to	Distribution list				LoA 04
from	JH. Baerens, CC/FB-N	phone	0421 5372 143	date DRF until	22.06.2011 11.08.2011

Amendment of the LoA between Langen ACC and Bremen ACC wef 30.06.2011

1. Essentials

WWC1S/WWC2S – due to reorganisation of TRAMON services, in this case for TRA202, wef 30JUN11 the validity of this LoA for working positions WWC1S and WWC2S will be cancelled. The regulation to inform Langen ACC about the usage of TRA202 will be deleted in this LoA.

Other changes for sector family South:

A.2 – some abbreviations have been added

EMS: B.3.1.1 – one coordinate of the RKN-Area will be changed by some seconds

Appendix 1 to Annex C – an ACT parameter will be changed from Langen to Bremen (old value was 30 NM)

D.2 – a general statement has been added. In the following tables of transfer conditions the term "... or RFL if lower" has been deleted. All tables have mainly only editorial changes.

ATTN: DST/HRZ – D.2.1.1 – Note 1 is new – Traffic via B293 and T854 is released for turn from the transferring sector after passing WRB.

Wherever a release is stated, the wording was precised by adding the statement "from the transferring sector". (D.2.1.1, D.2.2.1, D.2.2.2)

D.2.2.2 – Note 2 – only the wording is new, the fact itself exists already. This note is a summary of the following both notes:

Note 2: Flights with DEST EDVK entering AoR Bremen ACC via ELNAT are released for turn to the west and descent to FL70 after passing ELNAT / abeam ELNAT. Bremen ACC shall ensure that these flights remain clear of sector GIN or coordinate with sector GIN.

Note 3: Flights are released for turn to the east and descent to FL70 within lateral limits of ESADU area. Bremen ACC shall ensure that these flights remain clear of sector HEF or coordinate with sector HEF.

HRZ/DST – D.3.2 – the following sentence will be deleted:

"During times of activity of TRA 203 the delegation of ATS within those parts of the delegated area "Hannover" which are located within TRA203 is revoked."

In order to make separation to a TRA, when it is used, a delegation doesn't have to be revoked. The last sentence was corrected insofar, that Langen SV informs us, when actually the TRA usage has terminated, but not 10 minutes (as the old wording could be understood).

E.2.2 – two UHF of Langen have been changed

F.1.1 – the paragraph has been complete in order to reflect the usage of Mode S

F.2.1.1 - editorial change ("radar" changed to "Executive")

F.2.1.3 – editorial changes of the wording, the procedure itself remains the same.

2. List of Changes

Date	Parts	Page(s)	add, replace, delete
20.06.2011	amendment		roplaco
30.00.2011	LoA	all	replace

Axel Brandt Chief of Support Jürgen Homburg Chief of Section

Sector families affected:												
	North A	North B*	East A	East B	South	FDS	FIS	FMP	DA	SV CC	SV FDS	Office
mandatory		٢			2							
information												۲
* only applica	able to secto	or(s): WWC1	S, WWC2S									
				Thi	is LoA is v	alid for:						
	North A	North B	East A	East B	South	FDS	FIS	FMP	DA	SV CC	SV FDA	Office
					K	Z		V		K	Z	K
* only applica	* only applicable to sector(s):											

Distribution: LoA I 1, 2, 3, 5

Mr Ch. Faby

Ms Ch. Heise



LETTER OF AGREEMENT

DFS Deutsche Flugsicherung GmbH between DFS Deutsche Flugsicherung GmbH

Langen ACC

and

Bremen ACC

Effective: 2010-08-26

1 General.

1.1 Purpose.

The purpose of this Letter of Agreement is to define the coordination procedures to be applied between Langen ACC and Bremen ACC when providing ATS to General Air Traffic (IFR/VFR) and/or Operational Air Traffic.

These procedures are supplementary to those specified in ICAO, EUROCONTROL and/or national documents.

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 Letter of Agreement.

2 Areas of Responsibility (AoR) for the Provision of ATS.

2.1 Areas of Responsibility.

The lateral and vertical limits of the respective AoR 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 Langen ACC

Lateral Limits: Langen FIR as published in the AIP Germany

Vertical limits: as published in the AIP Germany

ICAO airspace classification for the area of responsibility of Langen ACC along the common boundary of the areas of responsibility of Langen ACC 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

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

2.2 **Delegation of ATS.**

2.2.1 Delegation of ATS from Langen ACC to Bremen ACC.

Within the Langen FIR the responsibility for the provision of ATS in accordance with the airspace classification has been delegated from Langen ACC to Bremen ACC within the following areas (see Appendix 1):

2.2.1.1 Hannover Area.

Lateral Limits:	N 52 08 00 E 008 44 29 - N 52 08 18 E 009 00 00 -
	N 51 52 55 E 009 00 00 - N 51 45 16 E 009 00 00 -
	N 51 45 00 E 008 52 00 - N 51 52 55 E 008 52 00 -
	N 51 54 00 E 008 52 00 – N 52 08 00 E 008 44 29.

Vertical Limits: GND - FL245

2.2.1.2 Paderborn Area.

Lateral Limits: N 51 45 00 E 008 52 00 - N 51 45 16 E 009 00 00 -N 51 40 00 E 009 00 00 - N 51 28 37 E 008 52 00 -N 51 36 43 E 008 52 00 - N 51 40 00 E 008 52 00 -N 51 45 00 E 008 52 00 E.

