

to	Distribution list				LoA 62
from	S. Borchert, CC/FB-N	phone	0421 5372 180	date	16.06.2011
				DRF until	11.08.2011

## Amendment of the LoA between Karlsruhe UAC and Bremen ACC wef 30.06.2011

### 1. Essentials

#### Annex D

The following profile was added:

DEST EKRK via TAGOB-(U)M726 at TAGOB FL290 from OSE1 to MRZ.

Correction of the accepting sector for DEST EDVE via PODUS – MAR instead of MRZ.

### 2. List of Changes

Date	Parts	Page(s)	insert, replace, delete
30.06.2011	amendment LoA	all	replace

\_\_\_\_\_  
Axel Brandt  
Chief of Support

\_\_\_\_\_  
Jun Kurokoshi  
Chief of Section

Sector families affected:												
	North A	North B	East A	East B	South	FDS	FIS	FMP	DA	SV CC	SV FDA	office
mandatory	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
information	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
* only applicable to sector(s):												
This LoA is valid for:												
North A	North B	East A	East B	South	FDS	FIS	FMP	DA	SV CC	SV FDA	office	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
* only applicable to sector(s):												

Distribution list: LoA I

Ms G. Tröger

Mr M. König

Ms K. Fröhlich

Mr T. Teichert

Mr J. Janocha

Mr U. Voigt

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**DFS** Deutsche Flugsicherung

## LETTER OF AGREEMENT

between

**Branch Upper  
Karlsruhe UAC**

**Branch North  
Bremen ACC**

**Effective:** November 19, 2009

### **1 General.**

#### **1.1 Purpose.**

The purpose of this LoA is to define the coordination procedures to be applied between Karlsruhe UAC and Bremen ACC when providing ATS for GAT and OAT.

These procedures are supplementary to those specified in ICAO, EUROCONTROL and/or national documents, and the DFS Manual of Operations ATC Services.

#### **1.2 Operational Status.**

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

### **2 Areas of Responsibility and Delegation of the 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:

Note: See paragraph 2.2 for the description of the areas where delegation of the responsibility for the provision of ATS is applicable.

##### **2.1.1 Karlsruhe UAC.**

lateral limits: Rhein UIR as published in the AIP Germany,

vertical limits: as published in the AIP Germany

ICAO airspace classification for the area of responsibility of Karlsruhe UAC along the common boundary of the areas of responsibility of Karlsruhe UAC and Bremen ACC is described in Annex B to this Letter of Agreement.

### 2.1.2 Bremen ACC.

Lateral limits: Bremen FIR as published in the AIP Germany,  
Vertical limits: as published in the AIP Germany

and

Lateral limits: Munich FIR as published in the AIP Germany:  
Vertical limits: as published in the AIP Germany

and

Lateral limits: Rhein UIR as published in the AIP Germany:  
Vertical limits: as published in the AIP Germany

ICAO airspace classification for the area of responsibility of Bremen ACC along the common boundary of the areas of responsibility of Karlsruhe UAC and Bremen ACC is described in Annex B to this Letter of Agreement.

## 2.2 **Delegation of the Responsibility for the Provision of ATS.**

Not applicable.

### 2.2.1 Delegated services.

The provision of ATS in respect of this LoA means the following services:  
ATC, FIS for controlled flights and ALRS for controlled flights.

### 2.2.2 Other Areas.

Areas where the delegation of ATS with other ATS units affects the procedures specified in this LoA are described in Annex B to this LoA.

### 2.2.3 Alerting Service within the Airspaces with delegated Responsibility.

The ATS unit responsible for the provision of ATS, by virtue of delegation, shall provide alerting service and shall notify immediately the Supervisor of the delegating ATS unit. The Supervisor of the delegating ATS unit shall notify the appropriate rescue coordination centre.

## 3 **Procedures.**

The Procedures to be applied by Karlsruhe UAC and Bremen ACC are detailed in the Annexes to this LoA

Annex A	Definitions and Abbreviations
Annex B	Area of Common Interest
Annex C	Exchange of Flight Data
Annex D	Procedures for Coordination
Annex E	Transfer of Control and Transfer of Communications
Annex F	Radar based Coordination Procedures
Annex G	Supplementary Procedures.

## **4 Revisions and Deviations.**

### **4.1 Revision of this LoA.**

The revision of the present LoA, excluding the Annexes, requires the mutual written consent of both ATS units.

### **4.2 Revision of the Annexes to the LoA.**

The revision of Annexes to the present Letter of Agreement requires the mutual written consent of the authorities designated by the respective signatory approving authorities, normally the Heads of Operations at the respective units.

### **4.3 Temporary Deviations.**

When necessary, the Supervisors of the ATS units concerned may introduce, by mutual agreement and for a specified period of time, temporary modifications to the procedures laid down in the Annexes to the present LoA.

### **4.4 Incidental Deviations.**

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

## **5 Cancellation.**

5.1 Cancellation of the present LoA by mutual written agreement of the respective ATS units may take place at any time.

5.2 Cancellation of this LoA by either ATS unit is possible at any time, provided that the cancelling party declares its intention to cancel the LoA with a minimum pre-notification time of three months before the date the cancellation is to take effect.

## **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.

## 7 **Validity.**

This LoA becomes effective November 19, 2009 and supersedes all previous LoA between Karlsruhe UAC and Bremen ACC.

Karlsruhe, Date:

Bremen, Date:

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i. V. Andreas Pötzsch  
Spokesman and  
Head of Operations Karlsruhe UAC

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i. V. Werner Spier  
Spokesman and  
Head of Operations Bremen ACC

## Appendix 1

### Record of Amendments

AMD NO.	DATE	APPENDICES ANNEXES	PAGE	ADD, DELETE or REPLACE
1	17DEC2009	Appendix 1 Annex A Annex B Annex C Annex D Annex E	1 1-2 1, 5 1-3 1-9 1	REPLACE REPLACE REPLACE REPLACE REPLACE REPLACE
2	08APR10	Appendix 1 Annex B Annex D Annex G	1 1, 2, 5 1, 3, 5, 6, 9 1, 3, 4	REPLACE REPLACE REPLACE REPLACE
3	01JUL10	Appendix 1 Annex B Annex D	1 B1, B3, B5 D1, D3, D5	REPLACE REPLACE REPLACE
4	12DEC10	Appendix 1 Annex A Annex C Annex D Annex E Annex G	1 1-2 1, 3 1, 9 1 1-4	REPLACE REPLACE REPLACE REPLACE REPLACE REPLACE
5	10FEB11	Appendix 1 Annex A Annex D Annex F Annex G	1 1-2 1-3 1 1, 4	REPLACE REPLACE REPLACE REPLACE REPLACE
6	10MAR11	Appendix 1 Annex E	1 1	REPLACE REPLACE
7	02JUN11	Appendix 1 Appendix B Annex D	1 1, 5 1-2	REPLACE REPLACE REPLACE
8	30JUN11	Appendix 1 Annex D	1 1-3	REPLACE REPLACE

## Annex A.

### Definitions and Abbreviations.

Effective: November 19, 2009

Revised: February 10, 2011

#### A.1 Definitions.

##### A.1.1 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 two ATS Units, extending into the adjacent or stratified Areas of Responsibility, within which airspace structure and related activities may have an impact on air traffic coordination procedures.

##### A.1.3 Division Level.

The level dividing two superimposed AoR for the provision of ATS.

##### A.1.4 Release.

In any of the below listed cases of release of aircraft, the transferring ATS unit remains responsible for separation within its AoR unless otherwise agreed.

