to	Distribution list				LoA 13g
from	JH. Baerens, CC/FB-N	phono	0421 5372 143	date	12.08.2011
from	J11. Daerens, CC/1 D-11	priorie	0421 3372 143	DRF until	06.10.2011

Amendment of the LoA MVPA NE wef 25.08.2011

1. Essentials

Paragraph **D.2.2.1** "TAXI CALL procedures (for all flights from ETNL directly into MVPA)" - With the start of the field trial TRAMON, provided by CRC, for the MVPA NE, the procedures for the Taxi Call of Laage TWR will be changed. Instead of the TRAMON Bremen the responsible TRAMON CRC will receive this call and distribute the information to the concerned ATC sectors, e.g. to MRZ, MAR or DBAN.

2. List of Changes

Date Parts		Page(s)	add, replace, delete
25.08.2011	amendment	all	replace
20.00.2011	LoA	α.i	ropiaco

Axel Brandt Chief of Support								ichael J of Section	_			
				Sector	families a	affected:						
	North A	North B	East A*	East B*	South	FDS	FIS	FMP	DA	sv cc	SV FDA	Office
mandatory			>	>								
information												>
* only applica	ble to secto	or(s): MRZ, N	MAR, DBAN									
				This	LoA is val	lid for:						
	North A	North B	East A	East B	South	FDS	FIS	FMP	DA	sv cc	SV FDA	Office
	₹	2	<u>\</u>	~	>	>	<u>\</u>	>	<u>\</u>	<u>\</u>	~	1
* only applicable to sector(s):												

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Letter of Agreement

between



DFS Deutsche Flugsicherung GmbH (DFS)



German Air Force GERMAN AIR FORCE COMMAND (GAFCOM)



Amt für Flugsicherung der Bundeswehr (AFSBw)

In the following referred to as "parties".

Subject: Common coordination procedures for Operation Phase II MVPA North East
WEF October 22, 2009

Promulgation: September 24, 2009

1 General

1.1 Purpose

The purpose of this LoA is to define the procedures governing the cooperation between the DFS, the flying units of the German Air Force, the assigned stationary and deployable (D)TACCC of the TACCS including E-3 A, D and F and the NAPC COSA DEU for the use of the MVPA North East during Operation Phase II.

These procedures are supplementary to the Concept of the Flexible Use of Airspace in the Federal Republic of Germany. The agreed airspace structure and procedures shall support the economic utilization of airspace by GAT and the unrestricted use of adequate training areas by OAT at the same time.

Unless otherwise specified in this document, the provisions of the agreement between AFSBw and DFS about the use of ED-R (TRA) ("TRA-Vereinbarung"), the provisions of the Concept of the Flexible Use of Airspace of the DFS and the AFSBw of October 01, 1998 and the procedures of the LoA between DFS, GAFCOM and AFSBw are applicable to this LoA.

For abbreviations refer to Annex A.

1.2 Operational status

All parties shall keep each other advised of any changes in the operational status of their facilities and navigational aids which may affect the cooperation procedures specified in this LoA and/or the handling of air traffic.

1.3 Air traffic categories

- 1.3.1 GAT are flights which are conducted in accordance with the rules and regulations of ICAO and/or national civil aviation law.
- 1.3.2 OAT are flights of military aircraft which due to
 - the provisions governing the issuance of a certification as military aircraft,
 - the mission.
 - or the configuration,

are not conducted in accordance with the regulations applicable to GAT, but in compliance with the rules and procedures established by the appropriate military authorities.

2 Responsibilities

- 2.1 The DFS ATC units listed below shall be responsible for the provision of ATS within their assigned areas of responsibilities. The following ATS are provided: ATC, FIS and ALRS:
 - KARLSRUHE UAC
 - BREMEN ACC
- 2.2 The units of the TACCS listed below shall be responsible for the provision of control service and support of air defence flights and for the tactical support for air traffic of the armed forces within the MVPA North East:
 - TACCC Meßstetten
 - TACCC Erndtebrück
 - TACCC Schönewalde and DTACCC Holzdorf
 - TACCC Brockzetel
 - E-3 A, D and F

3 Procedures

The procedures described in this LoA only apply to flight operations performed by the flying units of the German Air Force - hereafter referred to as airspace users – under the monitor of DFS units or the stationary and deployable (D)TACCC, hereafter referred to as TACCC, of the TACCS of the German Air Force, including E-3 A, D and F. Other flying units shall adhere to the same procedures. GAFCOM is responsible to assure that.

This LoA refers to Operation Phase II of the MVPA North East. The procedures to be applied by the parties are detailed in the annexes to this LoA.

3.1 Annexes

Annex A	Definitions and Abbreviations
Annex B	Area of common interest
Annex C	Exchange of flight data
Annex D	Procedures for control and coordination
Annex E	Transfer of control and transfer of communication
Annex F	Radar based coordination procedures
Annex G	Supplementary procedures

4 Revisions and deviations

4.1 Revision of this LoA

A revision of this LoA, excluding the annexes, requires the mutual written consent of the signatory parties.

4.2 Revision of annexes

A revision of the annexes to the LoA requires the written confirmation (mail, FAX or E-mail) of the mutual consent of the signatory parties or the designated authorities.

Designated authorities are:

- DFS CC/FDO ATM Operations
- GAFCOM A 5 II c
- AFSBw Branch I
- Operations Support (DFS Branch North, DFS Branch Upper KARLSRUHE)

4.3 Temporary deviations

When necessary, GAFCOM A 5 II c, AFSBw Branch I, DFS CC/FDO ATM Operations and the responsible DFS Branch may introduce, by mutual agreement and for a specified period of time (max. three months), 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 and air defence staff are expected to exercise their best judgement to ensure the safety and efficiency of air traffic.

5 Interpretation and settlement of disputes

- 5.1 Should any doubt or diverging views arise regarding the interpretation of any provision of this LoA, or in case of dispute regarding its application, the parties shall endeavour to reach a solution acceptable for all parties involved.
- 5.2 Should no agreement be reached, each of the parties shall refer to a higher level of its administration, to which the dispute shall be submitted for settlement.

6 Cancellation

- 6.1 Cancellation of this LoA by mutual written agreement of the respective parties may take place at any time.
- 6.2 Cancellation of this LoA by either party is possible at any time, provided that the cancelling party declares its intention to cancel the LoA with a minimum prenotification time of one year before the date the cancellation is to take effect.

7 Validity

This LoA becomes effective on October 22, 2009 and supersedes the "LoA between DFS Deutsche Flugsicherung GmbH, Amt für Flugsicherung der Bundeswehr, Luftwaffenführungskommando about Common coordination procedures for Operation Phase I MVPA North East", dated December 20, 2007.

Langen, 89, 10,2009

i, V. Andre Biestmann Deutsche Flugsicherung GmbH **Business Unit Centre** Head of Operations and Strategy V. Werner Spier

Deutsche Flugsicherung GmbH Spokesman and Head of Operations Bremen ACC

Karlsruhe, 12 10.0

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

German Air Force Command

Flight Operations .