Vertical Limits: FL075 - FL245

2.2.1.3 ESADU Area.

Vertical Limits: FL205 – FL245

2.2.1.4 Kassel Area.

Lateral Limits:	N 51 20 00 E 009 10 00 – N 51 20 00 E 009 27 00 –
	N 51 14 41 E 009 19 10 – N 51 20 00 E 009 10 00.

Vertical Limits: GND – 5500 AMSL

2.2.1.5 Bentlage Areas

Bentlage B 1 - Area

Lateral Limits: N 52 14 20 E 007 03 40 - N 52 15 42 E 007 31 28 -N 52 12 23 E 007 31 29 - N 52 10 20 E 007 21 49 -N 52 09 38 E 007 09 17 - N 52 14 20 E 007 03 40.

Vertical Limits: GND – 3500 AMSL

Bentlage B 2 - Area

Lateral Limits: N 52 15 42 E 007 31 28 - N 52 19 32 E 007 51 24 - N 52 16 36 E 007 50 58 - N 52 15 42 E 007 31 28.

Vertical Limits: GND – 3500 AMSL

Note: 1. Sector A of Rheine-Bentlage AoR is described in Annex B to this Letter of Agreement. 2. Bremen ACC may be responsible for the provision of ATS for Rheine-Bentlage. In this case the Bentlage Areas B1 and B2 shall on request of Bremen ACC be temporarily delegated to the Bremen ACC EMS sector. Rules of activation / deactivation see Annex D to this Letter of Agreement.

2.2.2 Delegation of ATS from Bremen ACC to Langen ACC.

Within the Bremen FIR the responsibility for the provision of ATS in accordance with the airspace classification has been delegated from Bremen ACC to Langen ACC within the following areas (see Appendix 1):

2.2.2.1 Osnabrück Area.

Vertical Limits: GND – FL065

2.2.2.2 Rotes Land Area.

Lateral Limits: N 51 28 37 E 008 52 00 – N 51 20 00 E 008 54 28 -N 51 20 00 E 008 46 00 – N 51 28 37 E 008 52 00

Vertical Limits: GND - FL205

2.2.2.3 RIMET Area.

Lateral Limits: N 51 28 42 E 010 03 42 - N 51 29 13 E 010 35 33 - N 51 20 02 E 010 23 15 - N 51 20 01 E 010 03 34 - N 51 28 42 E 010 03 42.

Vertical Limits: FL235 – FL245

2.2.3 <u>Delegated Services.</u>

The provision of ATS in respect of this LoA means the following services: Air traffic control service (ATC), Flight information service for controlled flights, Alerting service (ALRS).

2.2.4 Other Areas.

Delegations of ATS to/from other co-ordinating ATS units along the common boundary of the areas of responsibility of Langen ACC and Bremen ACC are described in Annex B to this Letter of Agreement.

2.2.5 <u>Alerting Service.</u>

The ATS Unit responsible for the provision of ATS shall provide alerting service and shall coordinate with the appropriate rescue co-ordination Centre as required.

3 Procedures.

The procedures to be applied by Langen ACC and Bremen ACC are detailed in the Annexes to this Letter of Agreement:

- Annex A: Definitions and Abbreviations
- Annex B: Area of Common Interest
- Annex C: Exchange of Flight Data and Communication
- 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 the Letter of Agreement.**

The revision of the present Letter of Agreement, excluding Annexes and Appendices, requires the mutual written consent of the signatory authorities.

4.2 Revision of the Annexes and Appendices to the Letter of Agreement.

The revision of Annexes and Appendices to the present Letter of Agreement requires the mutual consent of the parties and the written confirmation of the mutual consent of one of both parties at least.

4.3 **Temporary Deviations.**

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

4.4 Incidental Deviations.

Instances may arise where incidental deviations from the procedures specified in the Annexes and Appendices to this Letter of Agreement 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 Letter of Agreement by mutual written agreement of the respective Approving Authorities may take place at any time.
- 5.2 Cancellation of this Letter of Agreement by either Approving Authority is possible at any time, provided that the cancelling party declares its intention to cancel the Letter of Agreement with a minimum pre-notification time of 6 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 Letter of Agreement becomes effective on 26 August 2010 and supersedes the Letter of Agreement between Langen ACC and Bremen ACC, dated 29 July 2010.

Langen, [date] 16. 08. Col O

i. V. Dirk Mahns

I. V. DIRK Manns Deutsche Flugsicherung GmbH Langen ACC Head of Operations Bremen, [date] 11. 8.2010

i. V. Werner Spier Deutsche Flugsicherung GmbH Bremen ACC Head of Operations PAGE INTENTIONALLY LEFT BLANK.





Appendix 2

RECORD OF AMENDMENTS

AMD No.	Date	Part	Page	Add, Delete or Replace
1	2010 00 22	RoA	8	replace
1	2010-09-23	Annex F	F1, F2	replace
		RoA	8	replace
2	2010 11 10	Annex B	B1, B2	replace
2	2010-11-10	Annex D	D1, D2, D4	replace
		Annex G	G1, G2	replace
		RoA	8	replace
		Annex C	C1, C5	replace
3	2010-12-16	Annex D	D1 – D5	replace
		Annex F	F1	replace
		Annex G	G1, G2	replace
	2011-02-10	RoA	8	replace
4		Annex D	D1, D4	replace
		RoA	8	replace
		Annex A	A1, A3	replace
		Annex B	B1, B2, B6	replace
F	2011 06 20	Annex C	C1, C5	replace
5	2011-00-30	Annex D	D1 - D6	replace
		Annex E	E1	replace
		Annex F	F1	replace
		Annex G	G1, G3	replace

Annex A.