###### A.1.4.1 Release for Climb.

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

###### A.1.4.2 Release for Descent.

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

###### A.1.4.3 Release for Turn.

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

##### A.1.5 Reduced vertical separation minimum.

A vertical separation minimum of 1000 ft which is applied between FL 290 and FL 410 inclusive, on the basis of regional air navigation agreement and in accordance with conditions specified therein



## A.2 Abbreviations.

<b>ABI*</b>	Advanced Boundary Information	<b>ORCAM</b>	Originating Region Code Assignment Method
<b>ACI*</b>	Area of Common Interest	<b>OSE1*</b>	Center Karlsruhe Sector Ostsee 1
<b>ACT*</b>	Activation Message	<b>RFL*</b>	Requested Flight Level
<b>AMC*</b>	Airspace Management Cell	<b>RVSM</b>	Reduced Vertical Separation Minima
<b>AoR*</b>	Area of Responsibility	<b>SAL1/2*</b>	Center Karlsruhe Sector Saale High/Top
<b>ARR*</b>	Arrival(s)	<b>SASH*</b>	Center Munich Sector Sachsen High
<b>ATC</b>	Air Traffic Control	<b>SPE1*</b>	Center Karlsruhe Sector Spree 1
<b>ATM*</b>	Air Traffic Management	<b>TRGH*</b>	Center Munich Sector Thuringen High
<b>BOR*</b>	Center Bremen Sector Boerde	<b>TTA*</b>	Tactical Training Area
<b>CA</b>	Contingency Area	<b>UUCAS</b>	Center Karlsruhe Airbus Position
<b>CCP*</b>	Contingency Contact Point	<b>UUC1M*</b>	Center Karlsruhe ATC Supervisor
<b>COP*</b>	Coordination Point	<b>UUCAM*</b>	Center Karlsruhe FDA Supervisor
<b>COS*</b>	Chief of Section	<b>UUC1F*</b>	Center Karlsruhe FMP
<b>CRC*</b>	Control and Reporting Centre	<b>UUE1A*</b>	Center Karlsruhe East Assistant 1
<b>DEP*</b>	Departure(s)	<b>UUC1A*</b>	Center Karlsruhe OAT Assistant
<b>DEST*</b>	Destination	<b>UUC2S</b>	Center Karlsruhe TRAMON 306
<b>DL*</b>	Division Level	<b>VCS*</b>	Voice Communication System
<b>FDA*</b>	Flight Data Assistant	<b>WWC1A*</b>	Center Bremen Assistant 1
<b>FMP*</b>	Flow Management Position	<b>WWC1F*</b>	Center Bremen FMP
<b>FLG*</b>	Center Bremen Sector Flaeming	<b>WWC1M*</b>	Center Bremen Supervisor
<b>LAM*</b>	Logical Acknowledge Message	<b>WWC3S*</b>	Center Bremen TRAMON TRA206
<b>LoA*</b>	Letter of Agreement	<b>WWC4A*</b>	Center Bremen Assistant 4
<b>MAR*</b>	Center Bremen Sector Mark	<b>WWC5S*</b>	Center Bremen Tanker Position
<b>MFC*</b>	Multi Frequency Code (telephone system)	<b>WWCAO*</b>	Center Bremen Airbus Position East
<b>MRZ*</b>	Center Bremen Sector Mueritz	<b>WWCAS*</b>	Center Bremen Airbus Position
<b>MSCC</b>	Mode S Conspicuity Code		
<b>MVPA*</b>	Military Variable Profile Area		

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

For further abbreviations and definitions see DFS Manual of Operations Air Traffic Control Services, or AIP GEN.

## Annex B.

### Area of Common Interest.

Effective: November 19, 2009  
 Revised: June 02, 2011

#### B.1 Airspace Structure and Classification within the ACI.

Area	Vertical limits	Airspace Classification
Bremen and Munich FIRs	GND – FL245	C (FL100 - FL245)
Rhein UIR	FL245 – UNL	C (FL245 - FL660)

#### B.2 Sectorisation.

The sectorisation of both ATS units is shown in Appendix 1 to this Annex.

##### B.2.1 Coordinates of the Sector Boundaries.

###### B.2.1.1 Karlsruhe UAC.

OSE1: N 54 27 00 E 012 00 00 – N 54 55 00 E 012 51 00 –  
 (FL285-FL365) N 54 55 00 E 014 21 27 – N 54 07 38 E 014 15 17 –  
 N 54 07 34 E 014 12 05 – N 53 59 16 E 014 14 32 –  
 N 53 55 40 E 014 13 34 – along German-Polish border –  
 N 52 48 51 E 014 14 15 – N 52 53 10 E 012 05 58 –  
 N 52 43 50 E 011 06 26 – N 54 27 00 E 012 00 00 .

HVL1: N 52 53 10 E 012 05 58 – N 52 43 50 E 011 06 26 –  
 (FL285-FL365) N 52 22 25 E 011 04 13 – N 51 54 23 E 011 07 48 –  
 N 51 50 28 E 011 12 30 – N 51 55 59 E 011 37 30 –  
 N 51 47 52 E 012 20 23 – N 51 36 14 E 012 51 05 –  
 N 52 08 42 E 014 27 56 – N 52 08 19 E 014 40 36 –  
 along German-Polish border – N 52 48 51 E 014 14 15 –  
 N 52 53 10 E 012 05 58.

SAL1: N 50 14 25 E 012 21 06 – N 50 39 27 E 010 42 10 –  
 (FL315-FL365) N 51 04 50 E 010 20 17 – N 51 20 02 E 010 23 15 –  
 N 51 34 00 E 010 42 00 – N 51 50 28 E 011 12 30 –  
 N 51 55 59 E 011 37 30 – N 51 47 52 E 012 20 23 –  
 N 51 36 14 E 012 51 05 – N 51 27 26 E 012 49 37 –  
 N 51 15 40 E 012 31 16 – N 50 41 27 E 012 06 52 –  
 N 50 25 57 E 012 45 02 – N 50 18 07 E 012 22 20 –  
 N 50 14 25 E 012 21 06.

SPE1: N 52 08 19 E 014 40 36 – along German-Polish border –  
 (FL315-FL365) N 50 59 28 E 014 55 39 – N 50 59 57 E 014 43 31 –  
 N 50 31 14 E 013 00 33 – N 50 25 57 E 012 45 02 –  
 N 50 41 27 E 012 06 52 – N 51 15 40 E 012 31 16 –  
 N 51 27 26 E 012 49 37 – N 51 36 14 E 012 51 05 –  
 N 52 08 42 E 014 27 56 – N 52 08 19 E 014 40 36.

B.2.1.2 Bremen ACC.

MRZ:  
(up to FL285)

N 53 19 54 N 011 24 40 – N 53 48 05 E 011 39 22 –  
N 54 07 27 E 011 49 33 – N 54 15 00 E 011 53 34 –  
N 54 27 00 E 012 00 00 – N 54 55 00 N 012 51 00 –  
N 54 55 00 E 013 00 00 – N 54 55 00 E 014 10 00 –  
N 54 55 00 E 014 21 27 – N 54 40 00 E 014 19 28 –  
N 54 07 38 N 014 15 17 – N 54 07 34 E 014 12 05 –  
N 53 59 16 N 014 14 32 – N 53 55 40 E 014 13 34 –  
along German-Polish border –  
N 53 38 06 E 014 18 03 – N 53 18 58 N 013 52 42 –  
N 53 10 39 E 012 07 30 – N 53 08 43 E 011 45 31 –  
N 53 19 54 N 011 24 40.  
(ROENNE SW Area included)

MRZ:  
(up to FL245)

N 54 27 00 N 012 00 00 – N 54 15 00 E 011 53 34 –  
N 54 07 27 E 011 49 33 – N 53 48 05 E 011 39 22 –  
N 53 21 44 E 011 25 49 – N 53 35 16 N 011 11 58 –  
N 54 08 00 E 011 15 30 – N 54 17 44 E 011 38 18 –  
N 54 27 00 N 012 00 00.  
(SCHWERIN NORTH Area included)

MAR:  
(up to FL285)

N 53 21 44 E 011 25 49 – N 53 08 43 E 011 45 31 –  
N 53 10 39 E 012 07 30 – N 53 18 58 E 013 52 42 –  
N 53 38 06 E 014 18 03 – along German-Polish border –  
N 52 48 51 E 014 14 15 – N 52 42 13 E 013 15 17 –  
N 52 42 23 E 013 03 11 – N 52 36 39 E 012 11 29 –  
N 52 28 46 E 011 04 52 – N 52 43 50 E 011 06 26 –  
N 52 47 23 E 011 08 13 – N 53 21 44 E 011 25 49.