Joachim Vergin

Colonel (GS)

Andreas Mevenkamp Heturich Walperu

Lieutenant Colonel Bundeswehr Air Traffic Services Office

Record of amendments

AMD NO.	DATE	ANNEXES	PAGE	ADD, DELETE or REPLACE
1	17 DEC 2009	Record of amendments	6	REPLACE
		Checklist	7	REPLACE
		Annex A	2	REPLACE
		Annex B	2, 6	REPLACE
		Annex C	3	REPLACE
		Annex D	10, 11	REPLACE
2	26 AUG 2010	Record of amendments	6	REPLACE
		Checklist	7	REPLACE
		Annex B	2, 6	REPLACE
		Annex C	3	REPLACE
		Annex D	5	REPLACE
3	16 DEC 2010	Record of amendments	6	REPLACE
		Checklist	7	REPLACE
		Annex C	3, 4	REPLACE
		Annex G	1	REPLACE
4	25 AUG 2011	Record of amendments	6	REPLACE
		Checklist	7	REPLACE
		Annex C	2 - 3	REPLACE
		Annex D	9 – 12	REPLACE
		Annex G	1	REPLACE

Checklist

General	
1	22 OCT 2009
2	22 OCT 2009
3	22 OCT 2009
4	22 OCT 2009
5	22 OCT 2009
6	25 AUG 2011
7	25 AUG 2011
	25 AUG 2011
Annex A	L 00 00T 0000
A 1	22 OCT 2009
A 2	17 DEC 2009
Annex B	
B 1	22 OCT 2009
B 2	26 AUG 2010
B 3	22 OCT 2009
B 4	22 OCT 2009
B 5	22 OCT 2009
B 6	26 AUG 2010
B 7	22 OCT 2009
Annex C	
C 1	22 OCT 2009
C 2	25 AUG 2011
C 3	25 AUG 2011
C 4	16 DEC 2010
Annex D	
D 1	22 OCT 2009
D 2	
D 3	22 OCT 2009 22 OCT 2009
D 4	22 OCT 2009
D 5	26 AUG 2010
D 6	22 OCT 2009
D 7	22 OCT 2009
D 8	22 OCT 2009
D 9	25 AUG 2011
D 10	25 AUG 2011
D 11	25 AUG 2011
D 12	25 AUG 2011
Annex E	
E 1	22 OCT 2009
Annex F	
F 1	22 OCT 2009
	22 001 2009
Annex G	05 4110 0044
G 1	25 AUG 2011
G 2	22 OCT 2009
G 3	22 OCT 2009
G 4	22 OCT 2009
G 5	22 OCT 2009

Annex A

Definitions and abbreviations

A.1 List of abbreviations

Α	AAR	Air-to-Air Refuelling
^	AC	Aircraft Controller
	ACC	Area Control Centre
	ACOS	Airspace Coordination System
	ACT	Air Combat Training
	AEW	Airborne Early Warning
	AFSBw	Amt für Flugsicherung der Bundeswehr
	AIP	Aeronautical Information Publication
	ALRS	Alerting Service
	AMC	Airspace Management Cell
	AoR	Area of Responsibility
	ATC	Air Traffic Control
	ATFCM	Air Traffic Flow and Capacity Management
	ATM	Air Traffic Management
	ATS	Air Traffic Service
	AUP	Airspace Use Plan
В	BS	Busy Slot
С	C/S	Callsign
	CDR	Conditional Route
	COMIL	Coordination Center for Military Airspace Utilization
D	(D)ACT	Dissimilar Air Combat Training
	DFS	DFS Deutsche Flugsicherung GmbH
	DTACCC	Deployable Tactical Air Command and Control Center
	DTG	Date Time Group
Ε	ED-R (TRA)	Restricted Area
F	FBW	Fighter Bomber Wing
	FIS	Flight Information Service
	FL	Flight Level
	FMP	Flow Management Position
	FOO	Flight Operations Officer
	FT	Feet
	FW	Fighter Wing
G	GAFCOM	German Air Force Command
	GAT	General Air Traffic
	GEMIL FLIP MAP	German Military Flight Information Publication Aeronautical
	00	Maps and Charts
-	GS	General Staff
ı	ICAO	International Civil Aviation Organisation
	IFR	Instrument Flight Rules

LoA MVPA North East, DFS GmbH - GAFCOM - AFSBw, WEF October 22, 2009 Revised: December 17, 2009

INT Intercept L LoA Letter of Agreement LuftVO Luftverkehrsordnung MC Master Controller **MRZP** Sector Müritz Planer **MVPA** Military Variable Profile Area NAPC COSA DEU National Air Policing Cell - Coordinating and Scheduling Ν Agency Germany NM Nautical Mile Operational Air Traffic 0 OAT Sector Ostsee 1 Planer OSE1P S SATCO Senior Air Traffic Control Officer SV Supervisor **SWG** Schleswig Т **TACCC** Tactical Air Command and Control Center Tactical Air Command and Control Service **TACCS** TRA Temporary Reserved Airspace TRA Monitoring Unit **TRAMON TRW Tactical Reconnaissance Wing** TTA **Tactical Training Area TWR** Tower U **UAC Upper Area Control Centre VFR** Visual Flight Rules W **WTD** Wehrtechnische Dienststelle WWC3S **BREMEN TRAMON Working position designator**

A.2 For definitions and further abbreviations see Annex A of the LoA between DFS, GAFCOM and AFSBw.

LoA MVPA North East, DFS GmbH - GAFCOM - AFSBw, WEF October 22, 2009 Revised: December 17, 2009

Annex B

Area of common interest/MVPA modules

B.1 Restricted area as legal basis

In the AoR of BREMEN and KARLSRUHE, a restricted area between FL100 and FL660 limited in time and lateral extensions is established on the basis of § 10 (4) of the LuftVO, where flights according to VFR and IFR are prohibited in parts or total or on which restrictions are imposed.

The lateral extensions and times of activation are specified in the AIP.

B.2 MVPA

The MVPA is divided into airspace modules (BASIC / MORE). The airspace modules may be combined to form airspace blocks of varying lateral and vertical extensions in accordance with the requirements of the users.

Maximum vertical extensions: FL100 - FL660

B.3 MVPA modules and combinations

NEAST BASIC	Vertical
1A, 1B, 1C, 1D, 1E	max. FL 100 - FL 660
2A, 2B, 2C, 2D, 2 E	max. FL 100 - FL 660
NEAST MORE	Vertical
MORE 10	FL 220-FL 280
MORE 11	FL 350-FL 450

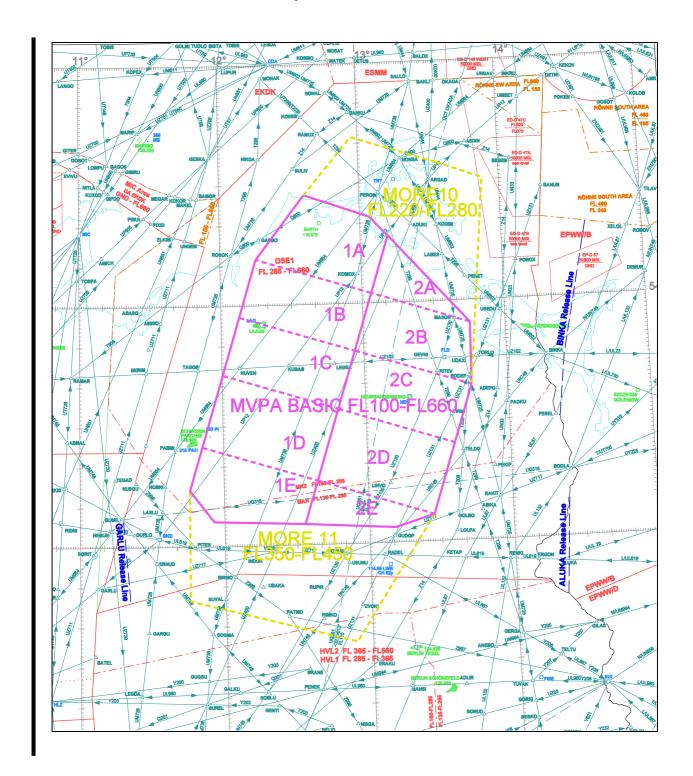
The Tactical Training Area (TTA) is the combination of all BASIC and MORE modules and is used for major exercises and to allow high value large scale training. Due to the effect on the civil airspace users special booking procedures apply.

