to	Distribution list	**LoA 13**

from	J.-H. Baerens, CC/FB-N	phone	0421 5372 143	date DRF until	11.10.2011 01.12.2011

Amendment of the LoA between GAFCOM, AFSBw and DFS, wef 20.10.2011

1. Essentials

C.3.2 VCS directory CRC (POC) – Sunrise MFC numbers updated

D.4.7.3.1/D.4.7.3.2 – Amendment of procedures for "Renegade Exercise/Readiness Verification Coordination"

2. List of Changes

Date	Parts	Page(s)	add, replace, delete
20.10.2011	amendment LoA	all	replace

Axel Brandt
Chief of Support

Hans-Michael Jung
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):												

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):												

Distribution list: LoA I

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Letter of Agreement

between

DFS Deutsche Flugsicherung

DFS Deutsche Flugsicherung GmbH (DFS)

German Air Force Command (GAFCOM)

TACTICAL **A**IR **C**OMMAND AND **C**ONTROL **S**ERVICE

Bundeswehr Air Traffic Services Office (AFSBw)

In the following referred to as “parties”.

Subject: Common coordination procedures

WEF September 30, 2004

Promulgation: August 19, 2004

1 General

1.1 Purpose

The purpose of this LoA is to define the procedures governing the cooperation between DFS, assigned fixed and deployable CRC of the TACCS, AEW units, DEU F124 Frigates and the NAPC COSA DEU.

This LoA is supplementary to the agreement between the appropriate departments of the MoT and the MoD. The procedures laid down in the LoA shall be applied by all listed CRC and ATC units in the listed areas.

The procedures are supplementary to those specified in ICAO, EUROCONTROL, DFS Manual of Operations Air Traffic Services, and BesAnEinsFüDstLw and / or national documents.

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 General air traffic (GAT)

GAT are flights which are conducted in accordance with the rules and regulations of the International Civil Aviation Organization (ICAO) and / or the national civil aviation law.

1.3.2 Operational air traffic (OAT)

OAT are flights of military aircraft which due to

- the provision governing the issuance of a certification as military aircraft,
- the mission,
- or the configuration

are not conducted in accordance with the regulations applicable to General Air Traffic, 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 responsibility. The following ATS are provided: ATC, FIS and ALRS:

- Karlsruhe UAC
- DFS Maastricht UAC
- Langen ACC
- Bremen ACC;
- Munich ACC

Supplementary procedures to be applied within these AoR are defined in the regional supplements to this LoA.

2.2 Based on the agreement between the appropriate departments of the MoT and the MoD, **the CRC** 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.

- CRC Meßstetten
- CRC Erndtebrück
- CRC Schönewalde
- DCRC Holzdorf
- E-3 A, D, F
- DEU F124 Frigates

3 Procedures

The procedures to be applied by the parties are detailed in the annexes and regional supplements to this LoA. Regional deviations due to airspace structure, -organisation or working arrangements may occur and shall be detailed in regional supplements.

3.1 Annexes

Annex A **Definitions and abbreviations**

- A.1 Definitions
- A.2 Abbreviations

Annex B **Area of common interest**

- B.1 FIR, UIR and MTA within the ACI
- B.2 ATC units, areas of responsibility and sectors
- B.3 Special areas within the ACI

Annex C **Exchange of flight data**

- C.1 Automated forwarding of flight data to CRC
- C.2 Verbal coordination of flight data
- C.3 Directory of VCS and frequency allocation
- C.4 Failure of ground / ground voice communication
- C.5 Directory of addresses and frequency tables for operations along the NLFS GE

Annex D **Procedures for coordination**

- D.1 General conditions for acceptance of flights
- D.2 Aircraft in emergency situations
- D.3 General procedures for the use of MTA
- D.4 Security flights - A scrambles, practice security flights - T scrambles, MTP
- D.5 ATC / TACCS information service
- D.6 ED-R (TRA) monitoring service provided by CRC

D.7 Procedures for operations in ED-D

D.8 Operations in ADEXA

D.9 Operations in LANIA

D.10 Intercepts in IMC

D.11 Air refuelling operations

D.12 Coordinated target of opportunity

D.13 Support of missions along the NLFS GE

D.14 AEW operations

D.15 Occurrences subject to mandatory reporting

D.16 “Reduced Lighting” - Flight Operations under Night Vision Goggles (NVG)

