to	Distribution list				**LoA 61**

from	S. Borchert, CC/FB-N	phone	0421 5372 180	date DRF until	11.11.2011 29.12.2011

Amendment of the LoA between Malmö ATCC and Bremen ACC wef 17.11.2011

1. Essentials

Annex B: H2 area divided into two parts, H2a is the western part, H2b the eastern.

Annex C: BANUB is now COP for direct routings to ATCC Malmö.

Annex D: New direct routing BANUB-GOSOT with BANUB as COP. With the direct routing BANUB-POKEN BANUB is the new COP.
In chapter D4 the coordination level is harmonized from the sector to the supervisor. This means that Bremen ACC/Supervisor shall notify ATCC Malmö/Supervisor after prior coordination with Karlsruhe UAC of the activation and deactivation of ED-D47 or parts of it at least 15 minutes in advance. ATCC Malmö Supervisor shall notify Bremen ACC/Supervisor of the activation and deactivation of ES-D140 at least 15 minutes in advance.

Annex G: The MFC numbers at CRC Schönewalde changed.

2. List of Changes

Date	Parts	Page(s)	add, replace, delete
17.11.2011	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	☐	☐	☐	☑	☐	☑	☐	☑	☑	☑	☑	☐
information	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☑
*** only applicable to sector(s):**	**MRZ**											

This LoA is valid for:												
	North A	**North B**	**East A**	**East B*)**	**South**	**FDS**	**FIS**	**FMP**	**DA**	**SV CC**	**SV FDA**	**Office**
	☐	☐	☐	☑	☐	☑	☑	☑	☑	☑	☑	☑
*** only applicable to sector(s):**	**MRZ**											

Distribution list: LoA I: 1, 2, 3, 5

Mr T. Teichert Mr M. König (2x)

LETTER OF AGREEMENT

between

DFS Deutsche Flugsicherung GmbH **Control Center Bremen**	**and**	**LFV Group ANS**
Bremen ACC		**ATCC Malmö**

In the following referred to as "parties".

Effective: 2010-07-01

1 General.

1.1 Purpose.

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

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

1.2 Operational Status.

Both parties 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 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 para 2.2 for the description of the areas where delegation of the responsibility for the provision of ATS is applicable.

2.1.1 Bremen ACC.

Lateral limits: south of the line

(1) 54 55 00 N 012 51 00 E –
along Bremen FIR / Rhein UIR / Sweden FIR/UIR boundary –
(4) 54 55 00 N 014 21 27 E

Vertical Limits: GND – FL285

Bremen ACC is responsible for provision of Air Traffic Services to GAT and OAT.

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

2.1.2 ATCC Malmö.

Lateral limits: north of the line

(1) 54 55 00 N 012 51 00 E –
along Bremen FIR / Rhein UIR / Sweden FIR/UIR boundary -
(4) 54 55 00 N 014 21 27 E

Vertical Limits: GND – UNL.

ATCC Malmö is responsible for provision of Air Traffic Services to GAT and OAT.

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

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

2.2.1 Delegation of ATS from Bremen ACC to ATCC Malmö.

Within the Bremen FIR / Rhein UIR the responsibility for the provision of ATS in accordance with the airspace classification has been delegated from Bremen ACC and Karlsruhe UAC to ATCC Malmö within the following area:

Rönne South West (SW) Area – see Appendix 1.

Lateral limits:	54 55 00 N 013 45 39 E – 54 55 00 N 014 21 27 E - 54 40 00 N 014 19 29 E – 54 55 00 N 013 45 39 E.	
Vertical limits:	FL155 - FL285	(Bremen ACC)
	FL285 - FL660	(Karlsruhe UAC)
Airspace classification:	C	

The following applies for the area:

- Prior coordination with ATCC Malmö is required whenever special or security flights operating under control of a military unit are entering the area.

Note: During activation of ED-D 47C the delegation of Rönne SW Area is withdrawn in the activated part of it (see para D.4).

2.2.2 Delegation of ATS from ATCC Malmö to Bremen ACC.

Not applicable.

2.2.3 Delegated Services.

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

2.2.4 Other Areas.

Delegation of ATS to/from other coordinating air traffic services units along the common boundary of the areas of responsibility of Bremen ACC and ATCC Malmö are described in Annex B to this Letter of Agreement.

2.2.5 Alerting Service within the airspace with delegated responsibility.

The ATS unit responsible for the provision of ATS, by virtue 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 center.

3 Procedures.

The procedures to be applied by Bremen ACC and ATCC Malmö 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
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, requires the mutual written consent of the parties.

4.2 Revision of the Annexes to the Letter of Agreement.

The revision of Annexes 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 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 parties may take place at any time.

5.2 Cancellation of this Letter of Agreement by either party 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 3 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 2010-07-01, and supersedes the Letter of Agreement between Berlin ACC and ATCC Malmö dated 2006-12-16.