MAR:  
(up to FL245)

N 52 47 23 E 011 08 13 – N 52 43 50 E 011 06 26 –  
N 52 28 46 E 011 04 52 – N 52 37 10 E 011 01 33 –  
N 52 40 56 E 011 00 02 – N 52 46 11 E 011 06 41 –  
N 52 47 23 E 011 08 13.

BOR:  
(up to FL285)

N 52 28 46 E 011 04 52 – N 52 36 39 E 012 11 29 –  
N 52 42 23 E 013 03 11 – N 52 42 13 E 013 15 17 –  
N 52 33 35 E 013 17 16 – N 52 30 51 E 013 20 54 –  
N 52 28 25 E 013 24 06 – N 52 08 36 E 013 24 24 –  
N 51 59 36 E 012 29 39 – N 51 47 52 E 012 20 23 –  
N 51 46 49 E 012 15 39 – N 51 43 17 E 011 24 26 –  
N 51 50 28 E 011 12 30 – N 51 54 30 E 011 07 39 –  
N 51 55 54 E 011 07 29 – N 52 22 25 E 011 04 13 –  
N 52 28 46 E 011 04 52.

FLG:  
(up to FL285)

N 52 08 36 E 013 24 24 – N 52 28 25 E 013 24 06 –  
N 52 30 51 E 013 20 54 – N 52 33 35 E 013 17 16 –  
N 52 42 13 E 013 15 17 – N 52 48 51 E 014 14 15 –  
along German-Polish border –  
N 51 41 55 E 014 42 52 – N 51 30 30 E 013 45 00 –  
N 51 30 30 E 013 14 55 – N 51 30 30 E 013 06 00 –  
N 51 27 26 E 012 49 37 – N 51 31 40 E 012 40 09 –  
N 51 35 34 E 012 31 23 – N 51 46 49 E 012 15 39 –  
N 51 47 52 E 012 20 23 – N 51 59 36 E 012 29 39 –  
N 52 08 36 E 013 24 24.

### **B.3 Special Areas within the ACI.**

#### **B.3.1 Delegation of the Responsibility for the Provision of ATS to/from other ATS units within the ACI - see Appendix 1 to Annex B**

B.3.1.1 Within the Rhein UIR the responsibility for the provision of ATS has been delegated from Bremen ACC and Karlsruhe UAC to Maastricht UAC (for GAT) and Maastricht /DFS UAC(Lippe) (for OAT) within the following areas:

##### **RISOK Area**

Lateral limits: N 51 48 23 E 011 08 38 - N 51 50 28 E 011 12 30 -  
N 51 54 23 E 011 07 48 - N 51 48 23 E 011 08 38 .

Vertical limit: FL285 – FL660 from Karlsruhe UAC (RISOK HIGH Area)  
FL245 – FL285 from Bremen ACC (RISOK LOW Area)

##### **SCHWERIN SOUTH Area**

Lateral limits: N 54 15 00 E 011 53 34 - N 52 43 50 E 011 06 26 -  
N 54 08 00 E 011 15 30 - N 54 17 44 E 011 38 18 -  
N 54 15 00 E 011 53 34 .

Vertical limit: FL285 - FL660 from Karlsruhe UAC (SCHWERIN SOUTH HIGH Area)  
FL245 – FL285 from Bremen ACC (SCHWERIN SOUTH LOW Area).

B.3.1.2 Within the Hannover UIR the responsibility for the provision of ATS has been delegated from Maastricht UAC (for GAT) and Maastricht /DFS UAC (Lippe) (for OAT) to Karlsruhe UAC within the

##### **ABGUS HIGH Area**

Lateral limits: N 51 34 00 E 010 42 00 – N 51 45 30 E 011 08 45 –  
N 51 48 23 E 011 08 38 – N 51 34 00 E 010 42 00 .

Vertical limit: FL315 - FL660

B.3.1.3 Within the Bremen FIR / Rhein UIR the responsibility for the provision of ATS has been delegated from Bremen ACC and Karlsruhe UAC to ACC Copenhagen within the

##### **SCHWERIN NORTH Area**

Lateral limits: N 54 27 00 E 012 00 00 – N 54 15 00 E 011 53 34 -  
N 54 17 44 E 011 38 18 – N 54 27 00 E 012 00 00.

Vertical extension: FL285 - FL660 from Karlsruhe UAC  
FL105 - FL285 from Bremen ACC

B.3.1.4 Within the Bremen FIR / Rhein UIR the responsibility for the provision of ATS has been delegated from Bremen ACC and Karlsruhe UAC to ATCC Malmö within the

##### **RÖNNE South West Area**

Lateral limits: N 54 55 00 E 013 45 39 - N 54 55 00 E 014 21 27 -  
N 54 40 00 E 014 19 29 - N 54 55 00 E 013 45 39.

Vertical extension: FL285 - FL660 from Karlsruhe UAC  
FL155 - FL285 from Bremen ACC

**When ED-D 47C is active RÖNNE SW Area is withdrawn in the activated part of it.(see para D.3.2.1).**

B.3.2 **Other Areas** - Appendix 1 to Annex B.

B.3.2.1 ED D 47 (Rügen), ED R 206/306 (TRA-Mecklenburg 1/2) as published in the AIP Germany.

MVPA (Military Variable Profile Area) modules Basic and More as agreed upon in the LoA between Deutsche Flugsicherung GmbH (DFS), German Air Force Command (GAFCOM) and Bundeswehr Air Traffic Services Office (AFSBw), subject Common coordination procedures for Operation phase 2 MVPA North East.

B.3.2.2 Within the Warszawa FIR Warszawa ACC may issue a BINKA Release west of the BINKA Release Line.

BINKA Release Line: see Appendix 1 to Annex B.