B.4 Use of ED-R (TRA) 206/306

The booking and usage of the ED-R (TRA) 206/306 is not available. NAPC COSA DEU shall decline any requests from users for these airspaces.

Fallback airspaces in the MVPA Operation Phase 2 as described in this LoA are the BASIC 1/ BASIC 2 airspaces (guaranteed by the DFS according Scenario I and II). Fallback booking procedures refer to para D.1.6.1.

Depiction of the MVPA



Coordinates of the MVPA

Module	Coordinates
BASIC 1 A	54 27 24N 012 36 21E, 54 21 34N 013 03 59E, 54 16 41N 013 11 41E, 54 02 29N 013 03 53E, 54 11 31N 012 15 15E, 54 27 24N 012 36 21E
BASIC 1 B	54 11 31N 012 15 15E, 54 02 29N 013 03 53E, 53 48 13N 012 56 09E, 53 57 11N 012 07 44E, 54 11 31N 012 15 15E,
BASIC 1 C	53 57 11N 012 07 44E, 53 48 13N 012 56 09E, 53 33 49N 012 48 25E, 53 42 46N 012 00 16E, 53 57 11N 012 07 44E,
BASIC 1 D	53 42 46N 012 00 16E, 53 33 49N 012 48 25E, 53 16 02N 012 39 01E, 53 24 53N 011 51 08E, 53 42 46N 012 00 16E,
BASIC 1 E	53 24 53N 011 51 08E, 53 16 02N 012 39 01E, 53 05 15N 012 33 22E, 53 06 14N 011 56 36E 53 14 05N 011 45 40E, 53 24 53N 011 51 08E,
BASIC 2 A	54 16 41N 013 11 41E, 53 54 24N 013 45 08E, 54 02 29N 013 03 53E, 54 16 41N 013 11 41E,
BASIC 2 B	54 02 29N 013 03 53E, 53 54 24N 013 45 08E, 53 38 50N 013 44 43E, 53 48 13N 012 56 09E, 54 02 29N 013 03 53E,
BASIC 2 C	53 48 13N 012 56 09E, 53 38 50N 013 44 43E, 53 24 30N 013 36 23E, 53 33 49N 012 48 25E, 53 48 13N 012 56 09E,
BASIC 2 D	53 33 49N 012 48 25E, 53 24 30N 013 36 23E, 53 06 46N 013 27 00E, 53 16 02N 012 39 01E, 53 33 49N 012 48 25E,
BASIC 2 E	53 16 02N 012 39 01E, 53 06 46N 013 27 00E, 53 03 48N 013 10 50E, 53 05 15N 012 33 22E, 53 16 02N 012 39 01E.
MORE 10	54 27 24N 012 36 21E, 54 41 32N 012 57 08E, 54 34 35N 013 33 26E, 54 30 22N 013 52 50E, 53 38 50N 013 44 43E, 53 54 24N 013 45 08E, 54 16 41N 013 11 41E, 54 21 34N 013 03 59E, 54 27 24N 012 36 21E,
MORE 11	53 14 05N 011 45 40E, 53 06 14N 011 56 36E, 53 05 15N 012 33 22E, 53 03 48N 013 10 50E, 53 06 46N 013 27 00E, 52 35 33N 012 53 31E, 52 46 31N 011 45 18E, 53 14 05N 011 45 40E

AAR anchors of the MVPA

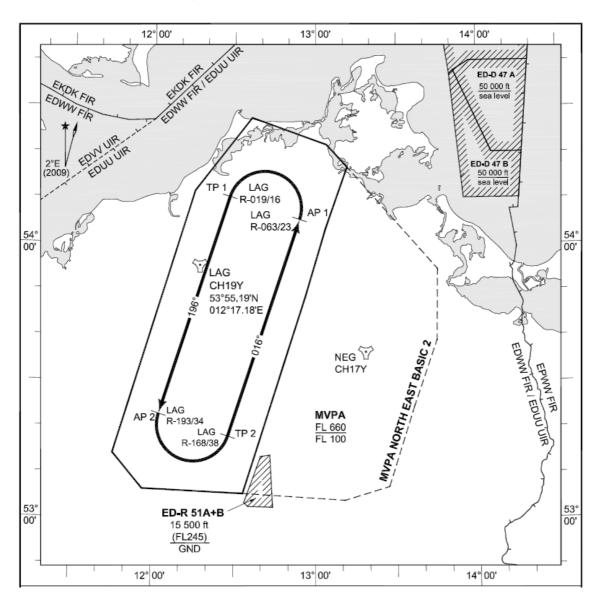
Within the MVPA North East, two AAR anchors are defined.

Anchor	AAR Area	Level Block
JANIN AAR Anchor	BASIC 1 A-E	FL100 – FL350
TINA AAR Anchor	BASIC 2 A-E	FL100 - FL350

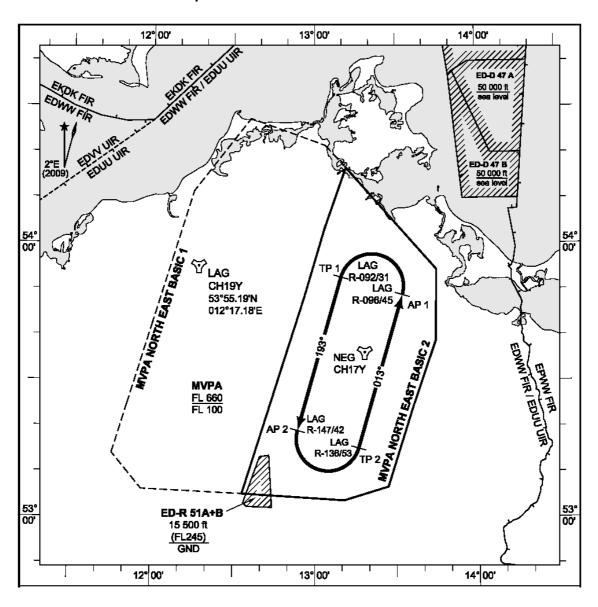
The AAR anchors are published in the GEMIL FLIP MAP.

The AAR anchor MAGGIE shall not be used until further notice (acc. TRA 206/306).