Definitions and Abbreviations.

Effective: 2010-08-26 Revised: 2011-06-30

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 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 Approval Request.

Request from an ATS unit to the ATS unit concerned for an approval of:

- an aircraft not yet airborne, whenever the flying time to the transfer of control point is less than the agreed minimum pre-notification time, or
- an aircraft in flight intending to operate under conditions other than those described in mutually agreed procedures.

A.1.4 Expedite Clearance.

An urgent clearance request from an ATS unit to the ATS unit concerned for an aircraft in flight whenever the flying time to the transfer of control point is less than the agreed minimum pre-no-tification time.

A.1.5 **Division Level (DL).**

The level dividing two super-imposed areas of responsibility for the provision of ATS.

A.1.6 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.1.7 **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.1.8 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.1.8.1 <u>RVSM Approved Aircraft.</u>

Aircraft that have received State approval for RVSM operations within the EUR RVSM airspace.

A.1.9 Release.

A.1.9.1 <u>Release for Climb.</u>

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

Note: The transferring unit remains responsible for separation within its Area of Responsibility unless otherwise agreed.

A.1.9.2 <u>Release for Descent.</u>

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

Note: The transferring unit remains responsible for separation within its Area of Responsibility unless otherwise agreed.

A.1.9.3 <u>Release for Turn.</u>

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 remains responsible for separation within its Area of Responsibility unless otherwise agreed.

A.1.10 State Aircraft

Only aircraft used in military, customs and police services shall qualify as State aircraft.

A.2 Abbreviations.

ABI	Advance Boundary Information	EDL* *	All Locations indicator, starting with EDL
ACI*	Area of Common Interest	EDK* *	All Locations indicator, starting with EDK
ACT	Activation Message	FMP*	Flow Management Position
ACID*	Aircraft Identity	IAW*	In Accordance With
AoR*	Area of Responsibility	LAM	Logical Acknowledge Message (Type Designator)
CFL	Cleared Flight Level	MAC*	Message for Abrogation of Co- ordination (OLDI)
COP*	Co-ordination Point	MFC*	Multi Frequency Coding (telephone system)
CRAM*	Conditional Route Availability Message	MSCC*	Mode S Conspicuity Code
DEP*	Departure	OLDI	On-line Data Interchange
DEST*	Destination	ORCAN	I Originating Region Code Assignment Method
DL*	Division Level	PAC*	Pre-activation Message (OLDI)
EDFF	Langen ACC Sectors HEF and GIN	REV*	Revision Message
EDGG	Langen FIR	RTF	Radio Telephony
EDLL	Langen ACC Sectors HMML, HMMM, PADL, PADH	VCS*	Voice Communication System

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

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

PAGE INTENTIONALLY LEFT BLANK.

I

Annex B.

Area of Common Interest.

Effective: 2010-08-26 Revised: 2011-06-30

B.1 Airspace Structure and Classification within the Area of Common Interest.

B.1.1 Langen FIR.

Area	Vertical Limits	Airspace Classification
Langen FIR	Up to 2700 AMSL (CTR EDVK) Up to 1700 AMSL (CTR ETHE) Up to 2500 AMSL (CTR EDDG) Up to 2500 AMSL (CTR EDLP) Up to 3000 AMSL (CTR ETUO) 2500/3500/4500 AMSL-FL60 (D not CTR EDDG)	D (HX) D (HX) D (HX) D (HX) D (HX) D (HX) D (not CTR)
	Up to 1000 / 2500 GND 1000 / 2500 GND - FL100 FL100 - FL245	G E C

B.1.2 Bremen FIR.

Area	Vertical Limits	Airspace Classification
Bremen FIR	Up to 2700 AMSL (CTR EDVK) Up to 2500 AMSL (CTR ETHB) Up to 1700 AMSL (CTR ETHE) 2500/3500/4500 AMSL-FL60 (D not CTR EDDG)	D (HX) D (HX) D (HX) D (not CTR)
	Up to 1000 / 2500 GND 1000 / 2500 GND - FL100 FL100 - FL245	G E C

B.2 Areas of Responsibility and Sectorisation.

B.2.1 The sectorisation of Langen ACC and Bremen ACC within the ACI is shown in the maps of Appendix 1 (chart 1 and 2) to Annex B. Unless otherwise specified according to B.3 the Bremen FIR – Langen FIR boundary is the AoR-boundary.

B.3 Areas of Common Interest.

- B.3.1 Delegations of the Responsibility for the Provision of ATS to/from other ATS Units within the ACI.
- B.3.1.1 Within the Langen FIR the responsibility for the provision of ATS has been delegated from Langen ACC to Amsterdam ACC within the following area:

REKKEN B area (see Appendix 2 chart 1 to Annex B)

Lateral Limits: The part of the Langen FIR west of a line linking the coordinates N 52 14 20 E 007 03 40 - N 52 14 58 E 007 16 04 E - N 51 58 09 E 007 06 29 - N 51 51 44 E 006 58 08 E - N 51 54 39 E 006 52 36 - N 51 56 01 E 006 47 27.

Vertical Limits: FL205 – FL245

Airspace classification: C

B.3.1.2 Within the Rhein UIR the responsibility for the provision of ATS has been delegated from Karlsruhe UAC to Langen ACC within the following area:

HILFE Window (see Appendix 2 chart 2 to Annex B)

Lateral Limits	N 51 20 01 E 010 03 34 – N 51 20 02 E 010 23 15 -
	N 51 09 39 E 010 21 13 – N 51 06 15 E 010 09 13 -
	N 51 06 15 E 010 03 22 – N 51 20 01 E 010 03 34.

