 LOGO

# **E.3** Specific Points for Transfer of Control and Transfer of Communications.

ATS Route	Transfer of Control Point	Transfer of Communications
	Unit 1 to Unit 2	Unit 2 to Unit 1

# E.4 Validity

This	Appendix	to	the	LoA	takes	effect	on	XXX	$\mathbf{X}\mathbf{X}\mathbf{X}\mathbf{X}$	XXXX	and	supersedes	previous
Appendix to Letter of arrangements between the Unit 1 and Unit 2.													

Date:	Date:
Name	Name
Title	Title
Authority 1	Authority 2

### Appendix F.

#### **ATS Surveillance Based Co-ordination Procedures.**

Unit 1 Unit 2

Revision: xxxx

Effective: xx xxxx xxxx

Revised: xxx

#### F.1 General

- F.1.1. Transfer of identification and transfer of control between Unit 1 and Unit 2 will be subject to the serviceability of the respective surveillance systems and two-way direct speech facilities between the controller working positions.
- F1.2 In case of any doubt about the identity of an aircraft, nothing in the provisions of this Appendix, prevents the use of others methods for the identification of an aircraft

#### F.2 Transfer of Aircraft Identification

Subject to the surveillance technology available to both units concerned, the transfer of identification should be effected preferably by one of the methods described below:

- Designation of the position indication by automated means, provided that only one position indication is thereby indicated and there is no possible doubt of correct identification;
- Notification of the aircraft discrete SSR code;
- Notification that the aircraft identification transmitted by a Mode S equipped aircraft has been verified;
- Notification that the aircraft identification transmitted by an ADS B equipped aircraft has been verified.
- F.2.1 Transfer of aircraft identification between Unit 1 and Unit 2 is normally performed by [one or more methods for the transfer of identification].

It is recommended that in cases when multiple surveillance technologies are available to both ATS units concerned, paragraph F2.1 should illustrate one or more preferred methods for the transfer of aircraft identification, the conditions in which those apply and the alternatives to be used when the conditions are not met.

For example, at an interface between two ATS units using radar Mode S and MSSR the transfer of identification should normally be performed:

- by notification of A1000 indicating that the Mode S aircraft identification feature transmitted by the transponder has been verified;
- or, in case that the aircraft identification is not correct or has not been verified or the aircraft is not Mode S equipped:
- by notification of the aircraft discrete SSR code.

- F.2.2 When discrete SSR codes are used for transfer of identification, they shall be assigned in accordance with ORCAM.
- F.2.3 Any change of SSR code by the accepting ATS Unit may only take place after the transfer of control point.
- F.2.4 The accepting ATS Unit shall be notified of any observed irregularity in the operation of SSR transponders or ADS-B transmitters.

Such irregularities should cover at least the following cases:

- transponders transmitting erroneous aircraft identification;
- transponders transmitting SSR codes different then the selection of which have been confirmed by the pilots;
- transponders transmitting erroneous Mode C information.

#### F.3 Transfer of Control.

- F.3.1 All traffic must be transferred "clean" i.e. clear of all conflicting traffic under control of the transferring unit.
- F.3.2 Where separation is based on the use of surveillance as per ICAO DOC 4444, a minimum of 5NM shall be used during transfer.
- F.3.3 Transfer of identification of IFR flights shall be accomplished in accordance with ICAO DOC 4444.
- F.3.4 If it becomes necessary to reduce or suspend transfers of control, a value prior notification shall be observed, except in emergency situations.
- F.3.5 A minimum distance of **value** NM to the boundary line of responsibility shall be observed when vectoring aircraft, except when a transfer of radar control has previously been coordinated.
- F.3.6 Transfer of Control without systematic use of the bi-directional speech facilities (Silent Transfer of Control)
- F.3.6.1 Transfer of control of IFR flights without voice coordination will be in accordance with ICAO DOC 4444 Chapter 8 provided that:
  - a) Value surveillance in trail spacing exists, and is constant or increasing.
  - b) Value minutes notice, when possible, is required for an increase in in-trail spacing.

Note: "Transfer" is defined as transfer of communications and control.

F.3.6.2 The transferring controller shall inform the accepting controller of any level, speed or vectoring instructions given to aircraft prior to its transfer and which modify its anticipated flight progress at the point of transfer.

Note: When using Mach-number speed control, pilots concerned shall be instructed to report their assigned mach-number to the accepting ATS Unit upon initial contact.

F.3.6.3 The accepting controller may terminate the silent transfer of control at any time, normally with an advance notice of value minutes.