Bremen, [date]

_____

i. V. Werner Spier
Head of Operations Bremen ACC
DFS Deutsche Flugsicherung GmbH

Malmö, [date]

_____

Michael Bartholdson
ATCC Malmö
Head of Operations

Langen, [date]

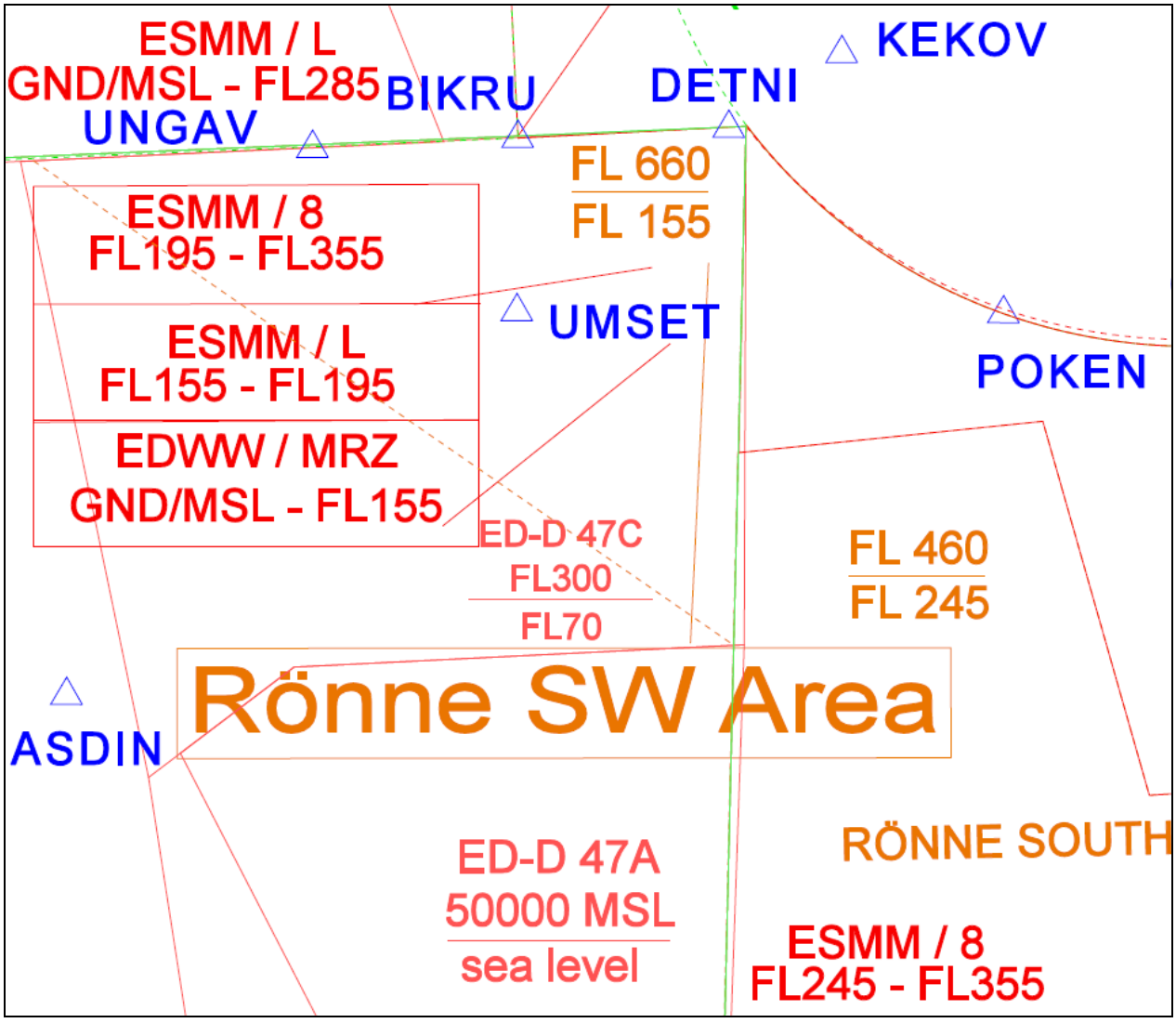
_____

i. V. Andre Biestmann
Head of ATM Operations and Strategy
DFS Deutsche Flugsicherung GmbH

Appendix 1

Para. 2.2.1

Rönne South West Area



Appendix 2

RECORD OF AMENDMENTS (RoA).

AMD No.	DATE	PART	PAGE(S)	add, delete or replace
1	2010-11-18	Appendix 2	7	replace
		Annex B	B1, B2	replace
		Annex D	D1 – D3	replace
2	2011-02-10	Appendix 2	7	replace
		Annex C	C1, C3, C5	replace
		Annex D	D1, D2	replace
		Annex G	G1, G2	replace
3	2011-03-10	Appendix 2	7	replace
		Appendix E	E1	replace
4	2011-09-22	Appendix 1	6	replace
		Appendix 2	7	replace
		Annex B	B1, B4	replace
5	2011-11-17	Appendix 2	7	replace
		Annex B	B1, B2, B4	replace
		Annex C	C1, C3, C5	replace
		Annex D	D1, D2, D4	replace

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Annex A.

Definitions and Abbreviations.

Effective: 2010-07-01
Revised:

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 coordination 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, or

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-notification time.

A.1.5 Division Level

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

A.1.6 General Air Traffic.

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.**

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 **Release.**

A.1.8.1 Release for Climb.

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.1.8.2 Release for Descent.

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.1.8.3 Release for Turn.

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

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

A.1.9 **State Aircraft.**

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

A.2 Abbreviations.