Vertical Limits: FL245 – FL255

Airspace classification: C

B.3.1.3 Within the Bremen FIR the responsibility for the provision of ATS may temporary be delegated from Bremen ACC to Bückeburg APP within the following area, when active:

Bückeburg AoR Sector A (see Appendix 2 chart 3 to Annex B)

Vertical Limits: GND - 4500 AMSL

Airspace classification: see B.1.2

B.3.1.4 Within the Bremen FIR the responsibility for the provision of ATS may temporary be delegated from Bremen ACC to Rheine-Bentlage APP within the following area, when active:

Rheine-Bentlage AoR Sector A (see Appendix 2 chart 1 to Annex B)

Vertical Limits: GND – 3500 AMSL (4500 AMSL)

Airspace classification: see B.1.2

B.3.2 **Other Areas** – see Appendix 1 to Annex B.

ED R 37 A/B, ED R 112 A/B, ED R 202 (TRA), ED R 203 (TRA), LANIA 2, TMZ EDLP as published in the AIP Germany.

B.4 Non-published Co-ordination Points.

Not applicable.



Chart 1: Sectorisation between Bremen ACC and Langen ACC in the north western part.



LoA between Langen ACC and Bremen ACC. 2010-08-26. Annex B.

Page B 5

Appendix 2 to Annex B.

Chart 1: Rekken Area and Rheine-Bentlage AoR







Chart 3: Bückeburg AoR



LoA between Langen ACC and Bremen ACC. 2010-08-26. Annex B.

PAGE INTENTIONALLY LEFT BLANK.

Annex C.

Exchange of Flight Data and Communication Procedures.

Effective: 2010-08-26 Revised: 2011-06-30

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 <u>Automatic Data Exchange.</u>

ABI/ACT/LAM/PAC messages are exchanged between the two ATS Units in accordance with Appendix 1 to Annex C and Annex D (Coordination Procedures).

C.1.2.2 <u>Verbal Estimates.</u>

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 10 minutes prior, but not earlier than 30 minutes before the aircraft is estimated to pass the transfer of control point.

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.

C.1.4 Revisions.

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

Time differences of 5 minutes or more are to be exchanged.

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

Whenever the minimum time of 10 minutes for a verbal estimate / PAC- / ACT- message cannot be met, an expedite clearance request or an approval request, as appropriate, shall be effected.

Changes to the co-ordinated levels within 5 minutes of the ETO for the transfer of control point are subject to an Approval Request.

C.2 Means of Communications and their Use.

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

C.2.1 Messages from Langen ACC to Bremen ACC.

Receiving Sector	Type of Message	Position	VCS extension
Deister	Control Messages, Expedite Clearances, Approval Requests and Revisions	DSTP	2075
(DST)	Radar Co-ordination	DSTE	2065
	Flight Data and Estimates	WWC3A	2164
Harz	Control Messages, Expedite Clearances, Approval Requests and Revisions	HRZP	2074
(HRZ)	Radar Co-ordination	HRZE	2064
	Flight Data and Estimates	WWC3A	2164
Ems	Control Messages, Expedite Clearances, Approval Requests and Revisions	EMSP	2071
(EMS)	Radar Co-ordination	EMSE	2061
	Flight Data Messages	WWC3A	2164
Hannover	Control Messages, Expedite Clearances, Approval Requests and Revisions	HANQ	2078
(HAN)	Radar Co-ordination	HANB	2068
	Flight Data and Estimates	WWC3A	2164
TRAMON (NLFS)	Handling and coordination NLFS GE	WWC1S	2082
TRAMON (TRA202)		WWC2S	2083
FIS		WWC2I	2012
Supervisor CC	Air Traffic Management	WWC1M	2199
Supervisor FDA		WWCAM	2120
FMP	Flow Control messages	WWC1F	2099

C.2.2 Messages from Bremen ACC to Langen ACC

Receiving Sector	Type of Message	Position	VCS extension
Hamm Medium	Control Messages, Expedite Clear- ances, Approval Requests and Revisions	HMMMP	6256
(HMMM)	Radar Co-ordination	HMMME	6246
	Flight Data and Estimates	HMMA	6213
Hamm Low	Control Messages, Expedite Clear- ances, Approval Requests and Revisions	HMMLP	6254
(HMML)	Radar Co-ordination	HMMLE	6244
	Flight Data and Estimates	HMMA	6213
Paderborn High	Control Messages, Expedite Clear- ances, Approval Requests and Revisions	PADHP	6257
(PADH)	Radar Co-ordination	PADHE	6247
	Flight Data and Estimates	HMMA	6213
Paderborn Low	Control Messages, Expedite Clear- ances, Approval Requests and Revisions	PADLP	6292
(PADL)	Radar Co-ordination	PADLE	6282
	Flight Data and Estimates	HMMA	6213
Giessen	Control Messages, Expedite Clear- ances, Approval Requests and Revisions	GINP	6032
(GIN)	Radar Co-ordination	GINE	6022
	Flight Data and Estimates	GINA	6121
Hersfeld	Control Messages, Expedite Clear- ances, Approval Requests and Revisions	HEFP	6033
(HEF)	Radar Co-ordination	HEFE	6023
	Flight Data and Estimates	GINA	6121
Gedern	Control Messages, Expedite Clear- ances, Approval Requests and Revisions	GEDP	6034
(GED)	Radar Co-ordination	GEDE	6024
	Flight Data and Estimates	GINA	6121
ALLOCATOR	Handling and coordination NLFS GE	LLCJ	6202
FIS		LLCI	6201
		FFC3I	6013
Supervisor CC	Air Traffic Management	LLCM	6200
Supervisor FDA		LLCMD	6207
FMP	Flow Control messages	LLCF	6209

C.3 Failure of Ground/Ground Voice Communications.