Depiction of the MVPA AAR anchor JANIN

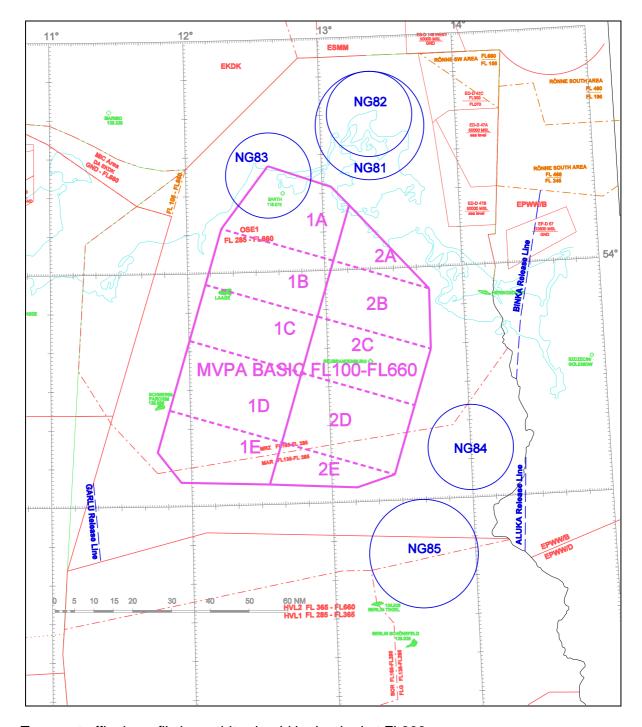


Depiction of the MVPA AAR anchor TINA



MVPA AEW Orbits

Depiction of the MVPA AEW orbits



To ease traffic deconfliction, orbits should be booked at FL300. The orbit NG84 will only be used in combination with NG85 as figure eight. NG5 shall not be used until further notice.

A simultaneous use of NG8 and MVPA booking scenario II or III is not allowed.

MVPA AEW Orbit lobe definitions

Lobe	Centre Point	Radius	MVPA modules affected	Levels* (one up to three of)
NG81	N 54° 37.000' E 013° 22.000'	14 NM	BASIC 1A	FL300-FL350
NG82	N 54° 40.000' E 013° 22.000'	11 NM	-	FL300-FL350
NG83	N 54° 25.000' E 012° 36.500'	11 NM	BASIC 1A	FL300-FL350
NG84	N 53° 13.000' E 014° 00.000'	11 NM	-	FL300-FL350
NG85	N 52° 46.000' E 013° 38.000'	14 NM	-	FL300-FL350
NG86	Racetrack between NG82 and	NG83	BASIC 1A	FL300-FL350
NG87	Figure 8 between NG82 and No	G83	BASIC 1A	FL300-FL350
NG88	Figure 8 between NG84 and No	G85	-	FL300-FL350

^{*} To ease traffic deconfliction, orbits should be booked at FL300.

Turn direction is indicated by "L" or "R".

Annex C

Exchange of flight data

C.1 Telephone directory

	Telephone	FAX	SVS
Fighter Wing 73 "Steinhoff" (ETNL)	•	,	
Operations staff officer FW 73 "S"	038459 62 2206	038459 62 2202	
Mission planning officer FW 73 "S" 1st squadron	038459 62 2240	038459 62 2232	
Mission planning officer FW 73 "S" 2 nd squadron	038459 62 2270	038459 62 2262	
TWR Laage	038459 62 2330	(Via AIS) 2325	5401
SATCO	038459 62 2310	038459 62 2325	
Tactical Reconnaissance Wing 51 '	<u>ʻlmmelmann" (ЕТ</u>	NS)	
Operations staff officer TRW 51 "I"	04624 30 1531	04624 30 1299	
Mission planning officer 1 st flying squadron TRW 51 "I"	04624 30 1630	04624 30 1689	
Mission planning officer 2 nd flying squadron TRW 51 "I"	04624 30 1730	04624 30 1789	
TWR Schleswig	04624 30 1813	04624 30 1999	tbd
SATCO	04624 30 1810	04624 30 1899	
Fighter Wing 71 "Richthofen" (ETN	T)		
Operations staff officer FW 71	04462 917 3033	04462 917 3852	
Mission planning officer 1st flying squadron FW 71	04462 917 3110	04462 917 3117	
Mission planning officer 2 nd flying squadron FW 71	04462 917 3210	04462 917 3207	
TWR Wittmund (Via GeZi)	04462 917 3252	04462 917 2202	3200
SATCO (Via GeZi	04462 917 3250	04462 917 2202)	
Fighter Wing 74 (ETSN)			
Operations staff officer FW 74	08431 643 2302	08431 643 2398	
Mission planning officer 1st flying	08431 643 2651	08431 643 2399	
squadron FW 74			
Mission planning officer 2 nd flying	08431 643 2651	08431 643 2399	
squadron FW 74			
TWR Neuburg	08431 643 2715	08431 643 2798	
SATCO	08431 643 2711	08431 643 2798	

Fighter Bomber Wing 31 "Boelcke" (ETNN)				
Operations staff officer FBW 31	02426-100-3031	02426-100-3507		
Mission planning officer 1st flying	02426-100-3102	02426-100-3109		
squadron FBW 31				
Mission planning officer 2 nd flying	02426-100-3202	02426-100-3109		
squadron FBW 31				
Wing Operations Center	02426-100-1000	02426-100-1827		
Base Operations	02426-100-3332	02426-100-3334		
Fighter Bomber Wing 33 (ETSB)				
Operations staff officer FBW 33	02678 940 2051	02678 940 5597		
Mission planning officer 1st flying	02678 940 2130	02678 940 2199		
squadron FBW 33				
Mission planning officer 2 nd flying	02678 940 2230	02678 940 2299		
squadron FBW 33				
TWR Büchel	02678 940 2315	02678 940 2399		
SATCO	02678 940 2310	02678 940 2399		
Fighter Bomber Wing 32 (ETSL)				
Operations staff officer FBW 32	08232-907-2301 / 2303	08232-907-2309		
Mission planning officer 1st flying squadron FBW 32	08232-907-2401 / 2402	08232-907-2499		
Mission planning officer 2 nd flying squadron FBW 32	08232-907-2501 / 2502	08232-907-2599		
TWR Lechfeld	08232-907-2622	08232-907-2609		
SATCO	08232-907-2620	08232-907-2609		
BREMEN ACC				
SV	0421 5372 120	0421 535 533	2199	
FMP	0421 5372 141	0421 535 533	2099	
MRZP	0421 51499 80	-	2037	
MARP	0421 51499 76	-	2036	
DBANQ	0421 51499 74	-	2112	
TRAMON (WWC3S)	-	-	2029	
Operations support	0421 5372 144	0421 5372 159	-	

KARLSRUHE UAC			
SV	0721 693 903	0721 697 229	8799
FMP	0721 6903 237	0721 697 229	8699
OSE1P	-		8615
TRAMON 306 (UUC2S)	-		8762
Operations Support	0721 6903 228	0721 6903 336	
NAPC COSA OPS	02824 9774 3240	02824 9774 3249	7109
AMC/AFSBw	06103 3105 753	06103 3105 797	
AMC/DFS	06103 707 1337	06103 3105 791	6107
TACCC Meßstetten (MC)	07431 6347 5555	07431 6347 5509	7306
TACCC Erndtebrück (MC)	02753 604 3040	02753 604 181	7406
TACCC Erndtebrück Training Center (MC)	02753 604 3940	-	7506
TACCC Schönewalde (MC)	03538986 33720	03538986 33729	7706
DTACCC Holzdorf (MC)	03538986 33680	03538986 33677	7906
AFSBw I 1/I 4	06103 3105 740	06103 3105 799	
GAFCOM A 5 II c	02203 908 6277	02203 908 5891	
GAFCOM A 5 III a	02203 908 2574	02203 908 3583	