ABI	Advance Boundary Information
ACC	Area Control Centre
ACI*	Area of Common Interest
ACT	Activation Message
AIP	Aeronautical Information Publication
AMC*	Airspace Management Cell
AoR*	Area of Responsibility
ATC	Air Traffic Control
ATCC	Air Traffic Control Centre
ATS	Air Traffic Services
CDR*	Conditional Route
COP*	Coordination Point
CRAM*	Conditional Route Availability Message
CRC*	Control and Reporting Command
CTA	Control Area
DL	Division Level
ETO	Estimated Time Over Significant Point
ED-R	Restricted Area (Germany)
ES-D	Danger Area (Sweden)
EUR	European
FDA	Flight data Assistant
FIR	Flight Information Region
FIS	Flight Information Service
FL	Flight Level
FMP*	Flow Management Position
FT	Feet
GAT*	General Air Traffic
GND	Ground
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
KHz	Kilohertz
LAM	Logical Acknowledge Message
LoA*	Letter of Agreement
MFC*	Multi Frequency Coding (telephone system)
MHz	Megahertz
Mil	Military
MRZE/P*	Bremen Sector Mueritz Executive / Planner
MSL	Mean Sea Level
NM	Nautical Mile
OAT*	Operational Air Traffic
OLDI*	On-line Data Interchange
ORCAM	Originating Region Code Assignment Method
RTF	Radio Telephony
RVSM	Reduced Vertical Separation Minimum
SID	Standard Instrument Departure
SSR	Secondary Surveillance Radar
STAR	Standard Instrument Arrival
TSA*	Temporary Segregated Airspace
UAC	Upper Area Control Centre
UHF	Ultra High Frequency
UIR	Upper Flight Information Region
UNL	Unlimited
UTA	Upper Control Area
VFR	Visual Flight Rules
VHF	Very High Frequency
WWC1F*	Bremen FMP
WWC1M*	Bremen Center Supervisor
WWC3I*	Bremen FIS
WWC4A*	Bremen Assistant 4
WWCAM*	Bremen Supervisor FDA

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

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Annex B.

Area of Common Interest.

Effective: 2010-07-01
Revised: 2011-11-17

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

B.1.1 Sweden FIR/UIR.

Area	Vertical limits	Airspace Classification
UTA	FL285 – FL660	C
CTA	FL95 – FL285	C
FIR	GND – FL95	G
Deviations at and below FL95:		
Rönne TMA	4500 FT MSL - FL95	E
Rönne TMA	3500 FT MSL - 4500 FT MSL	D
Malmö TMA	3500 FT MSL - FL95	C
Area L3	3500 FT MSL - FL95	E

B.1.2 Bremen FIR.

Area	Vertical limits	Airspace Classification
FIR	FL100 – FL245	C
	2500 ft GND – up to FL100	E
	GND – up to 2500 ft GND	G - see note

Note: IFR-flights are not allowed in airspace classification G.

B.1.3 Rhein UIR.

Area	Vertical limits	Airspace Classification
UIR	FL245 – UNL	C (FL245 - FL660)

B.2 Sectorisation.

Coordinates of the Sector Boundaries as shown in Appendix 1 of Annex B

(1)	54 55 00 N 012 51 00 E	(1a)	55 14 02 N 012 41 32 E
(2)	54 55 00 N 013 00 00 E	(2a)	55 05 40 N 012 59 58 E
(3)	54 55 00 N 014 10 00 E	(3a)	55 10 33 N 014 10 00 E
(3b)	55 20 15 N 014 44 14 E	(4)	54 55 00 N 014 21 27 E

B.3 Special Areas within the Area 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 Delegation of ATS from ATCC Malmö to ACC Copenhagen.

Within the Sweden FIR/UIR the responsibility for the provision of ATS in accordance with the airspace classification has been delegated from ATCC Malmö to ACC Copenhagen within the:

L3/H2 a/b Areas - see Appendix 1 to Annex B.

Lateral limits:	H2a:	55 33 56 N 012 46 51 E	-	55 31 01 N 012 50 32 E -
		54 55 00 N 012 51 00 E	-	along FIR/UIR-boundary -
		55 33 56 N 012 46 51 E		
	H2b:	55 31 01 N 012 50 32 E	-	55 22 01 N 013 01 37 E -
		55 14 58 N 012 59 56 E	-	54 55 00 N 013 00 00 E -
		54 55 00 N 012 51 00 E	-	55 31 01 N 012 50 32 E
	L3:	55 14 58 N 012 59 56 E	-	54 55 00 N 013 00 00 E -
		54 55 00 N 012 51 00 E	-	along FIR-boundary -
		55 14 02 N 012 41 32 E	-	55 14 58 N 012 59 56 E.

Vertical limits:	H2a:	FL195 – FL660
	H2b:	FL195 – FL285
	L3:	3500 FT MSL – up to FL195

Airspace classification:	FL660 – UNL	class G
	FL95 – up to FL660	class C
	3500 FT MSL – up to FL95	class E

B.3.1.2 Delegation of ATS from ATS Rönne to ATCC Malmö.

Within the Rönne TMA the responsibility for the provision of ATS in accordance with the airspace classification has been delegated from ATS Rönne to ATCC Malmö:

Rönne TMA - see Appendix 1 to Annex B.

Lateral limits: North of the line: 54 55 00 N 014 10 00 E - 54 55 00 N 014 21 27 E - along FIR/UIR boundary between ESMM and EPWW - 54 55 00 N 015 08 07 E

Vertical limits: 4500 FT MSL – FL95.

Airspace classification: E

Unless otherwise described in Annex D to this LoA, ATS Rönne has no impact on coordination procedures between Bremen ACC and ATCC Malmö. Coordination messages from Bremen ACC and ATS Rönne and v.v. shall be forwarded to ATCC Malmö sector L.

B.3.1.3 Delegation of ATS from ACC Warszawa to ATCC Malmö.