D.17 DEU F124 Frigate operations

Annex E **Transfer of control and transfer of communication**

E.1 Transfer of control

E.2 Transfer of communication

Annex F **Radar based coordination procedures**

F.1 SSR code assignment

F.2 Separation / Minimum distances

F.3 Radar based coordination procedures

Annex G **Supplementary procedures**

G.1 Assignment of DFS ATC units to CRC

G.2 Common use of radar data

G.3 Air Defence Element

G.4 CRC air traffic services element

G.5 Contingency

3.2 Regional supplements

- Karlsruhe UAC
- DFS Maastricht UAC
- Langen ACC
- Bremen ACC
- München ACC

4 Revisions and deviations

4.1 Revision of this LoA

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

4.2 Revision of annexes

Revision of annexes to the LoA requires the written confirmation of the mutual consent of the designated authorities.

Designated authorities are:

- Business Unit Center, Department ATM Operations for DFS GmbH;
- GAFCOM A 5 II c for TACCS;
- AFSBw Branch I for AFSBw.

4.3 Revision of regional supplements

Revision of regional supplements to the LoA requires the written confirmation of the mutual consent of the designated regional authorities.

Designated regional authorities are:

- representative of the appropriate ATC unit for DFS GmbH;
- GAFCOM A 5 II c for TACCS.

4.4 Temporary deviations

When necessary, GAFCOM A 5 II c and the responsible ATC unit may introduce, by mutual agreement and for a specified period of time, temporary modifications to the procedures laid down in the annexes to the present LoA.

4.5 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 endeavor 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 party may take place at any time.

6.2 Cancellation of this LoA, of one of the annexes or supplements by either party is possible at any time, provided that the cancelling party declares its intention to cancel the LoA with a minimum pre-notification time of six months before the date the cancellation is to take effect.

7 Validity

This LoA becomes effective September 30, 2004 and supersedes the following LoA:

- Betriebsabsprache zwischen DFS Deutsche Flugsicherung GmbH, Niederlassung Nord – Center Bremen und Radarführungsregiment 1
- Betriebsabsprache zwischen DFS Deutsche Flugsicherung GmbH, Niederlassung Düsseldorf und Radarführungsregiment 1
- Betriebsabsprache zwischen DFS Deutsche Flugsicherung GmbH, Niederlassung Nord Control Center Berlin und Radarführungsregiment 1, Radarführungsregiment 2 für die unterstellten LV-RS und NAEW-Component
- Betriebsabsprache zwischen DFS Deutsche Flugsicherung GmbH, Center Upper Maastricht und Radarführungsregiment 1
- Letter of Agreement between Deutsche Flugsicherung GmbH, Region South Munich ACC Tactical Air Command and Control Service Radarführungsregiment 2
- Letter of Agreement between DFS Deutsche Flugsicherung GmbH, Center Langen and Frankfurt APP Control Service and Tactical Air Command Radarführungsregiment 2
- Letter of Agreement between DFS Deutsche Flugsicherung GmbH, Branch Upper Karlsruhe UAC and Tactical Air Command Radarführungsregiment 2

GAFCOM A 3 shall sign the LoA on behalf of the AEW units.

DFS Deutsche Flugsicherung GmbH
Langen, 26.8.04

i. V. Andreas Angenendt
GB Center
Sprecher der Bereichsleitung

DFS Deutsche Flugsicherung GmbH
Langen, 26.08.04

i.V. Klaus Schnell
CDC militärische
Unternehmensangelegenheiten

Köln, 28.07.04

Hasso Körtge
Oberst i.G.
Luftwaffenführungskommando
Abteilungsleiter A 3
Planung / Operation

Langen, 04.08.04

Charles Dvořák
Oberst
Amt für Flugsicherung der Bundeswehr
Leiter

Record of amendments

AMD NO.	DATE	ANNEXES	PAGE	ADD, DELETE or REPLACE
1	05 DEC 2004	Record of amendments	8	REPLACE
		Annex D	D 27	REPLACE
2	20 JAN 2005	Record of amendments	8	REPLACE
		Annex C	3, 4	REPLACE
		Annex D	4	REPLACE
		Annex D	4A	ADD
		Annex D	11, 17, 19	REPLACE
		Annex F	3, 4	REPLACE
		Annex G	3	REPLACE
3	17 MAR 2005	Record of amendments	8	REPLACE
		Annex D	27	REPLACE
4	14 APR 2005	Record of amendments	8	REPLACE
		Annex A	5, 6	REPLACE
		Annex C	2	REPLACE
		Annex C	2A	ADD
		Annex D	12, 13, 15,	REPLACE
		Annex D	16, 22, 23	REPLACE
5	09 JUN 2005	Record of amendments	8	REPLACE
		Annex C	2A	REPLACE
		Annex C	2B – 2C	ADD
6	07 JUL 2005	Record of amendments	8	REPLACE
		Annex D	13	REPLACE
		Annex F	3	REPLACE
7	04 AUG 2005	Record of amendments	8	REPLACE
		Annex C	2A	REPLACE
		Annex C	2B – 2C	DELETE
		Annex D	19	REPLACE