C.2 POC EMAIL

BREMEN ACC	6)/	bremen.supervisor@dfs.de	
	SV	(will <u>not</u> be monitored permanently)	
	Operations support	Hartmut.Leive@DFS.de	
	SV	FVK.Wachleiter.KARLSRUHE@dfs.de	
KARLSRUHE UAC	SV	(will not be monitored permanently)	
KAKEOKONE OAO	Operations	Juergen.Regner@DFS.de	
	support	Juergen.Regner@DF3.de	
DFS CC/FDO		Michael.Jung@DFS.de	
GAFCOM A 5 III a		lwfuekdoa5iiia@bundeswehr.org	
GAFCOM A 5 II c		lwfuekdoa5iic@bundeswehr.org	
AFSBw		Afsbwi1@bundeswehr.org	
		Afsbwi4@bundeswehr.org	
NAPC COSA DEU	COSA OPS	FueZNatLVCOSA@bundeswehr.org	
AMC/DFS		AMC.GERMANY@dfs.de	
AMC/AFSBw		Afsbwamc@bundeswehr.org	

Mission planning officer FW 73 "S" 1 st squadron	1./JG 73 "S"	JG73SFlgGrp1.Stff@bundeswehr.org
Mission planning officer FW 73 "S" 2 nd squadron	2./JG 73 "S"	JG73SFlgGrp2.StffEinsatz@bundeswehr.org
TWR Laage	-	(via SATCO only) JG73SFlugbetriebsstaffelFSEinsatzStOffz@bundeswehr.org
SATCO FW 73 "S"	SATCO	JG73SFlugbetriebsstaffelFSEinsatzStOffz@bundeswehr.org
SATCO TRW 51 "I"	SATCO	aufklg51isatco@bundeswehr.org
Other flying units via GAFCOM A 5 III a		lwfuekdoa5iiia@bundeswehr.org
TACCC Meßstetten	MC	einsfueber1crcmc@bundeswehr.org
TACCC Erndtebrück	MC	einsfueber2crcmc@bundeswehr.org
TACCC Schönewalde	МС	einsfueber3crcmc@bundeswehr.org
DTACCC Holzdorf	МС	einsfueber3dcrcmc@bundeswehr.org

Annex D

Procedures for control and coordination

D.1 MVPA planning and booking procedures

D.1.1 Selection of MVPA modules

MVPA modules shall be requested to the extent needed to accomplish the respective military mission.

Airspace users should take into account the following preferences of ATC:

- the airspace alignment should be north south
- booking of BASIC 1 modules, especially above FL 300 to avoid ATFCM regulations of civil traffic flow within KARLSRUHE UAC sector OSE

The airspace modules BASIC are guaranteed under the following conditions:

Scenario I			
BASIC 1 A-E	BASIC 2 A-E		
Max. FL100 – 660	Max. FL100 – 300		
guaranteed (the ACKNOWLEDGER has	to confirm the notification of the booking)		
Scenario II			
Max. FL100 – 350	Max. FL100 - 350		
guaranteed (the ACKNOWLEDGER has to confirm the notification of the booking)			
Scenario III			
Max. FL100 – 660	Max. FL100 - 660		
Booking shall be accomplished on the day before until 1700 lcl to be guaranteed*			
*This guarantee is not valid during the time period of the busy slots set by KARLSRUHE (max. 1x2h or 2x1h per day)			
Further bookings are to be acknowledged by the ACKNOWLEDGER.			

KARLSRUHE UAC may define time periods during which a booking guarantee for scenario III can be restricted (busy slot, max.1x2h or 2x1h per day).

Short term airspace requests on the day of event that have to be guaranteed may cause regulations of civil traffic flows within KARLSRUHE UAC, sector OSE. This is especially the case if bookings will be received by KARLSRUHE UAC later than 3h before the event, when the OSE sector configuration cannot be changed any more.

The simultaneous use of

- ED-D 47 above FL285 and BASIC 2A+B above FL285
- ED-D 47 and MORE 10
- NG 83 and BASIC 1A
- NG 81/82/83/84/85/86/87/88 and BASIC 2 above FL 300 is not permissible.

NAPC COSA DEU shall enter the times of usage and vertical dimensions of the ED-D 47 into the system STANLY_ACOS.

D.1.1.2 **Booking combinations BASIC**

As a general rule, all modules or combinations of modules can be booked.

To simplify data entries, the system STANLY_ACOS offers the following combinations of modules:

- 1 BCD (48*30 NM)
- 1 BCDE (60*30 NM)
- 1 AB (32*30 NM)
- 1 CDE (45*30 NM)
- 2 CD (34*30 NM)
- 2 BCD (49*30 NM)
- BASIC 1 (83*30 NM)
- BASIC 2 (60*30 NM)

D.1.2 Roles for MVPA planning and booking procedures

Unit	Role
FW 71 "R"	as REQUESTER
FW 73 "S"	as REQUESTER
FW 74	as REQUESTER
TRW 51 "I"	as REQUESTER
FBW 31 "B"	as REQUESTER
FBW 32	as REQUESTER
FBW 33	as REQUESTER
NAPC COSA DEU	as REQUESTER
NAPC COSA DEU	as MODERATOR 1
KARLSRUHE UAC	as ACKNOWLEDGER 1 /
	REQUESTER (for busy slots)
BREMEN ACC	as ACKNOWLEDGER 2
TACCC	as MONITOR
AMC	as MODERATOR 2
AMC	as REQUESTER
CC/FZ	as SUPPORTER/ADMINISTRATOR
other	as MONITOR

Note:

All participants in Operation Phase II are listed in Annex G.

D.1.2.1 **REQUESTER**

Flying units shall request airspace and the mission time required for the planned activity by using STANLY_ACOS.

KARLSRUHE UAC may enter busy slots as airspace requests.

NAPC COSA DEU (backup: AMC / AFSBw) shall request the airspace required by those units without own access to the STANLY_ACOS booking system (AAR anchors and AEW orbits) and enter those requests into STANLY_ACOS.

AMC / DFS shall request airspace and time of utilization for civil purposes, e.g. research flights.

Airspace requests shall include:

- Unit ID
- Requested mission time
- Requested airspace
- Requested FL (from to)
- Number and type(s) of participating aircraft
- Planned activity (e.g. ACT, INT, AAR, AEW, BS (busy slot))
- DTG of entry and initials of operator
- Contact phone.

Conflicts will be indicated by the system. The REQUESTER will <u>not be</u> supported by an automated system-based de-confliction.

Conflicts need to be solved by NAPC COSA DEU.

D.1.2.2 **MODERATOR**

NAPC COSA DEU shall act as MODERATOR 1 in the military part of the airspace management process.

The AMC shall act as MODERATOR 2 in the MVPA airspace management process.

MODERATORs are authorized to intervene at any time and to change details of conflicting airspace requests. In addition, MODERATOR 1 may grant a reservation of airspace well before the event if this is needed by the requesting unit to achieve certainty in the pre-planning.

D.1.2.3 ACKNOWLEDGER

SV UAC KARLSRUHE and SV BREMEN ACC shall act as ACKNOWLEDGER 1 and 2.