### F.3.7 Transfer of Control with use of the bi-directional speech facilities.

Transfer of control may be effected with the use of bi-directional speech facilities, provided the minimum distance between the aircraft does not reduce to less than [value to be specified] NM, and:

- identification has been transferred to or has been established directly by the accepting controller;
- the accepting controller is informed of any level, speed or vectoring instructions applicable to the aircraft at the point of transfer;
- communication with the aircraft is retained by the transferring controller until
  the accepting controller has agreed to assume responsibility for providing ATS
  surveillance service to the aircraft. Thereafter, the aircraft should be instructed
  to change over to the appropriate frequency and from that point is the
  responsibility of the accepting controller.

### F.4 Validity

	kes effect on xxx xxxx xxxx and supersedes previous nents between the Unit 1 and Unit 2.
Date:	Date:
Name	Name
Title Authority 1	Title Authority 2

## Appendix G.

#### **Air Traffic Flow Management**

Unit 1 Unit 2

Revision: xxxx

Effective: xx xxxx xxxx

Revised: xxx

#### G.1 General

- G.1.1 This Appendix to the Letter of Agreement (LOA) between the Unit 1 and Unit 2 sets out the details of tactical Air Traffic Flow Management (ATFM) measures for application at times of traffic congestion.
- G.1.2 Only tactical ATFM operations will be implemented.
- G.1.3 The accepting unit determines the flow rate for transfer.
- G.1.4 The general provisions contained in ICAO Appendix 11 and Doc 4444 shall apply to handling of traffic subject to flow control.

#### **G.2** ATFM Procedures

G.2.1 Flow control measures shall, when possible, be implemented in such a manner as to avoid affecting flights already airborne.

#### G.2.2 Notification

The Unit 1 shall notify Unit 2 not less than value minutes prior to the time ATFM measures will affect departing aircraft.

Unit 2 shall inform the Unit 1 about flights which have already started and flight planned on affected ATS Routes.

The notification shall detail the ATS Routes and levels being subject to ATFM as well as the expected duration.

### **G.2.3** Implementation

The accepting unit shall, to the widest possible extent, address limitations in capacity for given routes or destinations by specifying restrictions on available levels and longitudinal

separation to enable the transferring unit to forecast delays and plan traffic flows accordingly.

# **G.3** Reporting

Flow reporting is required for all ATFM measures.

# G.4 Validity

This	Appendix	to	the	LoA	takes	effect	on	XXX	XXXX	XXXX	and	supersedes	previous
Appendix to Letter of arrangements between the Unit 1 and Unit 2.													

Date:	Date:
Name Title Authority 1	Name Title

## Appendix H.

### **Contingency Procedures**

Unit 1 Unit 2

Revision: xxxx

Effective: xx xxxx xxxx

Revised: xxx

#### H. 1 General

- H.1.2 In case of technical or catastrophic outage resulting in the disruption of the provision of ATS at Unit 1 or at Unit 2, the adjacent coordinating partners are expected to assist the failing ATS-unit as far as possible in order to ensure the safe evacuation of air traffic from the AoR of the failing ATS-unit.
- H.1.3 In case of contingency the regulations of this chapter take precedence over the respective provisions of Appendices A to F to this LoA.
- H.1.4 In case of activation of contingency plans ATSU's should send the associated Contingency NOTAM.

#### H.1.5 Contingency phases

#### Phase 1 - Immediate Action (30 min)

A dangerous situation has been identified. Focuses on the safe handling of aircraft in the airspace of failing unit, using all technical means still operationally available.

#### Phase 2 - Short/ Medium Term Actions (< 48 hours)

Focused on stabilising the situation and, if necessary, preparing for longer term contingency agreements.

#### Phase 3 - Initiation of the option

Content depend on the strategy considered. For instance, action taken in the case of "Relocation" – starts when stuff of the failing unit arrives at the aiding unit.

### Phase 4 - Optimisation

The aim of Phase 4 is to optimize capacity gradually up to maximum potential within published or reduced ICAO route and sectorisation structure in line with previously agreed end-user and regulator expectation.

#### Phase 5 - Recovery

The aim of Phase 5 is to revert back to the original unit and working position in a safe and orderly manner.

- H.1.6 Phase 1 lasts approximately 30 minutes. Immediate Action can overlap with Phase 2.
- H.1.7 The passage from one phase to another is possible directly from any Contingency Phase.

#### H.2 Disruption of the provision of ATS at Unit 1

### H.2.1 Contingency Phase 1- Immediate Action

When the operational status of Unit 1 becomes impaired to such an extent, that ATS can no longer be provided, the Unit 1 Supervisor shall initiate the immediate actions to be taken in Phase 1 of the Unit 1 Contingency Plan.