Within the Warszawa FIR the responsibility for the provision of ATS in accordance with the airspace classification has been delegated from Warszawa ACC to ATCC Malmö within the

Rönne South Area - see Appendix 1 to Annex B.

ATCC Malmö shall inform Bremen ACC when Rönne South area is recalled by Warszawa ACC.

Lateral limits:	54 55 00 N 014 21 27 E	- along Rönne TMA and FIR boundary -
	54 55 00 N 015 52 00 E	- 54 41 06 N 015 43 09 E -
	54 23 06 N 015 23 46 E	- 54 15 45 N 015 03 21 E -
	54 20 00 N 014 16 50 E	- 54 55 00 N 014 21 27 E

Vertical limits: FL 195 – FL 460.

excluding airspace between FL 195 – FL 245 designated by coordinates:

54 45 34 N 014 20 12 E	- 54 46 00 N 014 35 30 E -
54 35 00 N 014 39 45 E	- 54 35 00 N 015 14 00 E -
54 35 09 N 015 26 54 E	- 54 31 54 N 015 33 12 E -
54 23 06 N 015 23 46 E	- 54 15 45 N 015 03 21 E -
54 20 00 N 014 16 50 E	- 54 45 34 N 014 20 12 E

Airspace classification: C

B.3.2 **Other Areas.**

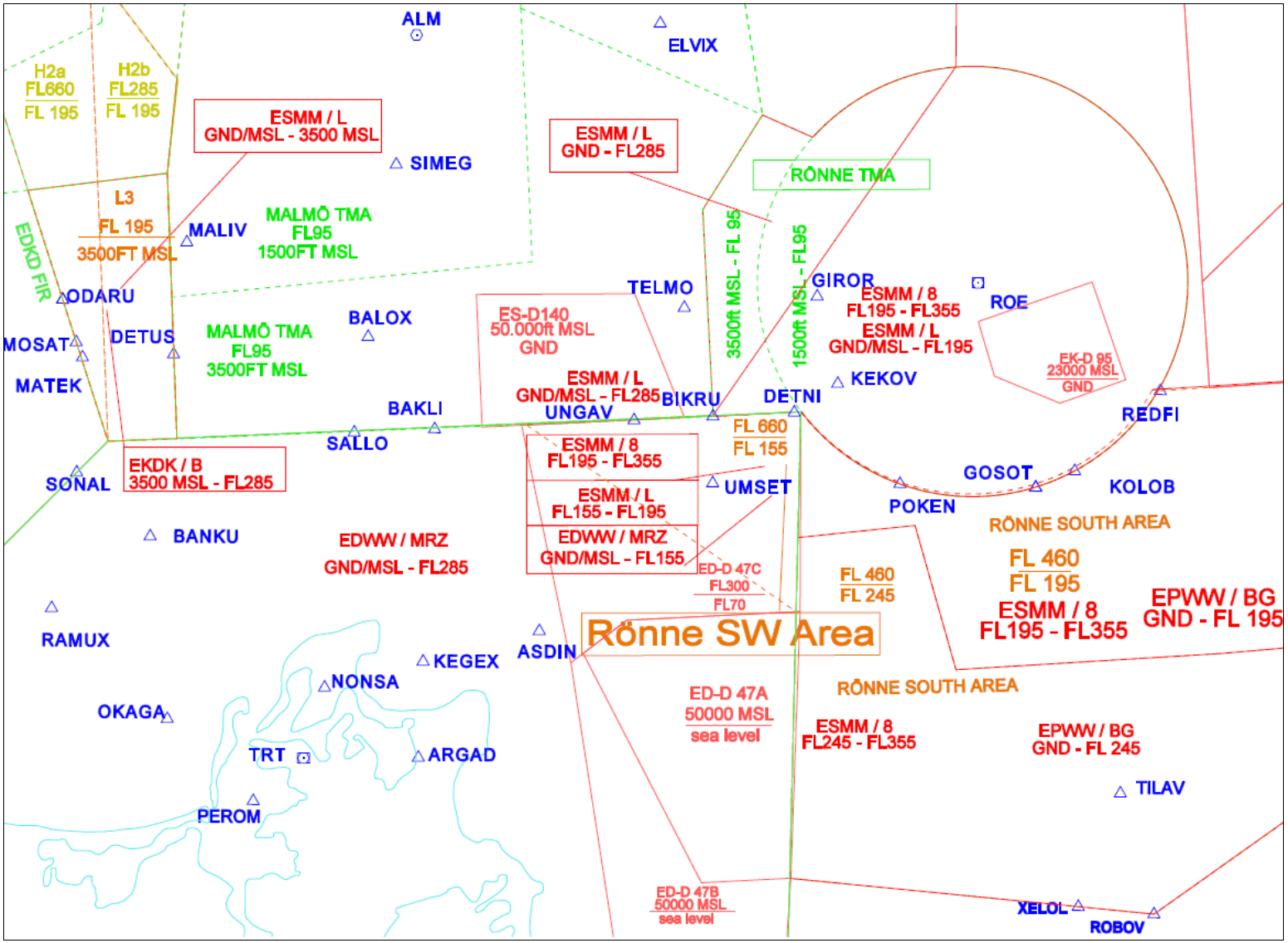
The German ED-D47 and the Swedish ES-D140 are published in the respective AIP's and are shown in Appendix 1 to Annex B

B.4 Non-published Coordination Points.

Not applicable.

Appendix 1 of Annex B

Sectorisation.