SV KARLSRUHE UAC as ACKNOWLEDGER 1 is the point of contact for the other participants of the booking process. Subsequent coordination with BREMEN ACC shall be initiated by SV KARLSRUHE UAC.

ACKNOWLEDGERs shall

- take note of guaranteed bookings and confirm within STANLY ACOS or
- confirm or reject bookings which are not guaranteed.

D.1.2.4 **MONITOR**

System users performing the MONITOR role will use the system to check the current state of bookings only. No action will be done in the system.

D.1.3 **MVPA booking process** (Timelines)

The process of requesting airspace is sub-divided into four phases:

Phase 1 - Long-term booking phase
 from the day of the event (= D) minus 28 days until D – 1 day, 11:00 loc..

• Phase 2 - Moderating phase

from D - 1, 11:00 loc, until the time of the AUP release (16:00 loc).

• Phase 3 - Online booking phase

from the time of the AUP release (16:00 loc) until 65 minutes before the flight.

• Phase 4 - Flying phase

from 65 minutes before the flight until completion of the mission.

D.1.3.1. Long-term booking phase

REQUESTERS shall enter their airspace requests into STANLY_ACOS regarding Airspace BASIC within a time period of D-28 to D-1, 11:00 loc. New airspace requests that are conflicting with already existing requests can also be entered.

NAPC COSA DEU commences the moderating process as soon as one airspace request conflicting with another request has been entered into the system. The aim is an airspace allocation by Wednesday noon of the week before the event (W -1) without any conflict. Solving booking conflicts NAPC COSA DEU shall try to reach an acceptable solution for all airspace users. The necessary steps are not done in the booking system itself but by phone or email. If a compromise between the participants cannot be reached, intra-military priority rules will apply.

After solving conflicting airspace requests NAPC COSA DEU shall modify the bookings of the users in the system. Those modifications can include mission time and/or the requested airspace (vertical and/or lateral). Each user can view the current state of airspace allocations in the booking system.

AMC commences the moderating process as soon as conflicts between military and civil airspace requests occur in the booking system (latest Wednesday W-1).

KARLSRUHE UAC may enter busy slots latest at D-1, 11:00 loc into STANLY_ACOS as airspace booking with the activity "busy slot".

REQUESTERS shall advise BREMEN SV and KARLSRUHE SV asap about activities after 22.00 loc which are booked later than Wednesday of W-1.

D.1.3.2. Moderating phase

NAPC COSA DEU shall confirm airspace requests in STANLY_ACOS on D-1 until 12:00 loc latest for further processing by MODERATOR 2.

AMC shall coordinate an acceptable solution for overlapping/conflicting bookings (mil/civ) and shall modify the appropriate bookings in the system.

The AMC shall insert the remark as follows into the AUP:

For MVPA NE refer to STANLY ACOS

When the MVPA is booked, the AMC shall keep all CDR 1 open and shall not open the CDR 2 Z/UZ102 during MVPA NE bookings.

D.1.3.3. On-line booking phase

After D-1, 16:00 loc REQUESTERs can only temporally, horizontally or vertically reduce or completely delete previous bookings of airspace BASIC. Generally, those modifications will not appear in the AUP for the following day but will be registered as an update of the booking list in STANLY_ACOS on the actual day of the event. Modifications of already existing bookings must be entered into the system at the latest 65 min before the event.

After D-1, 16:00 loc and on the day of the event, REQUESTERs can only make new booking requests via STANLY_ACOS for airspace BASIC in so-called "White Slots", i.e. time slots that are not otherwise allocated. Those requests have to be entered into STANLY_ACOS at the latest 65 mins before the flight. Bookings for BASIC 1 / 2 according to scenario III shall be entered on D-1, 17:00 loc latest to be **guaranteed** without any restrictions by DFS.

If necessary, priority shall be given to a single MVPA North East users / mission through NAPC COSA DEU, after consultation with GAFCOM.

On day of event (D) ACKNOWLEDGERs shall

- take note of guaranteed bookings and confirm within STANLY ACOS or
- confirm or reject bookings which are not guaranteed.

In case of guaranteed bookings, the ACKNOWLEDGER may coordinate with the REQUESTER a postponement of the booked mission by max. 15 mins. This can either be accepted or refused.

D.1.3.4. Flying phase

For opportunity flights refer to D.2.1.

Additional airspace bookings for Tango-Scrambles shall be coordinated via telephone, if the booking deadlines cannot be met.

D.1.3.5. Additional procedures for bookings of Airspace MORE / TTA

Airspace MORE shall only be requested as described for TTA in B.3.

The REQUESTER shall inform NAPC COSA DEU at least 3 months prior to a planned use of airspace MORE (TTA) with the available details.

NAPC COSA DEU distributes this request to UAC KARLSRUHE, ACC BREMEN and the AMC.

KARLSRUHE UAC and BREMEN ACC shall use the given preparation time to analyse the traffic forecast and staffing situation.

REQUESTERs shall enter the airspace booking for TTA into STANLY_ACOS on D -28 (on the first working day). If possible, alternative mission times for the same day shall be entered in the comments section. NAPC COSA DEU shall confirm the booking of Airspace BASIC part of the TTA and give this airspace request priority..

NAPC COSA DEU shall reject bookings of MORE modules not connected to TTA bookings.

After verifying the TTA booking KARLSRUHE UAC and BREMEN ACC shall acknowledge the result of the verification latest on the Friday two weeks before the event (W-2), 12:00 loc:

- Approval or
- o Alternative proposal within an acceptable time window
- o In exceptional cases rejection without alternative proposal

After final coordination of the booking (at the latest on the Wednesday of W -1), including coordination with BREMEN, ACC KARLSRUHE UAC shall initiate a NOTAM via the AMC containing information about activation time of the TTA, closure of CDR or expected flow regulations.

Due to the large impact on civil traffic KARLSRUHE UAC will initiate appropriate ATFCM regulations for the civil traffic flow within OSE and HVL sector.

D.1.4 Final airspace allocation to AEW

NAPC COSA DEU shall report the finalized booking of MVPA modules to AEW, if the modules are monitored by AEW.

D.1.5 **Deviations from final airspace allocation**

If allocated MVPA modules cannot be used, e.g. because of prevailing weather conditions, an alternative airspace should be specified as soon as possible in consultation with the ACKNOWLEDGER.

Airspace user shall immediately report a delayed beginning of the usage of the allocated MVPA modules by more than 10 minutes to the ACKNOWLEDGER. BREMEN ACC and/or KARLSRUHE UAC are authorized to use the allocated airspace until the beginning of the revised booking time.

D.1.6 Technical facilities for MVPA planning and booking procedures

The booking of airspace during phases 1-3 shall be done via the booking system STANLY_ACOS.

Booking requests may be entered at all times during phase 1 and 3.

With the beginning of phase 4, all coordination between the user and the ACKNOWLEDGER and all information pertaining to this coordination shall be exchanged between all participants involved via phone, FAX or operating channel/frequency. STANLY_ACOS will close the coordination-process at that time for statistic reasons.

D.1.6.1 Technical facilities - fallback

Any participant in the booking process shall use telephone / FAX:

in case the system STANLY_ACOS is not available

In any case ATC guarantees the airspace acc. scenario I or II.

As too many fallback scenarios exist, it is not possible to define procedures in detail, however in general

- REQUESTER should coordinate with NAPC COSA DEU.
- NAPC COSA should coordinate with SV KARLSRUHE.