Lateral limits            west of the line

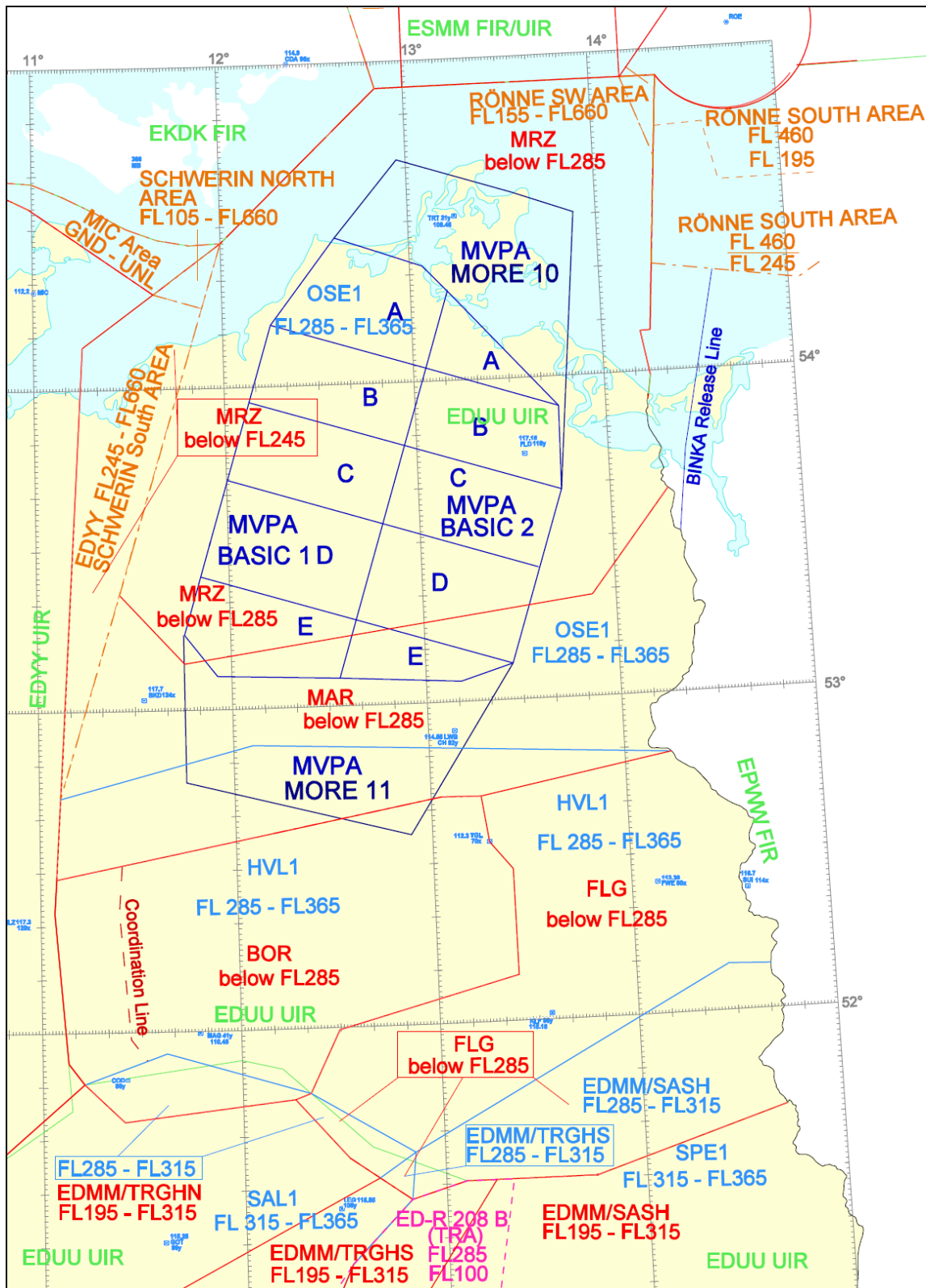
N 53 29 57 E 014 21 08 - N 53 45 18 E 014 24 12 - N 54 18 17 E 014 36 01.

Vertical Limits        FL250 – FL460

Airspace classification: C

# Appendix 1 to Annex B

Bremen ACC - Karlsruhe UAC ACI



## Annex C.

### Exchange of Flight Data.

Effective: November 19, 2009

Revised: December 12, 2010

#### **C.1 General.**

##### **C.1.1 Basic Flight Plans.**

Basic flight plan data are normally available at both ATS units.

##### **C.1.2 Current Flight Plan Data.**

Messages, including current flight plan data, shall be forwarded either by automatic data exchange or by telephone to the appropriate position.

###### C.1.2.1 Automatic Data Exchange.

C.1.2.1.1 ABI/ACT/LAM shall be exchanged between the two ATS units in accordance with Appendix 1 to Annex C.

C.1.2.1.2 Whenever automatic data exchange is not available and for all flights for which an automatic message exchange is not a standard operating procedure, flight details and estimates shall be exchanged verbally.

C.1.2.1.3 In any case, data passed verbally shall take precedence over data exchanged automatically.

###### C.1.2.2 Verbal Coordination.

###### C.1.2.2.1 Estimate.

Verbal estimates shall be passed

- at least 10 minutes prior to but not earlier than 30 minutes before the aircraft is estimated to pass the respective COP or

- immediately after departure for traffic originating from Bremen FIR or adjacent airports, if the flying time to the COP is less than 8 minutes.

###### C.1.2.2.2 Revision.

Any significant revision to the flight data given in the estimate message shall be passed as soon as possible.

Time updates of 5 minutes or more shall be forwarded to the receiving ATS unit.

###### C.1.2.2.3 Expedite Clearance.

An expedite clearance shall be obtained by the transferring ATS unit whenever the ACT message or verbal estimate cannot be passed

- at least 10 minutes before the aircraft is estimated to pass the COP or

- immediately after departure for traffic originating from Bremen FIR or adjacent airports, if the flying time to the COP is less than 8 minutes.

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

### C.2.1 Equipment.

The following lines are available between Bremen ACC and Karlsruhe UAC:

- access to the RAPNET and
- telephone lines (MFC)

### C.2.2 Telephone Coordination.

All telephone communications shall be terminated with the initials of both parties concerned.

The Supervisors ATC of both ATS units shall notify each other of all changes of the sector arrangements affecting the procedures laid down in this LoA.

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

#### C.2.2.1 Messages from Bremen ACC to Karlsruhe UAC

##### C.2.2.1.1 Standard Working Positions

Accepting Sector/ COPs - see para D.2	Message	Position	Ext.
<b>OSE1</b>	Flight Plan Data, Estimates GAT OAT	<u>FDA</u> UUE1A UUC1A	8743 8719
	Control Messages, Expedite Clearances, Approval Requests and Revisions	<u>Planner</u> OSE1P	8615
	Radar Coordination	<u>Executive</u> OSE1E	8605
<b>HVL1</b>	Flight Plan Data, Estimates GAT OAT	<u>FDA</u> UUE1A UUC1A	8743 8719
	Control Messages, Expedite Clearances, Approval Requests and Revisions	<u>Planner</u> HVL1P	8616
	Radar Coordination	<u>Executive</u> HVL1E	8606
<b>SPE1</b>	Flight Plan Data, Estimates GAT OAT	<u>FDA</u> UUE1A UUC1A	8743 8719
	Control Messages, Expedite Clearances, Approval Requests and Revisions	<u>Planner</u> SPE1P	8618
	Radar Coordination	<u>Executive</u> SPE1E	8608



Accepting Sector/ COPs - see para D.2	Message	Position	Ext.
<b>SAL1</b>	Flight Plan Data, Estimates	<u>FDA</u>	
	GAT	UUE1A	8743
	OAT	UUC1A	8719
	Control Messages, Expedite Clearances, Approval Requests and Revisions	<u>Planner</u> SAL1P	8617
	Radar Coordination	<u>Executive</u> SAL1E	8607

UUC1M (Supervisor ATC) : 8799 UUC1F (FMP/AMC) : 8699  
UUCAM (Supervisor FDA) : 8720 Telefax : 0721 697 229

C.2.2.1.2 Special Working Positions Karlsruhe UAC.

**UUCAS AIRBUS POSITION (Rhein UIR FL285+) 8730**  
**UUC2S TRAMON 306 8762**

C.2.2.2 Messages from Karlsruhe UAC to Bremen ACC.

C.2.2.2.1 Standard Working Positions

Accepting Sector/ COPs - see para D.2	Message	Position	Ext.
<b>MRZ</b>	Flight Plan Data and Estimates	<u>FDA</u> Bremen Assistant 4 WWC4A	2127
	Control Messages, Expedite Clearances, Approval Requests and Revisions	<u>Planner</u> MRZP	2037
	Radar Coordination	<u>Executive</u> MRZE	2027
<b>MAR</b>	Flight Plan Data and Estimates	<u>FDA</u> Bremen Assistant 4 WWC4A	2127
	Control Messages, Expedite Clearances, Approval Requests and Revisions	<u>Planner</u> MARP	2036
	Radar Coordination	<u>Executive</u> MARE	2026

Accepting Sector/ COPs - see para D.2	Message	Position	Ext.
<b>BOR</b>	Flight Plan Data and Estimates	<u>FDA</u> Bremen Assistant 1 WWC1A	2109
	Control Messages, Expedite Clearances, Approval Requests and Revisions	<u>Planner</u> BORP	2072
	Radar Coordination	<u>Executive</u> BORE	2062
<b>FLG</b>	Flight Plan Data and Estimates	<u>FDA</u> Bremen Assistant 1 WWC1A	2109
	Control Messages, Expedite Clearances, Approval Requests and Revisions	<u>Planner</u> FLGP	2073
	Radar Coordination	<u>Executive</u> FLGE	2063