Annex C.

Exchange of Flight Data.

Effective: 2010-07-01
Revised: 2011-11-17

C.1 General.

C.1.1 **Basic Flight Plans.**

Basic flight plan data should normally be available at both ATS Units by means of IFPS and AFTN.

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

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

C.1.2.1 Automatic Data Exchange.

PAC/ABI/ACT/LAM messages are exchanged between the two ATS Units in accordance with Appendix 1 to Annex C.

C.1.2.2 Verbal Estimates.

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

A verbal estimate shall be passed to the appropriate sector at the accepting ATS Unit at least 10 minutes prior, but not earlier than 30 minutes before the aircraft is estimated to pass the transfer of control point, and shall contain:

a) Call sign.

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

b) SSR code.

c) ETO for the appropriate COP as laid down in Annex D to this LoA.

d) Cleared flight level, specifying climb or descent conditions if applicable, at the transfer of control point.
Requested flight level, if different from cleared flight level.

e) Other information, if applicable.

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

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

C.1.2.3 Failure of Automatic Data Exchange.

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

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

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

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

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 a minimum time of 10 minutes prior to the transfer of control point for an ACT messages, or a verbal estimate cannot be met, either an expedite clearance request or an approval request, as appropriate, shall be initiated.

If the PAC procedure is applied for an aircraft not yet airborne with a flying time of less than 10 minutes to the transfer of control point an approval request is not required (see Appendix 1 to Annex C).

Changes to the coordinated flight levels within 5 minutes of the ETO for the transfer of control point are subject to an Expedite Clearance.

C.2 Means of Communications and their Use.

C.2.1 **Equipment.**

The following lines are available between Bremen ACC and ATCC Malmö:

- 1 data line
- 2 telephone line (MFC)

C.2.2 **Telephone Coordination.**

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 ATCC Malmö.

Receiving Sector/COPs	Message	Position	Ext.
Sector 8 DETNI (FL285 - FL355) POKEN (FL245 – FL285 south of area Rönne SW) BANUB (FL245 – FL285)	Flight Plan Data and Estimates	FD 2	35 3406
	Control Messages, Expedite Clearances, Approval Requests, Revisions and Radar Coordination	PL 8	35 3446
Sector L SALLO (GND - FL285) BAKLI (GND - FL285) UNGAV (GND - FL285) BIKRU (GND - FL285) DETNI (GND - FL285) POKEN (FL245 – FL285 through area Rönne SW)	Flight Plan Data and Estimates	FD 2	35 3406
	Control Messages, ,Expedite Clearances, Approval Requests, Revisions and Radar Coordination	PL L	35 3491

Supervisor: 35 3400 **FIS:** **respective control sector**
FMP: +46 40 613 2701 **Switchboard:** 35 3405
Telefax: +46 40 500 254

C.2.2.2 Messages from ATCC Malmö to Bremen ACC.

Receiving Sector/COPs	Message	Position	Extension
MUERITZ	Flight Plan Data and Estimates	WWC4A	34 2127
SALLO, BAKLI, UNGAV DETNI, BIKRU, POKEN	Control Messages, Expedite Clearances, Approval Requests and Revisions	MRZP	34 2037
	Radar Coordination	MRZE	34 2027
FIS VFR-flights below FL100	Flight Plan Data and other Coordination	WWC3I	34 2013

WWC1M 34 2199 WWC1F 34 2099
WWCAM 34 2120 Fax +49 421 535 533

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 ACC Copenhagen, or
b) public telephone:

Bremen ACC:	WWC1M	+49 421 53721 20
		+49 421 51499 00
	WWCAM	+49 421 51499 02
	MRZP:	+49 421 51499 80
	WWC4A:	+49 421 51499 87
	WWC1F:	+49 421 51499 06
	Fax	+49 421 535 533

ATCC Malmö:

ATCC Malmö	Position	Back-up 1	Back-up 2
	Supervisor	+46 40 613 2400	+46 708 32 1500
	FMP/AMC	+46 40 50 1601	+46 40 613 2401
	Sector 8	……1646	+46 40 613 2446
	Sector L	……1691	+46 40 613 2491
	FD 2	……1606	+46 40 613 2406

Note: In case ATCC Malmö inform about the switching over to the emergency system, the following telephone numbers are to be used:

Supervisor:	+46 40 613 2700
FMP:	+46 40 613 2701
Sector 8:	+46 40 613 2746
Sector L:	+46 40 613 2791
FD2:	+46 40 613 2706
Switchboard:	+46 40 613 2705

C.3.2 Alternate Fall-Back Procedures for Coordination.

In case of communications failure where the alternatives described in para. C.3.1 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.

PAC/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 ATCC Malmö	**Messages from ATCC Malmö to Bremen ACC**
PAC [1)] 3a+b 7a+b+c 13a 14a+b+c 16a 22(9a+b+c) (15a+b+c)	SALLO BIKRU POKEN BAKLI (only northbound), DETNI (only northbound) UNGAV (only southbound) BANUB (only northbound)	not applicable	The PAC shall normally be transmitted minimum 2 minutes before departure.
ABI 3a+b 7a+b+c 13a 14a+b+c 16a 22(9a+b+c) (15a+b+c) [2)] (80 and 81)		Bremen ACC will transmit ABI upon activation of the flight in the Bremen ACC system. No ABI shall be transmitted after ACT-transmission.	ATCC Malmö will transmit ABI 30 minutes prior ETO COP. If less than 30 minutes, ABI shall be transmitted as soon as possible before the ACT-transmission. No ABI shall be transmitted when less than 120 sec. to the ACT-transmission, or if the relevant flight is subject to PAC procedure.
ACT 3a+b 7a+b+c 13a 14a+b+c+d [3)]+e [3)] 16a 22(9a+b+c) (15a+b+c) [2)] (80 and 81)		20 minutes prior ETO COP or 30 NM prior to COP, whichever comes first	10 minutes prior ETO COP or 60 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.	
LAM		If a LAM is not received at ATCC Malmö within 15 seconds after the ACT-transmission, a warning shall be displayed at the appropriate sector.	If a LAM is not received at Bremen ACC within 45 seconds after the ABI-, ACT-transmission, a warning shall be displayed at the appropriate sector.