Record of amendments

AMD NO.	DATE	ANNEXES	PAGE	ADD, DELETE or REPLACE
8	29 SEP 2005	Record of amendments	9	ADD
		Checklist	10	ADD
		Annex A	3, 6	REPLACE
		Annex B	1	REPLACE
		Annex D	1 – 3	REPLACE
		Annex D	4A	DELETE
		Annex D	5 – 7	REPLACE
		Annex D	7A	ADD
		Annex D	9 – 11	REPLACE
		Annex D	11A	ADD
		Annex D	12	REPLACE
		Annex D	14 – 15	REPLACE
		Annex D	28	REPLACE
9	04 OCT 2005	Record of amendments	9	REPLACE
		Checklist	10	REPLACE
		Annex C	2A, 3 – 4	REPLACE
		Annex G	1, 4 ,6	REPLACE
10	01 NOV 2005	Record of amendments	9	REPLACE
		Checklist	10	REPLACE
		Annex A	4 – 6	REPLACE
		Annex C	4	REPLACE
		Annex D	4 – 6, 7A	REPLACE
		Annex D	7B – 7D	ADD
11	20 FEB 2006	Record of amendments	9	REPLACE
		Checklist	10	REPLACE
		Annex C	3 - 4	REPLACE
		Annex D	5 - 6	REPLACE
12	05 MAR 2006	Record of amendments	9	REPLACE
		Checklist	10	REPLACE
		Annex C	5	REPLACE
		Annex D	27	REPLACE
13	08 JUN 2006	Record of amendments	9	REPLACE
		Checklist	10	REPLACE
		Annex A	6	REPLACE
		Annex C	2 A	REPLACE
		Annex D	1	REPLACE
		Annex D	31	ADD

Record of amendments

AMD NO.	DATE	ANNEXES	PAGE	ADD, DELETE or REPLACE
14	31 AUG 2006	Checklist	10	DELETE
		Record of amendments	10	ADD
		Checklist	11	ADD
		Annex C	2 A, 3	REPLACE
		Annex D	4, 9	REPLACE
		Annex F	1	REPLACE
		Annex G	5	REPLACE
15	16 DEC 2006	Record of amendments	10	REPLACE
		Checklist	11	REPLACE
		Annex C	4, 5	REPLACE
		Annex D	20, 21, 27	REPLACE
		Annex G	1, 4, 6	REPLACE
16	05 JUL 2007	Record of amendments	10	REPLACE
		Checklist	11	REPLACE
		Annex D	14	REPLACE
		Annex F	4, 5	REPLACE
		Annex F	6	ADD
17	22 NOV 2007	Record of amendments	10	REPLACE
		Checklist	11	REPLACE
		Annex D	9	REPLACE
18	03 JUL 2008	Record of amendments	10	REPLACE
		Checklist	11	REPLACE
		Annex D	29	REPLACE
		Annex D	29A	ADD
19	03 JUL 2008	Record of amendments	10	REPLACE
		Checklist	11	REPLACE
		Annex D	9	REPLACE
20	23 OCT 2008	General	2 - 5	REPLACE
		Record of amendments	10	REPLACE
		Checklist	11	REPLACE
21	15 JAN 2009	Record of amendments	10	REPLACE
		Checklist	11	REPLACE
		Annex C	2 A, 4	REPLACE
		Annex D	2, 10	REPLACE
22	31 OCT 2009	Record of amendments	10	REPLACE
		Checklist	11	REPLACE
		Annex C	2 A, 3, 4	REPLACE
		Annex F	1	REPLACE