WWC1M (Supervisor CC): 2199  
WWCAM Supervisor FDA): 2120

WWC1F( Bremen FMP): 2099  
Fax: +49 421 535 533

#### C.2.2.3 Special Working Positions Bremen ACC.

WWCAS (BREMEN AIRBUS)	2087
WWCAO (BREMEN AIRBUS / EAST)	2097
WWC3S (TRAMON ED R [TRA] 206, MVPA)	2029
WWC5S (Bremen Tanker)	2089

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

#### C.3.1 **Fall-Back Procedures for Coordination.**

In the event of failure of the direct lines between the coordinating partners, coordination may be effected via:

- a) direct speech lines to adjacent ATS units or
- b) public telephone:

Karlsruhe UAC:

Supervisor ATC:	0721 69 39 03	FMP:	0721 6903 237
Supervisor FDA:	0721 6903 364	Fax:	0721 697 229

Bremen ACC:

WWC1M (Supervisor ATC):	0421 59634 89 or 0421 51499 00	Fax:	0421 535 533
WWCAM (Supervisor FDA):	0421 51499 02		
WWC1F (Bremen FMP)	0421 51499 06	MRZP	0421 51499 80
WWCAS (Bremen Airbus)	0421 51499 36	MARP	0421 51499 76
WWC1A (Bremen Assistant 1)	0421 51499 86	BORP	0421 51499 78
WWC4A (Bremen Assistant 4)	0421 51499 87	FLGP	0421 51499 68

## Appendix 1 to Annex C

### Automatic Data Exchange.

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

Messages	COPs	Time and/or Distance Parameters	
		Messages from Bremen ACC to Karlsruhe UAC	Messages from Karlsruhe UAC To Bremen ACC
<b>ABI</b> 3 a+b 7 a+b+c 13 a 14 a+b+c 16 a 22 (9 a+b+c, 15 a+b+c, 80 and 81)	all COPs listed in Annex D	ABI will be transmitted at FPL activation, but not later than 120 seconds prior to the ACT-transmission.	Karlsruhe UAC shall transmit ABI 30 minutes prior ETO COP
<b>ACT</b> 3 a+b 7 a+b+c 13 a 14 a+b+c 16 a 22 (9 a+b+c, 15 a+b+c, 80 and 81)		20 minutes prior to ETO COP or 30 NM prior to COP, whichever comes first  If less than the above time/distance parameters, ACT shall be transmitted as soon as possible, but not later than ETO COP.	20 minutes prior to ETO COP  If less than the above time parameters, ACT shall be transmitted as soon as possible, but not later than ETO COP.
<b>LAM</b>		If a LAM is not received at the transferring unit within 30 seconds after the ACT-transmission, a warning shall be issued at the appropriate sector	If a LAM is not received at the transferring unit within 45 seconds after the ACT-transmission, a warning shall be issued at the appropriate sector

## Annex D.

### Procedures for Coordination.

Effective: November 19, 2009

Revised: [June 30, 2011](#)

#### D.1 General Conditions for Acceptance of Flights.

D.1.1 Coordination of flights shall take place by reference to the COP for the appropriate ATS route and in accordance with the flight level as specified in para D.2.

D.1.2 Flights shall be cleared along ATS routes unless a direct track is agreed in para D.3 or has been verbally coordinated between the appropriate transferring and receiving controllers.

D.1.3 For any proposed deviation from the conditions specified in this Annex, e.g.

- when intending to deviate from the entry conditions described in para D.2 or to clear aircraft on direct tracks which are not agreed in D.3;
- for aircraft with malfunctioning transponders;
- for state aircraft which are equipped with RTF not capable of VHF 8.33 kHz channel spacing, however capable UHF

the transferring ATS unit shall initiate an Approval Request.

D.1.4 **Handling of aircraft which do not carry RTF equipment capable of VHF 8.33 kHz channel spacing.**

Aircraft which do not carry RTF equipment capable of VHF 8.33 kHz channel spacing, except for UHF equipped state aircraft, shall not be transferred to Karlsruhe UAC.

D.1.5 **EUR RVSM Airspace.**

When a RVSM approved aircraft is unable to continue to meet the required vertical navigation accuracy, the aircraft shall obtain a revised ATC clearance to continue along the cleared route at FL280 or below. Such aircraft shall be considered non-RVSM approved.

D.1.6 If an 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.2 ATS-Routes, Coordination Points and Entry Conditions.

### D.2.1 Flights on Transfer from Karlsruhe UAC to Bremen ACC.

In accordance with the aerodrome of destination and flight planned route the following coordination points and entry conditions into the AoR of Bremen ACC shall be observed.

#### D.2.1.1 Vertical Entries without verbal Coordination.

Silent radar transfer procedures may be applied to arrival profiles along the ATS routes listed in the table below.

Entry conditions in the table below, which are described by a point and level, only mean the aircraft shall be handed over reaching this level in the vicinity of this point.

Destination Aerodrome	Route of Flight and ACT COP (bold)	Transfer-ring Sector	Entry Conditions	Accepting Sector
EKCH	<b>LABES-T298</b>	OSE1	LABES FL290	MRZ
	<b>GEVNI-T299</b>		GEVNI FL290	
EKCH, <b>EKRK</b>	<b>TAGOB-UM726</b>		TAGOB FL290	
EKRK	<b>KOGIM-UM602</b>		PENET FL290	
ESMS	<b>USEDU-UM602</b>		USEDU FL290	
ESMS, ESMK, EKRN	<b>MASOR-UM725</b>		MASOR FL290	
	<b>ADUKI-UZ400</b>		ADUKI FL290	
ESMS, ESMK, EKRN, EKCH	<b>KUBAB-UP12</b>		KUBAB FL290	
EDDV	<b>NUVEN-UM864</b>		NUVEN FL290	
ETNL, ETNU	<b>ABIKA-T299</b>		<b>Latest</b> abeam <b>RENKI</b> FL290	
ETNL, ETNU, EDAH, EDBH	<b>RENKI-UM725</b>	<b>before</b> RENKI FL290		
	<b>SOGMA-UM748</b>	SOGMA FL290		
EDOP	<b>GARGU-UM726</b>	<b>Latest</b> GARGU FL290	BOR	
	<b>ESIKA-UM748</b>	ESIKA FL290		
EPSC	<b>EMBOX-UM726</b>	EMBOX FL290	MRZ	
	<b>KOGIM-UM602</b>	<b>Latest</b> KOGIM FL290		
EPSC, EDAH	<b>KUBAB-UZ102</b>	KUBAB FL290	MAR	
	<b>UZ717/UL619-VIBIS</b>	VIBIS FL290		