Wesentliches

The exchange of PAC/ABI/ACT/LAM messages shall follow the OLDI standard.

Note: [1)] The PAC procedure is applied to departing aircraft from EKRN/ESMS/EKCH/EKRK.
[2)] Field type's 15a+b+c data shall not be included in messages from Bremen ACC to ATCC Malmö.
[3)] Field types 14 d+e for climbing or descending traffic (supplementary flight level) will not be transmitted for traffic from ATCC Malmö to Bremen ACC.

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Annex D.

Procedures for Coordination.

Effective: 2010-07-01
Revised: 2011-11-17

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 paras 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 verbal coordination - except if otherwise described in para D.2 or D.3.

D.1.3 Aircraft not equipped with 8.33 KHz channel spacing capability shall not be coordinated above FL195 except for UHF-equipped exempted State aircraft.

D.1.4 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.1.5 For any proposed deviation from the conditions specified in this Annex (e.g. COP, route or flight level) the transferring unit shall initiate an Approval Request.

Furthermore, ACC Bremen shall initiate an Approval request for the following flights:

- UHF-equipped State aircraft not capable of 8.33 KHz channel spacing;
- State aircraft UHF-equipped only;

D.1.6 The accepting ATS Unit shall not notify the transferring ATS Unit that it has established ground-air communications with the transferred aircraft unless specifically requested to do so.
The accepting ATS Unit shall notify the transferring ATS Unit in the event that communication with the aircraft is not established as expected.

D.2 ATS-Routes, Coordination Points and Flight Level Allocation.

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

D.2.1 Flights from ACC Bremen to ATCC Malmö.

ATS-Route	COP	Flight Level Allocation	Special Conditions
Z400	BAKLI	even FL's	-
P12	DETNI	odd FL's	
M736	SALLO	even FL´s	
M44	SALLO	even FL`s	
N33	BIKRU	even FL`s	
M726	SALLO	even FL`s	
ASDIN DCT	POKEN	odd FL´s	
BANUB DCT POKEN	BANUB	odd FL´s	
BANUB DCT GOSOT	BANUB	odd FL´s	

D.2.2 Flights from ATCC Malmö to ACC Bremen.

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ATS-Route	COP	Flight Level Allocation	Special Conditions
(U)M44	SALLO	odd FL`s	
(U)M736	SALLO	odd FL's	CDR 1: FL220 - FL280 H24
(U)M864	UNGAV	even FL's	CDR 1: FL70-FL300 H24
UN33	BIKRU	odd FL's	CDR 1: FL250-FL500 H24
(U)M726	SALLO	odd FL's	
POKEN DCT ASDIN	POKEN	even FL's	

Whenever requested by Bremen ACC (e.g. due to military activity), aircraft via (U)M864 shall be re-routed via GIROR - SALLO - NONSA.

D.3 Special Procedures.

D.3.1 Flights from Bremen ACC to ATCC Malmö.

D.3.1.1 Northbound traffic filed via ALM may without coordination be routed DCT ALM.

Northbound traffic filed via BIKRU may without coordination be routed DCT ELVIX.

D.3.1.2 Except when a cruising flight level is lower, the following flights shall be cleared and coordinated as described in the tables below.
Coordinated flight level shall be cleared flight level.

Arrivals to	**Cleared FL**	**Sector Boundary Entry Conditions**
EKRK, EKCH, ESMS via BAKLI	FL100	FL160 or below, descending FL100
EKRN via DETNI	FL100	descending FL100

For arrivals to ESMS, EKRK, EKCH and EKRN verbal coordination of descend is not required.

Departures from	**Cleared FL**	**FIR-Boundary Entry/Exit Conditions**
EDAH, EDBH, ETNL, ETNU, EDOP via BAKLI, SALLO	FL280	
EDAH, EDBH ETNL, ETNU, EDOP via DETNI	FL270	

D.3.1.3 Traffic filed via SALLO or BAKLI is released for turn and descent (compare para A.1.6.2 / A.1.6.3) after passing abeam ASDIN with regard to south-/south-west-bound traffic, handed over from ATCC Malmö to Bremen ACC, and with regard to ED-D 47C, when activated (Vertical limits: FL70 – FL300).

D.3.1.4 With regard to known south and southwest bound traffic and with regard to the AoR of Warszawa ACC is traffic planned via UP12 released for right turn after passing ASDIN.

D.3.2 **Flights from ATCC Malmö to Bremen ACC.**

D.3.2.1 Without coordination may traffic planned via:
- SALLO – (U)M736 be cleared DCT PEROM,
- SALLO – (U)M44 be cleared DCT ARGAD.

D.3.2.2 Except when a cruising flight level is lower, the following flights shall be cleared and coordinated as described in the tables below.
Coordinated flight level shall be cleared flight level.