C.3.1 Fall-Back Procedures for Coordination.

In the event of failure of the MFC lines between the coordinating partners, coordination shall be effected by means of public phone.

C.3.2 **Public phone numbers / fax numbers**

Langen ACC			
Supervisor CC	06103 707 6600, backup: 06103 202172		
Supervisor FDA	06103 707 6650		
FMP	06103 707 6660		
Sector HMMLQ	06103 202904		
Sector PADLQ	06103 280594		
Sector GINP	06103 924869		
ops room Fax	06103 707 6680		
Bremen ACC			
Supervisor CC	0421 5963 489 / 0421 51499 00		
Supervisor FDA	0421 51499 02		
FMP	0421 51499 06		
Sector EMS	0421 51499 25		
Sector DST	0421 51499 24		
Sector HRZ	0421 51499 19		
ops room Fax	0421 53 55 33		

C.3.3 Alternate Fall-Back Procedures for Coordination

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.

Appendix 1 to Annex C

Automatic Data Exchange.

ABI/PAC/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 Langen ACC to Bremen ACC	Messages from Bremen ACC to Langen ACC	
	EDFF -> EDWW		
	WRB (Departures EDFQ)		
	EDLL -> EDWW		
	WRB (Departures EDLP)		
	OSN (Departures EDDG)		
PAC	EDWW -> EDFF	on start-up	on start-up
WRB, F (Depart	WRB, ROBAR, ELNAT (Departures EDVK)	(active input)	(active input)
	WRB, ROBAR, ELNAT (Departures EDLP)		
	EDWW -> EDLL		
	WRB (Departures EDVK)		
ABI	all (see Annex D, D.2.1 + D.2.2)	not less than 180 sec. prior ACT-message	not less than 300 sec. prior ACT-message
ACT	all (see Annex D, D.2.1 + D.2.2)	Traffic via WRB from PADL/H: 15 minutes prior to ETO COP or 40 NM prior to COP, whichever comes first Other traffic: 15 minutes prior to ETO COP or 30 NM prior to COP, whichever comes	20 minutes prior to ETO COP or 30 NM prior to COP, whichever comes first
LAM	all (see Annex D, D.2.1 + D.2.2)	to be sent within 45 sec.; 45 s	has to be received within sec.

Bremen ACC and Langen ACC (P1 system Frankfurt) are using the route validation functionality of COP -1/+1.

PAGE INTENTIONALLY LEFT BLANK.

Annex D.

Procedures for Coordination.

Effective: 2010-08-26 Revised: 2011-06-30

D.1 General Conditions for Acceptance of Flights.

- D.1.1 Coordination of flights shall take place by reference to the COP for the relevant route and in accordance with the appropriate flight levels specified for the relevant route (see paragraphs D.2 and D.3).
- D.1.2 Flights shall be considered to be maintaining the coordinated flight level at the transfer of control point unless climb or descent conditions have been clearly stated by use of crossing conditions in the ACT or by verbal coordination, 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 Annex (e. g. COP, route or flight level) the transferring ATS unit shall initiate an Approval Request.
- D.1.5 The accepting ATS unit shall not notify the transferring ATS unit that it has established groundair communications with the transferred aircraft unless specifically requested to do so. The Accepting ATS unit shall notify the transferring ATS unit in the event that communication with the aircraft is not established as expected.

D.1.6 VHF 8.33 kHz channel spacing

Aircraft not equipped with 8.33 kHz channel spacing capability shall not be coordinated above FL195 except for UHF-equipped exempted State Aircraft.

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

Except if the RFL is lower, the following flights shall be coordinated and transferred as described in the paragraphs below.

Note: If more than one transfer condition is applicable to a specific flight, the transfer condition with the lowest allocated flight level applies.

D.2.1 Flights from Bremen ACC to Langen ACC.

D.2.1.1 Flights to Langen ACC Sectors HMML/HMMM/PADL/PADH.

ATS-Route	COP	FL-Allocation	Special Conditions
T854	WRB		See NOTE 1
B293	ESADU		
1.080	MOBSA	iaw AIP	For flights with RFL below FL065
2900	OSN		For flights with RFL above FL065
L179, R15, Z713	OSN		See NOTE 2
Z717	PIROT		
DEST EDLW	ESADU, WRB	FL160	See NOTE 3
DEST EDLP	WRB	FL 070	See NOTE 4
DEST EDDG,EDLI, ETUO	OSN	FLUTU	See NOTE 5
DEP EDVK	ESADU, WRB	FL090	
Off route	IBAGU		
NLFS	JH1, KG1	System Altitude	See NOTE 6
NLFS	ННЗ	3500 ft	

NOTE1: These flights are released for turn from the transferring sector after passing the WRB DVOR.

- NOTE 2: ARR to EDDL, EDDK, EDL* and EDK* shall be handed over by Bremen ACC at FL200. ARR to EDDL, EDDK, EDL* and EDK* are released for turn and descent to FL120 to sectors HMML and HMMM from the transferring sector after passing OSN, except if the aircraft is on a DCT. For those flights an individual release shall be coordinated, if required.
- NOTE 3: Aircraft coordinated verbally or via ACT message at FL160 may be transferred descending from FL200 to FL160.
- NOTE 4: These flights are released for turn and descent from the transferring sector west of N850 (applicable for both RWY directions at EDLP).