#### H.2.1.1 Evacuation of Unit 1 AoR

- H.2.1.1.1 If necessary and possible, measures shall be agreed in order to ensure the safe evacuation of all controlled air traffic from the AoR of Unit 1.
- H.2.1.1.2 When the operations of Unit 1 have ceased and all traffic has been transferred to the appropriate agency, the Supervisor in charge of operations shall declare Contingency Phase 1 for Unit 1.

#### H.2.1.1.3 From this time on:

- the AoR of Unit 1 shall be called the Contingency Area (CA) until full serviceability of Unit 1 is recovered,
- the CA is a No-Fly-Zone, entry is prohibited until contingency Phase 1 is activated,
- Phraseology to be used: Unit 1 is out of service; stop ALL entries into the Contingency Area (CA), start evacuation of the CA.

#### H.2.1.2 Delegation of Unit 1 AoR

(As appropriate)

The delegation of Unit 1 AoR is shown in Attachment 1 of Appendix H.

#### H.2.1.3 Simplified route structure

(As appropriate)

H.2.1.4 Contingency Flight Level Allocation System - CFLAS

(As appropriate)

H.2.1.5 Contingency Contact Point (CCP) Unit 1

(As appropriate)

#### H.2.2 Contingency Phase 2- Short/Medium term actions

Appropriate associated Phase 1 actions as described in H.2.1.2 to take place.

## H.2.3 Contingency Phase 3 – Initiation of the option

- H.2.3.1In Contingency Phase 3 Unit 1 re-establishes the provision of ATS within its AoR by combining ATC sectors to contingency sectors. These Contingency sectors will be relocated to Unit 1 emergency sector.
- H.2.3.2The Contingency Sectors will correspond to existing sectors at Unit 1 ACC:

(As appropriate)	То	Unit 1 Contingency Sector 1
------------------	----	-----------------------------

### H.2.3.3 Activation / Deactivation

Unit 1 Contingency Contact Point shall inform the Supervisor Unit 2 about the activation and deactivation of the Contingency Sectors.

#### H.2.3.4 ATFM Procedures

Necessary ATFM-measures to be applied during Contingency Phase 3 will be initiated by the Unit 1 Supervisor.

### H.2.3.5 Exchange of Flight Data

(As appropriate)

#### H.2.3.6 Control Procedures

- H.2.3.6.1 Deviations from published ATS-routes shall be coordinated only to prevent dangerous situations or in case of emergencies.
- H.2.3.6.2 Separation minima between succeeding aircraft on transfer shall be a minimum of value constant or increasing.

### H.2.3.7 Contingency sectors and communications

Unit 1 Contingency Sectors	Message	Position	Phone/ Frequency
	Flight Plan Data and Estimates	ATCA	

Control Messages, Expedite Clearances, Approval Requests and Revisions	ATCO	
Surveillance Co-ordination	ATCO	

#### H.2.3.8 Voice Communication Systems

All coordination partners of Unit 1 shall make sure that they are able to reach the Unit 1 contingency working positions via prescribed phone lines, taking into consideration that Unit 1 is completely off, including the technical systems. Public Phone shall be used as back up system.

#### H.2.3.9 Callsign

Telephone call sign for Unit 1 in case of contingency: Unit 1 + name of working position (e.g. North)

#### H.2.3.10 SSR Code Assignment

During contingency, Unit 1 may not be able to transfer aircraft on discrete SSR codes, or on code 1000, assigned in accordance with ORCAM.

### H.2.4 Contingency Phase 4 – Optimisation

Appropriate associated Phase 3 actions to take place.

### H.2.5 Contingency Phase 5 – Long-term Response and Recovery

H.2.5.1 Unit 1 will inform Unit 2 of intention to "Normal" operations and will co-ordinate the time at which normal operation will be resumed.

#### H.2.5.2 Once Unit 1 notifies Unit 2 the end of contingency:

- Unit 1 and Unit 2 will cancel any operational restrictions and will resume the standard ATS.
- Both units will apply the standard operational procedures stated in Appendices A to F of this LoA.

#### H.3 Disruption of the provision of ATS at Unit 2

#### H.3.1 Contingency Phase 1- Immediate Action

When the operational status of Unit 2 becomes impaired to such an extent, that ATS can no longer be provided, the Unit 2 Supervisor shall initiate the immediate actions to be taken in Phase 1 of the Unit 2 Contingency Plan.