D.2 Operations in MVPA

The MVPA shall be used for the purposes described for TRA operations.

D.2.1 General procedures for the use of MVPA

The coordinated MVPA modules may be used up to their boundaries (lateral and vertical).

Opportunity flights of airspace users may be requested to BREMEN TRAMON and will be assigned acc. decision BREMEN SV. The maximum FL is FL 285. Airspace users may expect a short delay due to necessary system configurations.

With the exception of the flights below, clearances for crossing activated airspace modules shall not be issued:

- flights for which the pilot declares an emergency or which are apparently in an emergency situation, including flights affected or threatened by unlawful interference.
- · flights on search and rescue missions,
- flights carrying sick or injured persons requiring immediate medical assistance, including flights urgently required for the life-saving medical care of sick and injured persons,
- flights subject to measures needed to avert imminent danger due to adverse weather conditions.
- EADS-series trial flights shall be approved through activated airspace modules

 if requirements of the AIRBUS series test flight permit, exercising traffic should be affected as little as possible.

For aircraft, which are crossing activated airspace modules the procedure of the LoA between DFS GmbH - GAFCOM - AFSBw about common coordination procedures and the agreement between AFSBw and DFS GmbH about the use of TRA shall be applied. In case of (D)ACT in the respective modules the procedure according D.5 shall be applied.

Concerned traffic shall be re-routed by BREMEN ACC or KARLSRUHE UAC.

D.2.2 Actual beginning of MVPA operations

The responsible TRAMON (see D.2.4.1) shall coordinate with the appropriate ATC sectors and if applicable with TACCC/AEW the release of booked airspace (modules and level block) via phone/radio before entry.

The entry of the first user activates the allocated airspace.

Unless deviating regulations have been specified in D.2.2.1 BREMEN ACC and KARLSRUHE UAC shall ensure that all other air traffic has vacated the allocated airspace before the beginning of the booked time.

D.2.2.1 TAXI CALL procedures (for all flights from ETNL directly into MVPA)

Applying the TAXI CALL procedure BREMEN ACC and KARLSRUHE UAC may continue to use the allocated airspace by other traffic as described below until a revised activation.

Laage TWR shall report the beginning of taxi including a reference module of the allocated airspace concerned to BREMEN TRAMON (*TAXI CALL [TAXI STASH MVPA BASIC 1A]*).

BREMEN TRAMON shall inform the appropriate ATC sectors, SV and the competent TACCC/AEW without delay mentioning the reference module.

During TRAMON field trial Laage TWR shall report the beginning of taxi including a reference module of the allocated airspace concerned to the TACCS, responsible for TRAMON MVPA. TACCS TRAMON MVPA shall inform the appropriate ATC sectors (Karlsruhe UAC: OSE1/2, Bremen ACC: MRZ, [MAR, DBAN, if relevant]) and the competent AEW without delay mentioning the reference module.

Note:

For details refer to "Zeitlich befristete Nebenabrede zur Vereinbarung zwischen Amt für Flugsicherung der Bundeswehr (AFSBw) und DFS Deutsche Flugsicherung GmbH über die Nutzung zeitweilig reservierter Lufträume Temporary Reserved Airspace – ED-R (TRA)".

TRAMON MVPA shall inform Laage TWR about the TACCS, which is responsible for MVPA, and any change of it.

After the TAXI CALL, BREMEN ACC and KARLSRUHE UAC shall start to vacate the allocated airspace of civil and military air traffic and shall ensure that the allocated airspace will be made available to the military user 10 minutes after the TAXI CALL.

For airspace bookings of large extensions, FW 73 "S" and other users operating out of ETNL shall accept a temporary limitation of some booked flight levels at the beginning of the utilization. These flight levels shall be cleared without delay and shall be allocated to the aircraft as they become available.

D.2.3 Termination of MVPA operations

The handover of the allocated airspace back to ATC shall be coordinated between the TACCC/AEW and the responsible TRAMON (see D.2.4.1 via phone/radio.). TRAMON shall coordinate with the appropriate ATC sectors/SV subsequently.

The utilization of booked MVPA modules ends with the corresponding message by the aircrew/TACCC/AEW via phone/radio.

To facilitate communication and to further increase flexibility, the following phrases (examples) shall be used:

- When returning level blocks or parts thereof:
 - "Top level will be FL XXX" or "Airspace above FL XXX is back to you".
- When ending the training mission:
 - "C/S is leaving area, mission is finished".

D.2.4 TRAMON services

Flights that require tactical support are monitored/controlled by TACCC/AEW at the request of the flying unit. If tactical support is not necessary, they are monitored by BREMEN/TRAMON or KARLSRUHE/TRAMON.

If TRAMON subtasks are performed by TACCC/AEW, the handover procedures specified in the LoA DFS – GAFCOM – AFSBw shall be applied.

D.2.4.1 Responsibility for TRAMON

If MVPA modules are used within the AoR of BREMEN ACC (below FL285) or within the AoR of BREMEN ACC and the AoR of KARLSRUHE UAC (above FL285), BREMEN TRAMON shall be responsible for the provision of TRAMON services.

If MVPA modules are used exclusively within the AoR of KARLSRUHE UAC, KARLSRUHE TRAMON 306 shall be responsible for the provision of TRAMON services.

D.2.4.2 TRAMON functions

Aircrews using an MVPA area shall be informed well in advance, when approaching the boundary of an MVPA area to prevent crossing of the boundary.

If adjacent MVPA modules are allocated to different users, the aircrew shall be informed about the status of the adjacent MVPA module when entering the training area.

The aircrew shall be informed if another aircraft performing training flights within an adjacent MVPA area is approaching the joint boundary of the two MVPA – areas, if the other aircraft becomes a factor.

Each individual aircrew shall be responsible for operating within the allocated airspace boundaries.

D.2.4.3 Transit flights through the ED-R (TRA) 206 at FL80 - FL100

When using MVPA modules with the lower limit of FL100, the clearance to cross those parts of the ED-R (TRA) 206 that are below these modules is considered to be granted once the clearance to use the MVPA modules has been issued by ATC.

LoA MVPA North East, DFS GmbH - GAFCOM - AFSBw, WEF October 22, 2009 Revised: August 25, 2011

D.3 Air refuelling operations in MVPA

D.3.1 Booking of AAR and use of adjacent MVPA modules

NAPC COSA DEU shall be responsible for booking of the published MVPA AAR anchor (including the level block) via STANLY_ACOS. The level block depends on the receiver aircraft.

Unless otherwise coordinated the FL above and below the MVPA AAR anchor (FL A - FL D) shall be available for arriving/departing receivers under IFR conditions. A combined use of an MVPA AAR anchor and a vertically adjacent MVPA module is only possible after prior coordination between NAPC COSA DEU and ATC.

The use of laterally adjacent MVPA modules is possible. The airspace design of the MVPA AAR anchor and the control procedures provide the required separation of at least 6 NM.

D.3.2 Flights through a tanker pattern

Aircraft not participating in refuelling operations shall not fly through an activated tanker pattern.

D.4 AEW operations in the MVPA

Use of MVPA modules for AEW D.4.1

During AEW operations the blocked MVPA module BASIC 1A shall not be activated but shall be considered for the airspace booking of other flying units.

NAPC COSA DEU shall book the modules required for the AEW orbit via STANLY ACOS. The clearance for the orbit is issued by the competent ATC unit.