In case of EDLP RWY 06 flights may be cleared by Bremen ACC direct to PAD provided the routing is south of WRB VOR.

NOTE 5: Clearance limit shall be OSN VOR.

Transfer of Communication shall take place not later than 10 NM before OSN VOR. Flights planned on routing ROBEG - OSN are released for turns from the transferring sector provided the aircraft stay south of the line ROBEG - OSN.

NOTE 6: The CFL within the ACT shall be 1000 ft regardless of system altitude.

D.2.1.2 Flights to Langen ACC Sectors GIN/HEF/GED.

ATS-Route	СОР	FL-Allocation	Special Conditions
N850	WRB	iaw AIP	
T152	ROBAR	FL190	See NOTE 1, 2
T157	RIMET	FL230	
Z190		FL190	
DEP EDDV - SIDs ELNAT / G5	ELNAT	iaw AIP	
DEP EDVK SID ELNAT			See NOTE 2
DEP EDVK SID WRB- N850	WRB	FL90	See NOTE 3
DEP EDVK via WRB – Z190-ROBAR-T152	ROBAR		See NOTE 2, 3
DEST EDGS	WRB	FL170	
DEST EDDR, EDFH, EDFM, EDFV, EDRY, EDRZ, ETOR	WRB	FL210	
DEP EDLP via N850	WRB		
DEP EDLP via Z190- T152	ROBAR	EI 150	
DEP EDLP via Z190- ELNAT	ELNAT		
DEST EDFQ	WRB		

- NOTE 1:Langen ACC accepts flights on direct routing to NATSU if this direct routing will lead the flight into the triangle WRB NATSU TOLTA.
- NOTE 2: Departures EDVK will be handed over by Bremen ACC climbing to FL90.
- NOTE 3: For departures EDVK on WRBxK HRZP shall coordinate an approval request with HEFP prior departure. HEFP shall coordinate with GINP.

Definition of EDVK SID WRBxK:

"On track 221 to 3000, MNM climb gradient 400 ft/NM (procedure design gradient 6.6 %) until passing 2700, RT, proceed to WRB. After takeoff climb to A 5000."

D.2.2 Flights from Langen ACC to Bremen ACC.

ATS-Route	СОР	FL-Allocation	Special Conditions
R15, L179, Z713			
DEST EDDV	OSN	law AIP	See NOTE 1
DEP EDDG SIDs OSN			See NOTE 2
Y867	WRB	EL 210	See NOTE 3 and 4
B293	ESADU		
DEP EDLP via WRB		FL130	See NOTE 5
DEP EDLW via WRB	WRB	FL170	
DEST EDVK		FL100	
Z717	EXOBA	law AIP	
off route	IBAGU	all levels	
off route	BET	A40	
NLFS	HH3,JH1, KG1, JG1	system altitude	See NOTE 6

D.2.2.1 Flights from Langen ACC Sectors HMML/HMMM/PADL/PADH to Bremen ACC.

- NOTE 1: Arrivals EDDV via RKN / SUVOX to OSN are released for turns from the transferring sector to NIE prior OSN.
- NOTE 2: Departures EDDG:

On request Bremen EMSP/E shall be informed verbally about start up clearances already issued.

After departure coordination shall take place by sending an ACT-message.

Departures with RFL110 and above shall be transferred climbing FL110 to Bremen ACC.

Departures with RFL100 and below shall be transferred at or climbing to RFL. Langen ACC shall separate from known traffic to be transferred by Bremen ACC.

- NOTE 3: Flights are released for climb subject to known traffic.
- NOTE 4: Flights coordinated at FL210 shall reach FL210 not later than 15 NM prior WRB.
- NOTE 5: Departures EDLP

On request Bremen HRZP/E shall be informed verbally about start up clearances already issued.

After departure coordination shall take place by sending an ACT-message for COP WRB.

Departures via WRB with RFL130 and above shall be transferred climbing FL130 to Bremen ACC.

Departures via WRB with RFL120 and below shall be transferred at or climbing to RFL. Langen ACC shall separate from known traffic to be transferred by Bremen ACC.

Procedure in case ED-TRA 203 is used: Langen ACC shall transfer traffic at A50 to Bremen ACC. Flights are released to FL130 clear of TRA 203.

NOTE 6: Bremen TRAMON is responsible to monitor the NLFS GE within the Bremen FIR. The CFL within the ACT shall be 1000 ft regardless of system altitude. Flights via JG1 shall be transferred from sector GIN to Bremen TRAMON.

D.2.2.2 Flights from Langen ACC Sectors GIN/HEF to Bremen ACC.

ATS-Route	COP	FL-Allocation	Special Conditions
DEP EDDF, EDFE, ETOU via Y153 / DEP EDFQ, ETHF via WRB	WRB	iaw AIP	
N850	ALEXU		
Z190		FL180	
G5		iaw AIP	
DEP EDDF, EDFE, ETOU via Y153 / DEP EDFQ, ETHF via WRB with DEST EDLP	WRB	FL140	
Destination EDLP via Z190	ELNAT		See NOTE 1
DEST EDLP via N850	ALEXU		
DEP EDDF, EDFE, ETOU via Y153 / DEP EDFQ, ETHF via WRB with DEST EDVK	WRB	FL100	
DEST EDVK via STAR ELNAT or Z190	ELNAT		See NOTE 2
DEST EDVK via N850	ALEXU		
entry NLFS at JG1	JG1	system altitude	See NOTE 3
Y150	NATSU	FL240-	See NOTE 4