Record of amendments

AMD NO.	DATE	ANNEXES	PAGE	ADD, DELETE or REPLACE
23	29 JUL 2010	Checklist	11	DELETE
		Record of amendments	11	ADD
		Checklist	12	ADD
		Annex C	3, 4	REPLACE
24	10 MAR 2011	General	2 - 4	REPLACE
		Record of amendments	11	REPLACE
		Checklist	12	REPLACE
		Annex A	4,- 6	REPLACE
		Annex B	2	REPLACE
		Annex C	2 A, 3, 4	REPLACE
		Annex C	6	ADD
		Annex D	1, 8, 14, 17	REPLACE
		Annex D	32 - 33	ADD
		Annex F	1	REPLACE
		Annex G	1, 4, 5, 6	REPLACE
25	02 JUN 2011	Record of amendments	11	REPLACE
		Checklist	12	REPLACE
		Annex D	7 D	REPLACE
		Annex D	29	REPLACE
		Annex D	29 A	DELETE
26	30 JUN 2011	Record of amendments	11	REPLACE
		Checklist	12	REPLACE
		Annex D	9 - 10	REPLACE
		Annex D	17 - 19	REPLACE
27	20 OCT 2011	Record of amendments	11	REPLACE
		Checklist	12	REPLACE
		Annex C	2 A	REPLACE
		Annex D	7 C	REPLACE

Checklist

General	
1	30 SEP 2004
2	10 MAR 2011
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4	10 MAR 2011
5	23 OCT 2008
6	30 SEP 2004
7	30 SEP 2004
8	04 AUG 2005
9	08 JUN 2006
10	31 OCT 2009
11	**20 OCT 2011**
12	**20 OCT 2011**
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A 1	30 SEP 2004
A 2	30 SEP 2004
A 3	29 SEP 2005
A 4	10 MAR 2011
A 5	10 MAR 2011
A 6	10 MAR 2011
Annex B	
B 1	29 SEP 2005
B 2	10 MAR 2011
Annex C	
C 1	30 SEP 2004
C 2	14 APR 2005
C 2 A	**20 OCT 2011**
C 3	10 MAR 2011
C 4	10 MAR 2011
C 5	16 DEC 2006
C 6	10 MAR 2011
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D 1	10 MAR 2011
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D 3	29 SEP 2005
D 4	31 AUG 2006
D 5	20 FEB 2006
D 6	20 FEB 2006
D 7	29 SEP 2005
D 7 A	01 NOV 2005
D 7 B	01 NOV 2005
D 7 C	**20 OCT 2011**
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D 11	29 SEP 2005
D 11 A	29 SEP 2005
D 12	29 SEP 2005
D 13	07 JUL 2005
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D 15	29 SEP 2005
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D 18	30 JUN 2011
D 19	30 JUN 2011
D 20	16 DEC 2006
D 21	16 DEC 2006
D 22	14 APR 2005
D 23	14 APR 2005
D 24	30 SEP 2004
D 25	30 SEP 2004
D 26	30 SEP 2004
D 27	16 DEC 2006
D 28	29 SEP 2005
D 29	02 JUN 2011
D 30	30 SEP 2004
D 31	08 JUN 2006
D 32	10 MAR 2011
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F 1	10 MAR 2011
F 2	30 SEP 2004
F 3	07 JUL 2005
F 4	05 JUL 2007
F 5	05 JUL 2007
F 6	05 JUL 2007
Annex G	
G 1	10 MAR 2011
G 2	30 SEP 2004
G 3	20 JAN 2005
G 4	10 MAR 2011
G 5	10 MAR 2011
G 6	10 MAR 2011
G 7	30 SEP 2004

Annex A

Definitions and abbreviations

A.1 Definitions

A.1.1 Approval Request

Request from an ATC unit to the ATC unit concerned for an ATC clearance for:

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

A.1.2 Area of responsibility (AoR)

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

A.1.3 Area of common interest (ACI)

A volume of airspace as agreed between two ATC units, extending into the adjacent or stratified areas of responsibility, within which airspace structure and related activities may have an impact on air traffic coordination procedures.

A.1.4 ATS route

A specified route designated for channeling the flow of traffic as necessary for the provision of air traffic services.

A.1.5 Broadcast Control

A form of aircraft mission control used in the absence of full capability or if the tactical situation precludes close or loose control, in which tactical / target information is passed to enable the aircraft to accomplish the assigned task. The controlling unit, when possible, provides adequate warnings of hazards, but **the aircraft commander(s) is (are) responsible for aircraft navigation and collision avoidance**. Two-way communication is not pre-requisite for this type of control.

A.1.6 Clearance limit

The point to which an aircraft is granted an air traffic control clearance. One of the following details shall be defined as clearance limit: Aerodrome of destination, point or airspace boundary.