Departures from	Cleared FL	FIR-Boundary Entry/Exit Conditions
EKCH/ESMS/EKRK via SALLO/abeam SALLO	FL250	climbing to FL250 (see note)
EKRN via UNGAV	FL90	4000FT MSL or above, climbing FL90

For departures from EKCH/ESMS/EKRK and EKRN, verbal coordination of climb is not required.

Note: Traffic with planned cruising flight level above FL250 are released for climb to maximum FL280 when passing BALOX / abeam BALOX.

Arrivals to	Cleared FL	Sector Boundary Entry Conditions
EDAH, EDBH, EDOP, ETNL, ETNU via UNGAV	FL280	
EDAH, EDBH, EDOP, ETNL, ETNU via SALLO	FL270	

D.3.3 **Off-route traffic.**

During hours of low military activity ATCC Malmö and Bremen ACC may agree on the use of certain direct tracks without COP-change and without individual Approval Requests provided that the traffic will pass the AoR-boundary at least 2,5 NM within the lateral limits of both the transferring Sector and the receiving Sector for the relevant COP.

Unless otherwise coordinated, such agreements (in addition to those direct tracks listed in D.3.1 and D.3.2) are automatically suspended at 0600 UTC.

D.4 Coordination of Status of Special Areas in the Area of Common Interest.

D.4.1 Bremen ACC/Supervisor shall notify ATCC Malmö/Supervisor after prior coordination with Karlsruhe UAC of the activation and deactivation of ED-D47 or parts of it. The activation messages should be given with a minimum pre-notification time of 15 minutes and includes proposed activation time and lowest / highest useable flight level above / below the area, if available.

D.4.2 ATCC Malmö Supervisor shall notify Bremen ACC/Supervisor of the activation and deactivation of ES-D140. The activation messages will be given with a minimum pre-notification time of 15 minutes and includes proposed activation time and lowest/highest useable flight level above/below the area.

Note: During activation of ES-D140 para D.3.1.1 is not valid.

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D.5 VFR Flights.

D.5.1 **Flights from Bremen ACC to Malmö ATCC.**

For VFR-flights (GAT/OAT) towards Sweden FIR between FL 100 and FL 195, **verbal** coordination, transfer of control and transfer of communication shall take place as for IFR-flights.

If in radio contact, VFR-flights towards Sweden FIR below FL100 shall be changed to the respective Malmö control sector, **if possible after prior verbal coordination.**

Note: VFR-flights above FL195 are not permitted in Sweden.

D.5.2 **Flights from Malmö ATCC to Bremen ACC.**

For VFR-flights (GAT/OAT) towards Bremen FIR between FL 100 and FL 195, **verbal** coordination, transfer of control and transfer of communication shall take place as for IFR-flights.

If in radio contact, VFR-flights towards Bremen FIR below FL 100 may be changed to WWC3I.

Note: GAT-VFR-flights above FL195 are not permitted in Germany.

Annex E.

Transfer of Control and Transfer of Communications.

Effective: 2010-07-01
Revised: 2011-03-10

E.1 Transfer of Control

The transfer of control takes place at the AoR-boundary.

E.2 Transfer of Communications.

For northbound traffic transfer of communications shall take place normally not later than ASDIN/abeam ASDIN, but in any case not later than AoR boundary.

For southbound traffic transfer of communications shall take place normally not later than BALOX/abeam BALOX GIROR/abeam GIROR, but in any case not later than AoR boundary.

Frequencies are

		frequency	
		VHF	UHF
• Bremen ACC			
	MRZ E:	124.175 MHz	259.825 MHz
	WWC3I:	132.650 MHz	299.775 MHz
• ATCC Malmö			
	Sector 8:	128.175 MHz	247,475 MHz
	Sector L:	134.975 MHz	247,475 MHz
		133,800 MHz (VFR-traffic at or below 3500 ft MSL)	

Note: Non 8.33 equipped State aircraft entering the AoR of ATCC Malmö or Bremen ACC shall be transferred to the VHF frequencies of the respective sector, if VHF equipped. Otherwise the transfer shall be made to UHF frequency determined by the receiving unit during the approval request mentioned in para. D.1.5.

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Annex F.

Radar Based Coordination Procedures.

Effective: 2010-07-01
Revised:

F.1 SSR Code Assignment.

F.1.1 Both ATS Units shall transfer aircraft on verified discrete SSR codes assigned in accordance with ORCAM.

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 Bremen ACC and ATCC Malmö shall be subject to the serviceability of the respective radar systems and two-way direct speech facilities between the radar 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, such as loss of radar etc.

F.2.1.3 Relevant instructions to the aircraft concerned (e.g. level, speed or vectoring instructions) shall be passed from the transferring radar controller to the accepting radar controller prior to the transfer of radar control.

F.2.1.4 Vectoring within the respective AoR's may take place without coordination between the ATS Units, provided the distance to the AoR-boundary is never less than **2,5 NM**.

Vectoring within the respective AoR's may take place without coordination between the ATS Units, provided the distance to the area ES-D140 is never less than **3 NM**, if it is activated.

F.2.1.5 A radar monitored climb or descent must be so conducted that the coordinated flight level (or the minimum/maximum flight level in case climb or descend conditions have been coordinated) will be reached prior the transfer of control point by a minimum distance of **2,5 NM**.