### H.3.1.1 Evacuation of Unit 2 AoR

- H.3.1.1.1 If necessary and possible, measures shall be agreed in order to ensure the safe evacuation of all controlled air traffic from the AoR of Unit 2.
- H.3.1.1.2 When the operations of Unit 2 have ceased and all traffic has been transferred to the appropriate agency, the Supervisor in charge of operations shall declare Contingency Phase 1 for Unit 2.

#### H.3.1.1.3 From this time on:

- the AoR of Unit 2 shall be called the Contingency Area (CA) until full serviceability of Unit 2 is recovered,
- the CA is a No-Fly-Zone, entry is prohibited until contingency Phase 1 is activated,
- Phraseology to be used: Unit 2 is out of service; stop ALL entries into the Contingency Area (CA), start evacuation of the CA.

#### H.3.1.2 Delegation of Unit 2 AoR

(As appropriate)

The delegation of Unit 2 AoR is shown in Attachment 2 of Appendix H.

#### H.3.1.3 Simplified route structure

(As appropriate)

#### H.3.1.4 Contingency Flight Level Allocation System - CFLAS

(As appropriate)

H.3.1.5 Contingency Contact Point (CCP) Unit 2

(As appropriate)

#### H.3.2 Contingency Phase 2- Short/Medium term actions

Appropriate associated Phase 1 actions as described in H.3.1.2 to take place.

- H.3.3 Contingency Phase 3 Initiation of the option
- H.3.3.1In Contingency Phase 3 Unit 2 re-establishes the provision of ATS within its AoR by combining ATC sectors to contingency sectors. These Contingency sectors will be relocated to Unit 2 emergency sector.
- H.3.3.2 The Contingency Sectors will correspond to existing sectors at Unit 2 are:

(As appropriate)	To	Unit 2 Contingency Sector 1
(715 appropriate)	, 0	ome z contingency sector z

#### H.3.3.3 Activation / Deactivation

Unit 2 Contingency Contact Point shall inform the Supervisor Unit 1 about the activation and deactivation of the Contingency Sectors.

#### H.3.3.4 ATFM Procedures

Necessary ATFM-measures to be applied during Contingency Phase 3 will be initiated by the Unit 2 Supervisor.

#### H.3.3.5 Exchange of Flight Data

(As appropriate)

#### H.3.3.6 Control Procedures

- H.3.3.6.1 Deviations from published ATS-routes shall be coordinated only to prevent dangerous situations or in case of emergencies.
- H.3.3.6.2 Separation minima between succeeding aircraft on transfer shall be a minimum of value constant or increasing.

### H.3.3.7 Contingency sectors and communications

Unit 2	Mossago	Position	Phone/
<b>Contingency Sectors</b>	Message	Position	Frequency

Flight Plan Data and Estimates	<mark>ATCA</mark>	
Control Messages, Expedite Clearances, Approval Requests and Revisions	ATCO	
Surveillance Co-ordination	ATCO	

### H.3.3.8 Voice Communication Systems

All coordination partners of Unit 2 shall make sure that they are able to reach the Unit 2 contingency working positions via prescribed phone lines, taking into consideration that Unit 2 is completely off, including the technical systems. Public Phone shall be used as back up system.

#### H.3.3.9 Callsign

Telephone call sign for Unit 2 in case of contingency: Unit 2 + name of working position (e.g. North)

### H.3.3.10 SSR Code Assignment

During contingency, Unit 2 may not be able to transfer aircraft on discrete SSR codes, or on code 1000, assigned in accordance with ORCAM.

#### H.3.4 Contingency Phase 4 – Optimisation

Appropriate associated Phase 3 actions to take place.

#### H.3.5 Contingency Phase 5 – Long-term Response and Recovery

H.3.5.1 Unit 2 will inform Unit 1 of intention to "Normal" operations and will co-ordinate the time at which normal operation will be resumed.

#### H.3.5.2 Once Unit 2 notifies Unit 1 the end of contingency:

- Unit 2 and Unit 1 will cancel any operational restrictions and will resume the standard ATS.
- Both units will apply the standard operational procedures stated in Appendices A to F of this LoA.

#### H.4 Validity

This Appendix to the LoA takes effect on xxx xxxx xxxx and supersedes previous Appendix to Letter of arrangements between the Unit 1 and Unit 2.

Date:	Date:
Name	Name
Title	Title
Authority 1	Authority 2

Attachment 1 of Appendix H

Unit 1 Contingency Delegation Map

A Map detailing the sectors boundaries shall be added

Not to scale

Attachment 2 of Appendix H

**Unit 2** Contingency Delegation Map

A Map detailing the sectors boundaries shall be added

Not to scale