Destination Aerodrome	Route of Flight and ACT COP (bold)	Transferring Sector	Entry Conditions	Accepting Sector
EPSC, EDAH; ETNU	UN746- <b>RIMKO</b>	HVL1	RIMKO FL290	MAR
EPSC	<b>SONUD</b> -UL132		SONUD FL290	FLG
	<b>GORIG</b> -UM725		GORIG FL290	
EPPO	<b>RADEL</b> -UL619	OSE1	RADEL FL290	MAR
EPPO, EPZG	<b>ADLIR</b> -UL980	HVL1	ADLIR FL290	FLG
	<b>SONUD</b> -UZ20		SONUD FL290	
	UL132- or UN858- <b>PEPOL</b> - UN858		PEPOL FL290	
EDDH, EDHI, EDHL	<b>GASBO</b> -Q800	OSE1	GASBO FL290	MRZ
	<b>SULIV</b> -UM726		SULIV FL290	
EDDH, EDHI, EDHL, EDHK, EDDW	<b>LEGSA</b> -UZ102		LEGSA FL290	
	<b>VIBIS</b> -UL619	VIBIS FL290		
	<b>GARGU</b> -UM726	<b>Latest</b> GARGU FL290		
	<b>SOGMA</b> -UM748	SOGMA FL290		
EDDV, EDVK, EDLP	<b>VIBIS</b> -UL619	OSE1	VIBIS FL290	
EDDV, EDVK, EDLP, EDFQ, EDLI, ETUO, EDDE	<b>ESIKA</b> -UZ20	HVL1	ESIKA FL290	BOR
EDVE	UL619/UZ717- <b>PODUS</b>	OSE1	PODUS FL290	MAR
	UM725- <b>GORIG</b> -UZ20	HVL1	GORIG FL290	FLG
EDDT, Eddb	<b>RODEP</b> -T208	OSE1	<b>Latest</b> RODEP FL290	MRZ
EdbM, EdbC	UM725- <b>GORIG</b> -UZ20	HVL1	GORIG FL290	FLG
EDDP, EDDC, EDAC, EDAB	<b>GORIG</b> -UM725		GORIG FL290	
EDDP, EDAC	<b>SUVAL</b> -UM736		SUVAL FL290	MAR
EDDC, EDAB, EDAC	<b>SOBLU</b> -UM748		SOBLU FL290	BOR
	<b>NISGA</b> -Z998	<b>Latest</b> abeam SOBLU FL290		

Destination Aerodrome	Route of Flight and ACT COP (bold)	Transferring Sector	Entry Conditions	Accepting Sector
EDCD	<b>RAKIT-UM725</b>	OSE1	<b>RAKIT</b> FL290	MAR
	UL619- <b>RADEL</b> -UL867		RADEL FL290	
	<b>SOBLU-UM748-ESIKA</b>	HVL1	SOBLU FL290	BOR
	<b>BUROK-UZ20-ESIKA</b>		BUROK FL290	
	UN858- <b>MOSEX</b> -UN858		MOSEX FL290	FLG
EDDE, EDDN, EDQD, EDQM, EDQC, EDQG, EDQK, EDQT, ETIC,	<b>GUGSU-UM736</b>	HVL1	GUGSU FL290	BOR
EDDF, EDFE, ETOU, ETAR, ETAD, EDFH, EDDR, EDRZ, EDFZ, EDFQ, ELLX	<b>GUGSU -UM736-MAG-UZ20</b>	HVL1	GUGSU FL290	BOR
	<b>ESIKA-UZ20-ESEGU</b>		ESIKA FL290	

**OAT:**

Destination Aerodrome	Route of Flight and/or ACT COP (bold)	Transferring Sector	Entry Conditions	Accepting Sector
ETNL	TABOK-TB2- <b>NEG</b>	OSE1	NEG FL290	MRZ
ETNU	LUPAK-TB2- <b>TABOK</b>	HVL1	TABOK FL290	MAR
ETSH	TABOK-TB2- <b>LUPAK</b>	HVL1	<b>before</b> LUPAK FL290	BOR
	UBAKA-TR1- <b>PENEK</b>		PENEK FL290	

**D.2.2 Flights on Transfer from Bremen ACC to Karlsruhe UAC.**

In accordance with the aerodrome of departure, flight planned route and RFL the following coordination points and entry conditions into the AoR of Karlsruhe UAC shall be observed:

Flights on re-entry profiles from and to Bremen ACC shall be transferred from Bremen ACC to Karlsruhe UAC only, if there are at least two route segments but not less than 30 NM between the ACT COPs of departure and arrival as described in this LoA.

**D.2.2.1 Vertical Entries without verbal Coordination.**

Silent radar transfer procedures may be applied to departure profiles along the ATS routes listed in the table below.

<b>Departure Aerodrome</b>	<b>Route of Flight and ACT COP (bold)</b>	<b>Transferring Sector</b>	<b>Entry Conditions</b>	<b>Accepting Sector</b>
EKCH, EKRK	UM602/UM725- <b>NONSA</b>	MRZ	FL280	OSE1
ESMS, EKCH, EKRK	UM736- <b>PEROM</b>		FL280	
	UM44- <b>ARGAD</b>		FL280	
EKRN	UM864- <b>NONSA</b>		FL280	
ETNL, EDAH, EDBH	UM725- <b>RAKIT</b>	MAR	FL280, MAR shall coordinate these flights with FLG and transfer the communication to <b>HVL1</b> .	
ETNL	T299- <b>ABIKA</b>			
ETNU	T299- <b>GERGA</b>	FLG	FL280	HVL1
ETNL, ETNU, EDBH,	PITEN-Z998- <b>BIRMO</b>	MAR	FL280	
ETNL, ETNU, EDAH, EDBH	LEGSA-UM736- <b>BIRMO</b>		FL280	
EDAH	UZ130- <b>PODUS</b>		FL280	OSE1
EDOP	UL619- <b>PODUS</b> -UL619/UZ717		FL280	HVL1
	Z998- <b>RATMO</b> -Z997		FL280	
	Z998- <b>NISGA</b>	BOR	FL280	
EPSC	UM602- <b>PENET</b>	MRZ	FL280	OSE1
	UZ102- <b>LEGSA</b>		FL280	
	UZ717- <b>PODUS</b>		FL280	
	<b>KETAP</b> -UL87	MAR	FL280, MAR shall coordinate these flights with FLG and transfer the communication to <b>HVL1</b> .	
	<b>RENKI</b> -UM725			



Departure Aerodrome	Route of Flight and ACT COP (bold)	Transferring Sector	Entry Conditions	Accepting Sector
EDDH, EDHI, EDHL,	Q800- <b>ROSOK</b>	MRZ	FL280	OSE1
EDDH, EDHI, EDHL, EDHK	UZ102- <b>KUBAB</b>		FL280	
	UL619- <b>VIBIS</b>	MAR	FL280	
	LASLU-Z998- <b>BIRMO</b>		FL280	HVL1
EDDV, EDVE	UP12- <b>KUBAB</b>	MRZ	FL280	OSE1
	UL619- <b>VIBIS</b>	MAR	FL280	
EDDV	UL986- <b>MAG</b> -UL986/-UZ20-BUROK	BOR	FL280	HVL1
EDVE	UZ20- <b>ESIKA</b>	BOR	FL280	HVL1
EDDT, EDDB	UM725- <b>RODEP</b>	MRZ	FL280	OSE1
	UN33- <b>PADKU</b>		FL280	
	BKD SIDs- <b>BKD</b>	MAR	FL280	
EDDT, EDAY	Y200- <b>GUGSU</b>	BOR	FL280	HVL1
	Q201- <b>BUREL</b>		FL280	
EDDB, EDZ	Y203- <b>BUREL</b>		FL280	
	Y204- <b>LODRO</b>		FL280	
EDDP, EDAC	UM736- <b>SOGMA</b>	MAR	FL280	
EDDP	Y234- <b>PENEK</b>	BOR	FL280	
EDBM, EDBC	UL132- <b>ANEBO</b>	FLG	FL280	
	<b>GORIG</b> -UM725		FL280	
EDDP	UZ36- <b>BESKO</b>		FL280	
	UQ353- <b>KLF</b> -UQ353 SUI / -DCT GILAS <sup>1)</sup>		FL280	
EDAC	UL132- <b>PEPOL</b>		FL280	

Note: <sup>1)</sup> night direct routing

Departure Aerodrome	Route of Flight and ACT COP (bold)	Transferring Sector	Entry Conditions	Accepting Sector
EDCD	UM725- <b>RENKI</b>	MAR	FL280	HVL1
	UZ20- <b>ESIKA</b>	BOR	FL280	
EDDC, EDAB	UM725- <b>GORIG</b>	FLG	FL280	HVL1
	UM748- <b>BOLBO</b>		FL280	
EDDE	UM726- <b>EMBOX</b>	BOR	FL280	

**OAT:**

Departure Aerodrome	Route of Flight and/or ACT COP (bold)	Transferring Sector	Entry Conditions	Accepting Sector
ETNL	TB2- <b>NEG</b>	MRZ	FL280	OSE1
ETNU	TB2- <b>TABOK</b>	MAR	FL280	HVL1
ETSH	TB2- <b>LUPAK</b>	BOR	FL280	
	TR1- <b>PENEK</b>		FL280	
EDDT, EDDB, (DEST EDDK)	UM736- <b>MAG-DCT</b> RISOK			FL280

**D.3 Special Procedures.**

**D.3.1 Transfer of Departures from Bremen ACC to Karlsruhe UAC.**

**D.3.1.1 Transfer of Departures from BOR to HVL1.**

If not otherwise requested by Karlsruhe UAC, DEP from EDDT, EDDB may be cleared direct to:

**DENOL** for DEST EDDL and

**PODER** for DEST EDDK.

**D.3.1.2 Silent Radar Transfer for Departures via POVEL and HLZ**

DEP from EDDT, EDDB via POVEL or HLZ shall only be transferred from BOR to HVL1 without coordination (silent radar transfer) when able to reach FL280 latest 12 NM east of the boundary to Maastricht UAC.