For restrictions in regard to airspace booking when AEW orbits are used refer to D.1.1

D.4.2 Control of the AEW aircraft

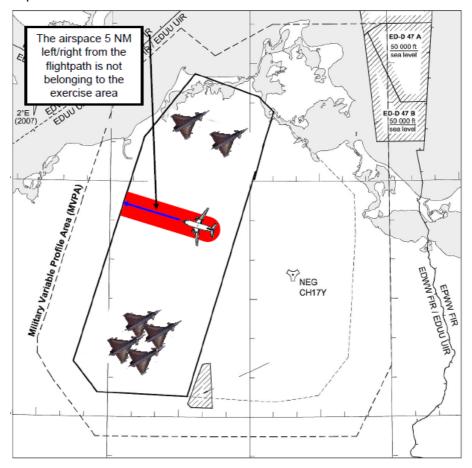
The AEW aircraft shall be controlled by the competent ATC unit.

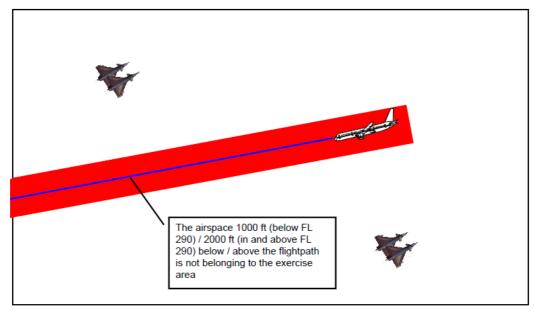
Revised: August 25, 2011

D.5 Procedure for aircraft crossing activated airspace modules during (D)ACT

The following procedures shall be applied for aircraft which are crossing activated airspace modules during (D)ACT:

D.5.1 The flight path of an aircraft in transit of a activated airspace module in front of the aircraft and 5 NM either side of the flightpath, 5 NM behind the aircraft and 1000 FT (below FL 290) 2000 FT (in and above FL 290) below / above and below the aeroplane shall be excluded from the exercise area.





Annex E

Transfer of control and transfer of communication

For details see the LoA between DFS, GAFCOM and the AFSBw.

Annex F

Radar-based coordination procedures

F.1 Minimum distances

F.1.1 Distances from airspace boundaries to be established by TACCC/AEW and TRAMON

The vertical and lateral boundaries of the activated MVPA modules shall not be infringed by traffic using the MVPA modules.

F.2 Minimum distances to MVPA – boundaries to be established by ATC units

- F.2.1 The minimum lateral distance to airspace boundaries shall be the value of the radar separation, however, not less than 5 NM.
- F.2.2 Vertical distances to be established with controlled air traffic outside the MVPA boundaries:
 - 1000 FT if the boundary is below FL290;
 - 1000 FT below and 2000ft above, if the boundary is at FL290;
 - 2000 FT if the boundary is above FL290.

F.3 Minimum distances from an activated AAR anchor

The parties shall apply the prescribed vertical separation/distance above FL A (alternate FL) and below FL D (entry level of further receivers).

The TACCC shall maintain a minimum distance of 6 NM observed by radar from the boundaries of the AAR anchor in the MVPA modules.

Annex G

Supplementary procedures

G.1 Participants in Operation Phase II

G.1.1 Flying units

Main users of the Operation Phase II are:

- FW 71 "R"
- FW 73 "S"
- FW 74
- TRW 51 "I"
- FBW 31 "B"
- FBW 32
- FBW 33

G.1.2 Other airspace users

- DEU Military transport wings
- Bundeswehr Technical Center 61
- Civil users (e.g. Photo- and Research flights)
- NAEW
- AAR
- others

Note:

All other users shall be briefed on the procedures before using MVPA. Airspace allocation via NAPC COSA DEU is mandatory.

G.1.3 TACCS units

- TACCC Meßstetten
- TACCC Erndtebrück
- TACCC Erndtebrück Training Center
- TACCC Schönewalde
- DTACCC Holzdorf
- E-3A, D, F

G.1.4 **DFS units**

- DFS Branch North, BREMEN Centre, BREMEN ACC
- DFS Branch Upper, KARLSRUHE Centre, KARLSRUHE UAC

G.1.5 Airspace management units

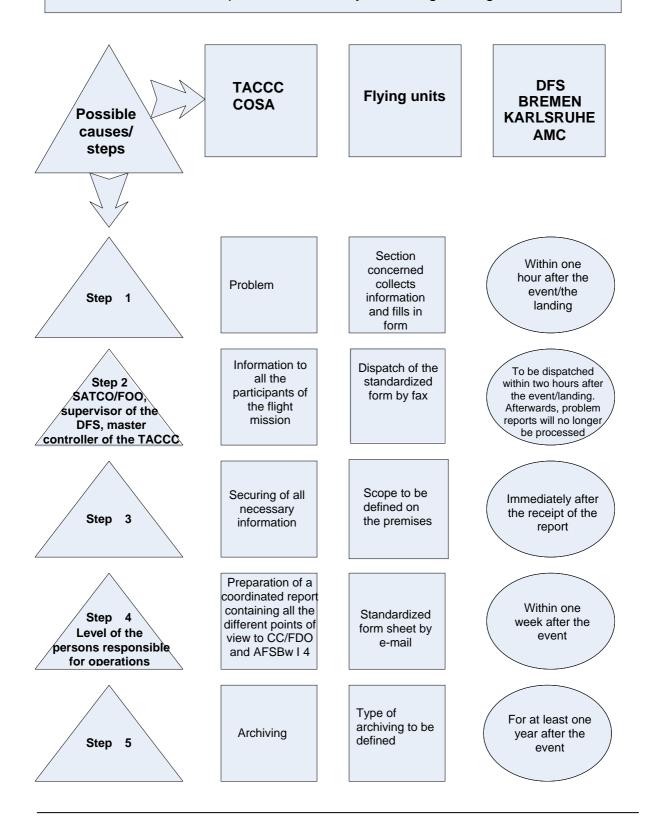
- AMC
- NAPC COSA DEU

G.2 Reporting of operational problems

In the event of operational problems, the "Problem Reporting MVPA" procedures shall be applied. For theses purposes, the process specified in Annex G, Appendix 1, the "Problem Report – Operations" form (cf. Annex G, Appendix 2) and the contact data specified in Annex C, distribution Appendix 3 shall be used.

Reporting of problems in connection with the MVPA

Related to operations, not to systems engineering









PROBLEM REPORT - OPERATIONS -

Date:	Originator:
Time of occurrences:	
Call sign:	A/C type/number:
Affected Units:	

Airspace requested:	Airspace assigned:	Changes during mission:
Module	Module	Module
Upper FL	Upper FL	Upper FL
Lower FL	Lower FL	Lower FL
Time	Time	Time

Problem Report:

The problem report provided as Appendix 2 shall be <u>faxed</u> to the following recipients within the periods of time specified in Appendix 1:

- 1. SV
- 2. MC
- 3. Operations staff officer
- 4. Flight operations officer
- 5. SATCO
- 6. AMC
- 7. NAPC COSA DEU
- 8. AFSBw I 1/I 4
- 9. GAFCOM A 5 II c

of the affected DFS unit(s)
of the affected TACCC
of the affected units
of the affected flying squadron(s)

of the affected flight operations squadron(s)

END