A.1.7 Close Advisory Control

A form of aircraft mission control in which the aircraft is continuously controlled, for altitude, speed and heading, to a position from which the mission can be accomplished. The controlling unit will provide adequate warnings of hazards affecting aircraft safety. **The aircraft commander is responsible for the aircraft's navigation and collision avoidance**.

A.1.8 **Close Positive Control**

A form of aircraft mission control in which the aircraft is continuously controlled for altitude, speed and heading, to a position from which the mission can be accomplished. **The controlling unit is responsible for taking actions for collision avoidance, such as ordering the necessary alterations to heading, speed and altitude to maintain operation criteria**.

A.1.9 **Conditional route**

A conditional route (CDR) is a route not permanently assignable. In Germany two categories are published:

CDR1: Conditional route which can be planned permanently and - as a rule - may be used for planning of flights. A closure will be announced by Conditional Route Availability Message (CRAM).

CDR2: Conditional route the availability of which is announced in the daily CRAM and which can only then be used for the planning of flights.

A.1.10 **Coordination**

The process of obtaining an agreement on clearances, transfer of control, advice or information to be issued to aircraft, by means of information exchanged between air traffic services units and CRC or between controller positions within such units.

A.1.11 **Danger Area**

An airspace of defined dimensions within which activities dangerous to the flight of aircraft may exist at specified times.

A.1.12 **Division flight level (DFL)**

The flight level dividing two stratified AoR for the provision of ATS.

A.1.13 **Expedite Clearance**

An urgent clearance request from an ATC unit to the ATC 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.1.14 **Flight path**

The path of an aeroplane through the air, defined in three dimensions, usually with reference to an origin at the start of take-off roll or at the landing threshold.

Note: Pertaining to traffic passing through a MTA the origin of the flight path is determined as 2,5 NM before entering the MTA, the flight path ends 2,5 NM after leaving the MTA. The dimensions of the flight path are 5 NM either side of the track of the aeroplane and either

1000 FT above and below the aeroplane when below FL290, or

2000 FT above and below the aeroplane when above FL290, or

1000 FT below and 2000 FT above the aeroplane when at FL290.

A.1.15 **Flight Plan and Track Data Display System (FPTDDS)**

Systems used by CRC, which provide the automatic forwarding and display of tracks with correlated Flight Plan Data (e.g. ADMAR 2000, CIMACT or a Command and Control System).

A.1.16 **Loose Advisory Control**

A form of aircraft mission control in which the aircraft commander selects his own speed, altitude, heading and the appropriate tactics required to accomplish the assigned task. The controlling unit will advise the aircraft commander of the current tactical picture and will provide further advice if and when available. The controlling unit will provide adequate warnings of hazards affecting aircraft safety. **The aircraft commander is responsible for navigation and collision avoidance.**

A.1.17 **Loose Positive Control**

A form of aircraft mission control in which the aircraft commander selects his own speed, altitude, heading and the appropriate tactics required to accomplish the assigned task. The controlling unit will advise the aircraft of the current tactical picture and will provide further advice if and when available. **The controlling unit is responsible for taking actions for collision avoidance, such as ordering the necessary alterations to heading, speed and altitude to maintain operation criteria**.

A.1.18 **Military Training Area (MTA)**

Military training area are ED-R (TRA) restricted areas, ED-D danger areas, ADEXA, LANIA, NLFS GE, AAIS – areas and other areas depicted in the regional supplements of this LoA.

A.1.19 **Minimum Radar Vectoring Altitude**

The lowest altitude within controlled airspace which may be used for the vectoring of IFR flights, taking into account the minimum safe height and airspace structure within a specified area.

A.1.20 **Night**

The period between half an hour after sunset and half an hour before sunrise, with reference to Kassel.

A.1.21 **Point out**

A point out is a radar hand-off, however, without transferring the responsibility for the provision of radar service to the CRC concerned.

A.1.22 **Practice security flights**

Practice security flights are conducted to maintain the capability and efficiency of the air defence system.

These flights are called TANGO SCRAMBLES.

Practice security flights of air defence shall be given the same priority as to government flights.

A.1.23 **Radar hand-off**

The transfer of responsibility for the provision of radar service to an aircraft from one radar controller to another without interruption of radar service.

A.1.24 **Reduced vertical separation minimum (RVSM)**

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

A.1.25 **Restricted area**

An airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is restricted in accordance with certain specified conditions.