- NOTE 1: Sector HEF may clear subject flights direct WRB from any position south of ELNAT. These flights are released for descent to FL70 after passing ELNAT / abeam ELNAT from the transferring sector.
- NOTE 2: Flights are released for turn and descent to FL70 from the transferring sector.
- NOTE 3: Bremen TRAMON is responsible to monitor the NLFS GE within the Bremen FIR. The cleared altitude within the ACT shall be 1000 ft regardless of system altitude. Flights shall be transferred from sector GIN to Bremen TRAMON.
- NOTE 4: If it is anticipated that a flight will be unable to enter upper airspace clear of AoR of Bremen ACC, Langen ACC sector GIN may send NATSU-ACT to Bremen ACC at FL240 or below. Verbal coordination is required when time according para C.1.2.2 cannot be met. Notwithstanding ACT to Bremen ACC Langen ACC sector GIN shall send an ACT to Maastricht UAC. Langen ACC sector GIN shall inform Maastricht, whenever a flight is transferred to Bremen ACC.

D.3. Special procedures.

- D.3.1 West of N850 Langen ACC sector PADL shall be responsible for the separation between IFR flights leaving or entering the sector PADL over WRB. Transfer of communication for flights via WRB at or below FL70 shall be established not later than WRB. Flights planned via WRB, however on direct tracks, shall be transferred not later than a position abeam of WRB.
- D.3.2 SV CC Langen ACC shall inform Bremen ACC sector HRZ 10 minutes prior to an intended use of TRA 203 and/or LANIA 2. In case of opportunity flights the information shall be given as soon as possible.
 SV CC Langen ACC shall inform Bremen ACC sector HBZ, when the upper of the TBA 202

SV CC Langen ACC shall inform Bremen ACC sector HRZ, when the usage of the TRA 203 and/or LANIA 2 has been terminated.

D.3.3 ATC clearances for VFR flights in airspace D in the vicinity of EDDG (not CTR).

Langen ACC shall be responsible for issuing ATC clearances to VFR flights in airspace class D (not CTR) in the vicinity of EDDG. This shall also apply to that part of airspace class D (not CTR) EDDG which is located inside Bremen FIR.

D.3.4 Activation / deactivation of Bentlage Area

During times of flight activities at ETHE Bremen ACC and Langen ACC shall delegate the Bentlage Areas to Bentlage APP.

During times of flight activities at ETHE and unavailability of Bentlage APP Bremen ACC shall provide ATS for flights to / from ETHE. In this case Langen ACC shall delegate Areas B1 and B2 of AoR Bentlage situated in Langen AoR to Bremen ACC.

Annex E.

Transfer of Control and Transfer of Communications.

Effective: 2010-08-26 Revised: 2011-06-30

E.1 Transfer of Control.

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

E.2 Transfer of Communications.

The transfer of communications shall take place not later than the transfer of control, unless otherwise stated in Annex D or coordinated verbally.

The transferring ATS unit shall coordinate with the receiving ATS unit about which frequency (UHF or VHF) to be used in due time before the transfer of communications for the following traffic:

- UHF-equipped State Aircraft above FL 195 that are not equipped with 8.33 KHZ channel spacing capability, and
- UHF-equipped aircraft below FL 195 that are not equipped with VHF and for which a UHF frequency is not listed in the note below.

E.2.1 Frequencies Bremen ACC.

SECTOR	VHF	UHF	
HAN	131.325 MHz	259.725 MHz	
HRZ	126.650 MHz	372.300 MHz	
EMS	125.025 MHz	372.550 MHz	
DST TRAMON (NLES)	128.750 MHz	283.950 MHz 362 300 MHz	
FIS WWC2I	119.825 MHz	376.400 MHz	

E.2.2 Frequencies Langen ACC.

VHF	UHF
124.725 MHz	264.800 MHz
127.725 MHz	379.900 MHz
124.425 MHz	281.750 MHz
129.300 MHz	387.825 MHz
129.175 MHz	378.825 MHz
135.650 MHz	375.100 MHz
125.225 MHz	342.025 MHz
	371.725 MHz
129.875 MHz	-
119.150 MHz	359.675 MHz
	VHF 124.725 MHz 127.725 MHz 124.425 MHz 129.300 MHz 129.175 MHz 135.650 MHz 125.225 MHz 129.875 MHz 119.150 MHz

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

Not applicable.

I

I

PAGE INTENTIONALLY LEFT BLANK.

Annex F.

Radar Based Coordination Procedures.

Effective: 2010-08-26 Revised: 2011-06-30

F.1 SSR Code Assignment.

- F.1.1 Both ATS units shall transfer aircraft on verified discrete SSR codes assigned in accordance with ORCAM or on MSCC (A 1000) for flights for which the Mode S ACID has been verified.
- F.1.2 Any change of SSR code by the accepting ATS unit may only take place after the transfer of control point.
- 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 General.

- F.2.1.1 Transfer of radar identification and transfer of radar control between Langen ACC and Bremen ACC shall be subject to the serviceability of the respective radar systems and two-way direct speech facilities between the Executive positions.
- F.2.1.2 If it becomes necessary to reduce or suspend radar transfers, a 5 minutes prior notification shall be observed, except in emergency situations.
- F.2.1.3 Vectoring within the respective AoRs may take place without coordination between the ATS units provided the distance to the AoR boundary is not less than 2.5 NM.

Exception 1: In the Kassel area (see 2.2.1.4) Bremen ACC shall only assign clearances on published procedures.