Note: This coordination line is delineated by the coordinates N 52 31 06 E 011 24 56 – N 52 22 27 E 011 23 53 – N 51 58 45 E 011 26 45 – N 51 54 41 E 011 31 32.

### D.3.2 **Coordination of Status of Special Areas in the Area of Common Interest.**

#### D.3.2.1 ED D47 (Danger Area "Rügen").

With a prenotification time of 15 minutes before the proposed schedule OSE1P shall notify MRZP of the lowest usable flight level above ED D47.

- Note:
1. The responsibility for the information of ATCC Malmö/Supervisor about the beginning (including the lowest usable level above ED D47) and termination of operations within ED D47 rests with MRZP.
  2. The responsibility for the information of Warszawa ACC Sector BG about the beginning (including the lowest usable level above ED D47) and termination of operations within ED D47 rests with MRZP.

#### D.3.2.2 MVPA, TTA.

Management and handling of MVPAs or the TTA shall be accomplished as agreed upon in the LoA between Deutsche Flugsicherung GmbH (DFS), German Air Force Command (GAFCOM) and Bundeswehr Air Traffic Services Office (AFSBw) subject Common coordination procedures for Operation phase 2 MVPA North East.

### D.3.3 **TRAMON.**

#### D.3.3.1 Responsibilities.

D.3.3.1.1 Bremen TRAMON WWC3S shall be responsible for the provision of TRAMON services within

- ED-R (TRA) 206 (single use) or
- ED-R (TRA) 206 and 306 (combined use).

D.3.3.1.2 Karlsruhe TRAMON UUC2S shall be responsible for the provision of TRAMON services within:

- ED-R (TRA) 306 (single use).

Note: Only aircraft with operational SSR transponder on modes 3/C shall be cleared to enter the ED-R (TRA) or shall be allowed to operate in the ED-R (TRA).

#### D.3.3.2 Coordination Procedures.

D.3.3.2.1 Karlsruhe TRAMON UUC2S shall inform MRZP about beginning and termination of the use of

- ED-R 306 (TRA Mecklenburg 2).

D.3.3.2.2 Bremen TRAMON WWC3S shall inform OSE1P and Karlsruhe/Supervisor about beginning and termination of the use of

- ED-R 206 (TRA Mecklenburg 1) in single use or in combined use with ED-R 306 (TRA Mecklenburg 2).

### D.3.4 **Series Trial Flights of AIRBUS Deutschland GmbH (AIRBUS) and Check Flights of Elbe Flugzeugwerke (EFW) Dresden.**

#### D.3.4.1 General.

Series Trial and Check Flights (in the following called Airbus flights) shall be performed in accordance with the operational directive concluded between the ATS units concerned for Airbus and EFW.

These Flights shall be handled by special working positions.

#### D.3.4.2 AIRBUS working positions.

The Supervisors concerned shall coordinate the activation of the respective Airbus working positions according to the flight programme.

D.3.4.3 Coordination and Control Procedures.

Deviating from the co-ordination and control procedures as laid down in the Annexes to this LoA the special working positions Bremen ACC AIRBUS WWCAS (WWCAO) or Karlsruhe UAC AIRBUS UUCAS shall be responsible for the handling and coordination of AIRBUS flights.

The appropriate control sector shall be responsible for the provision of separation of AIRBUS flights to all other aircraft.

## Annex E.

### Transfer of Control and Transfer of Communication.

Effective: November 19, 2009

Revised: March 10, 2011

#### E.1 Transfer of Control.

Transfer of control shall take place at the common boundary.

#### E.2 Transfer of Communication.

##### E.2.1 General.

Unless otherwise coordinated transfer of communication of vertical entries shall take place as soon as the aircraft is clear of all conflicting traffic but not later than the transfer of control.

E.2.2 Any restriction to be maintained after transfer of communication shall be coordinated in due time.

##### E.2.3 Frequencies/Channels.

Karlsruhe UAC

	VHF	UHF
OSE1E	133.235 MHz	258.925 MHz
HVL1E	128.235 MHz	293.475 MHz
SAL1E	133.860 MHz	249.800 MHz
SPE1E	133.285 MHz	281.375 MHz
AIRBUS UUCAS	132.925 MHz	
UUC2S - TRAMON 306		374.825 MHz

Bremen ACC

	VHF	UHF
MRZE	124.175 MHz	259.825 MHz
MARE	136.050 MHz	396.975 MHz
BORE	123.225 MHz	397.475 MHz
FLGE	136.450 MHz	369.300 MHz
AIRBUS	133.265 MHz	-
(Backup)	132.925 MHz	
WWC3S - TRA 206/306	-	311.675 MHz

## Annex F.

### Radar based Coordination Procedures.

Effective: November 19, 2009

Revised: February 10, 2011

#### F.1 SSR Code Assignment.

- F.1.1 Both ATS units shall transfer aircraft on verified discrete codes, or on MSCC 1000, assigned in accordance with ORCAM.
- F.1.2 Any change of SSR code by the accepting ATS unit may only take place after the AoR boundary.
- F.1.3 The accepting ATS unit shall be notified of any observed irregularity in the operation of SSR transponders.

#### F.2 Radar Coordination Procedures.

##### F.2.1 Radar Transfer without Coordination (Silent Radar Transfer).

###### F.2.1.1 General.

Silent radar transfer may be carried out, provided that the following conditions are met:

- an estimate has been passed in time,
- flight data and SSR code did not change,
- a minimum radar separation of 10 NM between successive aircraft or aircraft on converging flight paths remains constant or is increasing,
- the entries shall only be carried out in accordance with the conditions specified for those flight profiles listed in Annex D

If these conditions are not met or the flight profile is not listed in Annex D, verbal coordination is required.

In case radar headings or speed restrictions are used to maintain the separation minimum of 10 NM, this has to be coordinated with the receiving radar controller prior to transfer of communication.

###### F.2.1.2 Transfer Flight Level.

Entries from Karlsruhe UAC to Bremen ACC shall be transferred descending to or at the lowest usable FL above the DL.

Entries from Bremen ACC to Karlsruhe UAC shall be transferred climbing to or at the highest usable FL below the DL.

F.2.1.3 Coordination with adjacent Sectors.

Whenever an aircraft on vertical transfer will not be clear of a lateral adjacent sector, the responsibility for coordination with this sector rests with the transferring sector.

The accepting sector shall notify the transferring sector as soon as possible, if the transfer flight level cannot be vacated expeditiously. All necessary coordination to allow for a safe flight progress shall be achieved.

F.2.2 **Transfer of identity.**

Transfer of radar identity shall be accomplished when the distance between the aircraft will be less than 10 NM.