F.2.2 **Transfer of Radar Control.**

Transfer of radar control may be effected after prior verbal coordination 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 verbal coordination provided the minimum distance between successive aircraft about to be transferred is 10 NM and constant or increasing.

Note: 1. When using mach-number speed control, pilots concerned shall be instructed to report their assigned mach-number to the accepting ATS Unit upon initial contact.
2. Between flights of aircraft type Airbus A380 (A388) at FL 100 or below and other aircraft operating directly behind, a separation of less than 10 NM may not always be accepted by Bremen ACC.

F.3 Reduced Longitudinal Separation.

A minimum longitudinal separation of 3 minutes may be applied between aircraft on the same track or crossing tracks, whether at the same level, climbing or descending, provided that the relevant aircraft are continuously radar monitored and the transferring ATS Unit has ensured that the actual distance between the aircraft does not fall below 20 NM.

Annex G.

Supplementary Procedures.

Effective: 2010-07-01
Revised: 2011-11-17

G.1 Air Traffic Flow Management Procedures.

G.1.1 General.

Ad hoc flow control measures between Bremen ACC and ATCC Malmö may be implemented to relieve emergency situations, e.g. system failure etc.

G.1.2 Application.

The decision to apply flow control measures shall only be taken by the supervisor of the ATS Unit concerned.

These local measures will be applied for short periods of time only until the problem has been resolved or the CFMU has taken over.

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 ceasing the operations or causes a sudden loss of Bremen ACC, the Bremen Supervisor shall notify the Supervisor of ATCC Malmö 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 1 or 2 are activated.

G.2.1.1 Communications - Emergency Operations Staff (EOS) Bremen ACC

- 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 Bremen ATC-sector adjacent to Malmö ATCC will be combined to the contingency sector Bremen-East North (CBE1) relocated to CRC Schönewalde.

G.2.3.1 Activation/Deactivation.

Bremen chief of EOS shall inform the supervisor Malmö about the activation of the contingency sectors.

G.2.3.2 ATFM-Procedures.

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

G.2.3.3 Contingency sectors and Communications.

Contingency Sector (Aiding Unit) (Combined Sectors)	**Type of message**	**Position**	**Communications**
Contingency Bremen East 1 **CBE1** (CRC Schönewalde) (MRZ, …)	Control Messages, Expedite Clearances, Approval Requests, Revisions and Passing Estimates	CBE1P (Planner)	MFC: 34 7693 Public network: +49 35389 8633 798
	Radar Coordination	CBE1E (Executive)	MFC: 34 7694 Public network: via Planner Frequencies: VHF: 134.650 MHz UHF: 373.975 MHz
	Flight Plan Data and Receiving Estimates	CBEBA (Assistant)	MFC: 34 7695 Public network: +49 35389 8633 797

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G.2.3.3.1 The contingency working position Bremen will call the respective working position of ATCC Malmö on the extensions agreed in Annex C (Para: C.2.2.1) of this Letter of Agreement.

G.2.3.3.2 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.2.3.3.3 Call sign.

Telephone call sign for Bremen ACC in case of contingency: Bremen Contingency + name of working position (e.g. East 1).

G.2.3.4 Exchange of Flight Data.

G.2.3.4.1 Basic flight plan data are available at the contingency working positions only to some extent.

G.2.3.4.2 Since OLDI-data exchange with the contingency working positions is not possible; all estimates shall be coordinated by telephone. The pre-notification time of estimates shall be 30 - 15 minutes before the aircraft is estimated to pass the common boundary.

G.2.3.4.3 An expedite clearance 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.
- a change of coordinated flight level has to be executed within 5 minutes prior to crossing the common boundary.

G.2.3.5 Control Procedures.

G.2.3.5.1 General.

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

G.2.3.5.2 Separation minima between succeeding aircraft on transfer

- with verbal coordination 15 NM constant or increasing.

- without verbal coordination 3 minutes, but not less than 20 NM, constant or increasing.

G.2.4 **SSR-Code Assignment at Bremen ACC during Fall-Back and/or Contingency Operations**.

During Fall-Back and/or Contingency Operations, Bremen ACC may not be able to transfer aircraft on discrete SSR-codes assigned in accordance with ORCAM.

G.3 Contingency Procedures ATCC Malmö.

G.3.1 In case of an incident which requires to cease the operations or causes a sudden loss of ATCC Malmö, the Malmö Supervisor shall notify the Supervisor of Bremen ACC 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 ATCC Malmö.

After the evacuation of traffic from ATCC Malmö AoR, no traffic from Bremen ACC AoR is accepted. Area RONNE SOUTH will be resumed by Warszawa ACC.

G.3.2 **Delegation of ATS to aiding ATS-unit.**

Until contingency sectors have been established at the aiding ATS unit as described in para G.3.3, the provision of ATS within the ATCC Malmö AoR may be delegated to ATC Rönne within the following area.
Such a decision will be coordinated with Supervisor Bremen ACC

Lateral limits: as Rönne TMA

Vertical limits: above Rönne TMA up to FL 75.

G.3.3 **Establishment of contingency sectors at aiding ATS-units.**

ATCC Malmö may re-establish the provision of ATS within its AoR by opening contingency sectors at aiding ATS-units.
Such a decision will be coordinated with Supervisor Bremen ACC.

The contingency sectors will correspond to existing sectors at ATCC Malmö and normal coordination procedures will apply unless coordinated by the Supervisor ATCC Malmö.

The contingency sectors adjacent to Bremen ACC will be established at the following aiding ATS unit:

ATCC Copenhagen

END