Exception 2:

Within the Paderborn area (see 2.2.1.2) Langen ACC may apply ATS to the lateral boundary below FL75. Below FL75 Bremen ACC shall maintain a lateral distance of not less than 5 NM to the AoR boundary.

Exception 3: Langen ACC shall maintain a lateral distance of not less than 5NM to the boundary of the RKN B Area. This shall be taken into consideration by Bremen ACC when transferring traffic to Langen ACC.

F.2.2 Transfer of Radar Control.

Transfer of radar control may be effected after prior co-ordination provided the minimum distance between the aircraft does not fall below 5 NM.

F.2.3 Silent Transfer of Radar Control.

Transfer of radar control may be effected without prior co-ordination provided the minimum distance between successive aircraft about to be transferred is 10 NM and constant or increasing. PAGE INTENTIONALLY LEFT BLANK.

Annex G.

Contingency Procedures.

Effective: 2010-08-26 Revised: 2011-06-30

G.1 Failure of Bremen ACC.

G.1.1 General.

- G.1.1.1 In case of technical or catastrophic outage resulting in the disruption of the provision of ATS at Bremen ACC, the adjacent coordinating partners are expected to assist Bremen ACC as far as possible in order to ensure the safe evacuation of air traffic from the AoR of Bremen ACC.
- G.1.1.2 The Contingency Contact Point (CCP) of Bremen ACC will decide about the required contingency measures and coordinate the subsequent execution of the contingency plan.

G.1.2 Disruption of the provision of ATS at 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.1.2.1 Contingency Phase 0.

G.1.2.1.1 In case of an incident which requires ceasing the operations or causes a sudden loss of Bremen ACC, the Bremen ACC Supervisor shall notify the coordinating partners 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 Bremen ACC AoR.

When the operations of Bremen ACC are ceased and the Bremen ACC AoR 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 Bremen ACC AoR shall be called the Bremen ACC Contingency Area until full serviceability of Bremen ACC is recovered,
- the Bremen ACC Contingency Area is a No-Fly-Zone, entry is prohibited until contingency phase 1 or 2 are activated.
- G.1.2.1.2 Communications Emergency Operations Staff Bremen ACC:

ATC Supervisor: +49 421 596 3489 or +49 173 3401129

G.1.2.2 Contingency Phase 1.

Not applicable.

- G.1.2.3 Contingency Phase 2.
- G.1.2.3.1 General.

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

G.1.2.3.2 Activation/Deactivation.

Bremen ACC Supervisor shall inform the coordinating partners about the activation of the contingency sectors.

G.1.2.3.3 ATFM-Procedures.

Necessary Air Traffic Flow Management Measures to be applied during contingency phase 2 will be initiated by the Bremen ACC Supervisor.

G.1.2.3.4 Contingency sectors and Communications.

Bremen ACC Contingency sector (Aiding Unit) Combined sectors	Message	Position	MFC-No / Frequencies Public Phone
	Control Messages, Expedite Clearances, Approval Requests, Revisions	Planner CBSHP	34 4931 Public Phone +31 433 662 520
Sector CB SOUTH HIGH (at Maastricht UAC) ATS in sectors EMS, DST and HRZ	Radar Coordination	Executive CBSHE	34 4930 VHF: 133.725 MHz Public Phone +31 433 662 521
	Flight plan Data, Assistant Estimates CBNSA		34 4924 Public Phone +31 433 662 523
Sector CB SOUTH LOW (at Hannover TWR) ATS in sector HAN	Control Messages, Expedite Clearances, Approval Requests, Revisions, Flight plan Data, Estimates	Planner CBSLP	34 2501 Public Phone +49 511 7797 120
	Radar Coordination	Executive CBSLE	34 2599 VHF: 131.325 MHz UHF: 374.950 MHz Public Phone +49 511 7797 120
Additional working positions (at Maastricht UAC) ATS in all sectors			
Supervisor Bremen for all contingency working positions	Procedures, Capacity, Emergency	Supervisor CBNSM	34 4923 Public Phone +31 433 662 522

Note: UHF may not be available during contingency of Bremen ACC at Maastricht UAC.

I

G.1.2.3.5 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.1.2.3.6 Exchange of Flight Data/Coordination
- G.1.2.3.6.1 Basic flight plan data are available at the contingency working positions only to some extent.
- G.1.2.3.6.2 OLDI-data exchange with the contingency working positions is not possible.
- G.1.2.3.6.3 All coordination shall be done verbally.
- G.1.2.3.6.4 The pre-notification time of estimates shall be 30 15 minutes before the aircraft is estimated to pass the AoR-boundary.
- G.1.2.3.6.5 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 AoR-boundary,
 - a change of coordinated flight level has to be executed within 5 minutes prior to crossing the AoR-boundary.
- G.1.2.3.7 Control Procedures.
- G.1.2.3.7.1 For flights planned on ATS Routes deviations from the ATS Routes shall be coordinated only to prevent dangerous situations or in case of emergencies.
- G.1.2.3.7.2 The separation minima between aircraft on transfer shall be 15 NM constant or increasing.
- G.1.2.3.8 Call sign.
- G.1.2.3.8.1 Radio telephony call sign for Bremen ACC in case of contingency: Bremen Radar
- G.1.2.3.8.2 Telephone call sign of Bremen ACC in case of contingency:

Bremen Contingency + name of working position (e.g. South High)

G.1.2.3.9 SSR Code Assignment.

During contingency, Bremen ACC may not be able to transfer aircraft on discrete SSR-codes, assigned in accordance with ORCAM, or on MSCC (A 1000).

END