## Annex G.

### Supplementary procedures.

Effective: November 19, 2009

Revised: February 10, 2011

#### G.1 Contingency - Emergency recovery plan for Karlsruhe UAC.

##### G.1.1 Purpose.

This chapter defines procedures to be applied in a state of emergency when Karlsruhe UAC has to be shut down and operations shall be resumed at aiding units with control staff relocated from Karlsruhe UAC.

In case of contingency the regulations of this chapter take precedence over the respective provisions of Annexes A to F to this LoA.

##### G.1.2 Contingency Phase 0.

When the operational status of Karlsruhe UAC becomes impaired to such an extent, that ATS can no longer be provided, the Supervisor in charge of operations shall

- declare the state of emergency;

From this time on until further notice:

- the AoR of Karlsruhe UAC shall be called the Contingency Area (CA);
- the CA is a No-Fly-Zone, entry is prohibited;

Note: Contingency Phase 1 is not applicable.

##### G.1.3 Contingency Phase 2 - Resuming Operations at aiding units.

In contingency phase 2 Karlsruhe UAC re-establishes the provision of ATS within its AoR by opening contingency sectors at the following aiding units:

1. Langen ACC for the west and central sectors
2. Munich ACC for ERL and SAL/SPE sector
3. Bremen ACC for the OSE/HVL sector

##### G.1.3.1 Activation / Deactivation.

Karlsruhe UAC supervisor at Langen ACC shall inform the supervisor Bremen ACC about the activation and VHF allocation of the contingency sectors.

##### G.1.3.2 ATFM Procedures.

Necessary ATFM-measures to be applied during contingency phase 2 will be initiated by the supervisor Karlsruhe UAC at Langen ACC.



G.1.3.3 Exchange of Flight Data.

Since OLDI-data exchange with the contingency working positions is not possible and no flight plan data are available, all estimates shall be coordinated by telephone. The prenotification time of estimates shall be 30 - 20 minutes before the aircraft is estimated to pass the common boundary.

G.1.3.3.1 An expedite clearance shall be obtained by the transferring ATS unit when the estimate cannot be passed at least 20 minutes before the aircraft is estimated to pass the common boundary.

G.1.3.4 Communications at aiding units.

<b>Contingency Sector</b>	<b>Message</b>	<b>Position</b>	<b>Communications</b>
Control Areas OSE/HVL	Control Messages, Approval Requests, Expedite Clearances, Revisions, Estimates	Planner CUUOHP	MFC: 34 2147 Fon: +49 421 51499 84
	Radar Coordination	Executive CUUHOE	MFC: 34 2146 VHF: 133.265
	Flight Plan Data and Estimates	Assistant CUUNA	MFC: 34 2148 Fon: +49 421 51499 85
Control Areas SAL/SPE	Control Messages, Expedite Clearances, Approval Requests, Revisions, Estimates	Planner	to be defined
	Radar Coordination	Executive	MFC: to be defined VHF: to be defined
	Flight Plan Data and Estimates	Assistant	to be defined
Supervisor Karlsruhe at Langen ACC			MFC: 34 6110

**G.2 Contingency Procedures Bremen ACC.**

In case of contingency the regulations of this chapter take precedence over the respective provisions of Annexes A to F to this LoA.

**G.2.1 Contingency Phase 0.**

In case of an incident which requires to cease the operations or causes a sudden loss of Bremen ACC, the Bremen supervisor shall notify the supervisor of Karlsruhe UAC on that as far as possible.

If necessary and possible, measures shall be agreed in order to ensure the safe evacuation of all controlled air traffic from the AoR of Bremen ACC.

When the operations of Bremen ACC are ceased and the AoR of Bremen ACC is vacated from any controlled traffic, the supervisor in charge of operations shall declare contingency phase 0 for Bremen ACC.

From this time on

- the AoR of Bremen ACC shall be called the Contingency Area (CA) until full serviceability of Bremen ACC is recovered,
- the CA is a No-Fly-Zone, entry is prohibited until contingency phase 2 is activated.

**G.2.1.1 Communications - Contingency Contact Point (CCP) Bremen ACC.**

Supervisor CC (WWC1M) - +49 421 5963 489  
+49 173 3401 129

**G.2.2 Contingency Phase 1.**

Not applicable

**G.2.3 Contingency Phase 2.**

In contingency phase 2 Bremen ACC re-establishes the provision of ATS within its AoR by opening contingency sectors at aiding units.

The contingency sectors will correspond to existing sectors at Bremen ACC:

- **Müritz and Mark sector:**  
Contingency sector East 1 at CRC Schönewalde
- **Boerde and Flaeming sector:**  
Contingency sector East 2 at CRC Schönewalde

**G.2.3.1 Activation / Deactivation.**

Bremen chief of CCP shall inform the supervisor Karlsruhe UAC about the activation of the contingency sector.

**G.2.3.2 ATFM Procedures.**

Necessary ATFM-measures to be applied during contingency phase 2 will be initiated by the Bremen ACC supervisor.

**G.2.3.3 Exchange of Flight Data.**

G.2.3.3.1 Basic flight plan data are available at the contingency working positions only to some extent.

G.2.3.3.2 Since OLDI-data exchange with the contingency working positions is not possible, all estimates shall be coordinated by telephone. The prenotification time of estimates shall be 30 - 15 minutes before the aircraft is estimated to pass the common boundary.

G.2.3.3.3 An expedite clearance / Approval request shall be obtained by the transferring ATS unit when the estimate cannot be passed at least 15 minutes before the aircraft is estimated to pass the common boundary.

G.2.3.4 Control Procedures.

G.2.3.4.1 General.

Deviations from published ATS-routes shall be coordinated only to prevent dangerous situations or in case of emergencies.

G.2.3.4.2 Separation minima between succeeding aircraft or aircraft on converging flight paths on transfer with verbal coordination 15 NM constant or increasing.

G.2.3.5 Contingency sectors and communications.

<b>Bremen ACC Contingency sector</b> (Aiding Unit) Combined sectors	<b>Type of message</b>	<b>Position</b>	<b>Communications</b>
<b>CBE1</b> (CRC Schönewalde; MRZ, MAR)	Control Messages, Approval Requests, Expedite Clearances, Revisions, Passing Estimates	Planer CBE1P	MFC: 34 7793 Public netw.: +49 35389 8633 798
	Radar Coordination	Executive CBE1E	MFC: 34 7794 Public network: via Planner <b>VHF 134.650 MHz</b> <b>UHF 373.975 MHz</b>
	Flight Plan Data and Receiving Estimates	Assistant CBEBA	MFC: 34 7790 Public netw.: +49 35389 8633 797
<b>CBE2</b> (CRC Schönewalde; BOR, FLG)	Control Messages, Approval Requests, Expedite Clearances, Revisions, Passing Estimates	Planer CBE2P	MFC: 34 7791 Public netw.: +49 35389 8633 796
	Radar Coordination	Executive CBE2E	MFC: 34 7792 Public network: via Planner <b>VHF 126.075 MHz</b> <b>UHF 396.975 MHz</b>
	Flight Plan Data and Receiving Estimates	Assistant CBEBA	MFC: 34 7795 Public netw.: +49 35389 8633 797
<b>Supervisor CBNSM</b> (UAC Maastricht)	Procedures Capacity, Emergency	Supervisor Bremen for all contingency working positions	MFC: 34 4923 Public network: +31 433662522

Note: The Bremen ACC contingency working positions will call the respective working position of coordinating partners on the extensions agreed in Annex C of the respective Letter of Agreement.

G.2.3.6 Voice Communication Systems

All coordination partners of Bremen ACC shall make sure that they are able to reach the Bremen ACC contingency working positions via MFC numbers, taking into consideration that Bremen ACC is completely off, including the technical systems. Public Phone shall be used as back up system. During exercises all systems at Bremen keep on running, beside OLDI-data exchange.

G.2.3.7 SSR Code Assignment.

During contingency Bremen ACC may not be able to transfer aircraft on discrete SSR codes assigned in accordance with ORCAM.

**END**