A.1.26 **RVSM approved aircraft**

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

A.1.27 **Security flights**

Security flight are flights which are conducted for the immediate defence of the Federal Republic of Germany or in order to guarantee the integrity of the airspace of the Federal Republic of Germany and prevent attacks on the safety of air traffic, particularly aircraft hijacking, acts of sabotage and terrorism.

These flights are called ALPHA SCRAMBLES.

Priority shall be given to security flights of air defence above all other traffic, except those flights for which the pilot declares an emergency or which are apparently in an emergency situation, including flights affected or threatened by unlawful interference.

A.1.28 **State aircraft**

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

A.1.29 **Standard formation**

A standard formation is a formation where a lateral or longitudinal distance of not more than 1 NM and a maximum vertical distance of 100 FT to the formation leader is maintained by the other elements.

A.1.30 **Track production area (TPA)**

An area of defined dimension, where a CRC has taken responsibility to establish a recognized air picture.

A.1.31 **Training flight**

Flights of military or civil aircraft, flying on behalf of the Bundeswehr or NATO, for which CRC is responsible for training purposes.

A.1.32 **Transfer of control point**

A defined point located along the flight path of an aircraft, at which the responsibility for providing air traffic control service to the aircraft is transferred from one control unit or control position to the next.

For further abbreviations and definitions see

DFS Manual of Operations Air Traffic Services, chapter 170 ENCYCLOPEDIA;

AIP Germany GEN 2.2-1 – 2.2-13;

Mil AIP Germany and AFSBw BesAnMilFS 6-100

A.2 Abbreviations

A	AAIS	ATC / Air Defence information service
	AAR	Air to Air Refuelling
	AC	Aircraft Controller
	ACC	Area Control Center
	ACCO	Aircraft Control Coordinator
	ACI	Area of Common Interest
	ADE	Air Defence Element
	ADEXA	Air Defence Exercise Area
	ADNC	Air Defence Notification Center
	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
	APP	Approach control
	ASM	Air Surveillance Manager
	ATC	Air Traffic Control
	ATP	Allied Tactical Publication
	ATS	Air traffic service
	AUP	Airspace Use Plan
B	BesAn EinsFüDstLw	Besondere Anweisung für den Einsatzführungsdienst der Luftwaffe
	BesAnMilFS	Besondere Anweisung für die militärische Flugsicherung
	BNL	Besondere Nutzung des Luftraums (Special Use Airspace)
C	CAOC	Combined Air Operation Center
	CAPEVAL	Capability Evaluation
	CATSE	CRC Air Traffic Service Element
	CC AIR HQ	Component Command Air Headquarters
	CDR	Conditional route
	CFLAS	Contingency Flight Level Allocation Scheme
	CFMU	Central Flow Management Unit
	COMAO	Composite Air Operations
	COMIL	Coordination Center for Military Airspace Utilization
	COSA	Coordinating and Scheduling Agency
	CRAM	Conditional Route Availability Message
	CRC	Control and Reporting Center
D	(D)ACT	(Dissimilar) Air Combat Training
	DC	Duty Controller
	DCA	Duty Controller Assistant
	DFL	Division Flight Level
	DFS	Deutsche Flugsicherung GmbH
E	EADS	European Aeronautic Defence and Space Company
	ED-D	Danger area
	ED-R	Restricted area
	ETO	Estimated Time Over
	EUR	Europe
	EUROCONTROL	European Organization for the Safety of Air Navigation
	EXOPORD	Exercise Operation Order
F	FA	Fighter Allocator
	FGS	Federal German Ship
	FIR	Flight Information Region
	FIS	Flight Information Service
	FL	Flight Level
	FPL	Filed Flight Plan
	FPTDDS	Flight Plan and Track Data Display System
	FT	feet
G	GAFCOM	German Air Force Command
	GAT	General Air Traffic
	GEMIL FLIP MAP	German Military Flight Information Publication Aeronautical Maps and Charts
	GND	Ground
	IAF	Initial Approach Fix
	ICAO	International Civil Aviation Organisation
	IDO (A)	Identification Officer (Assistant)
	IFR	Instrument Flight Rules

	IL	Information Controller [Informationslotse]
	IMC	Instrument meteorological Conditions
L	LANIA	Low Altitude Night Intercept Area
	LFE	Large Force Employment
	LIVEX	Live Exercise
	LoA	Letter of Agreement
	LOP	Local Operating Procedure
	LoR	Line of Responsibility
	LORI	Long Range Intercept
M	MC	Master Controller
	Mil AIP	Military Aeronautical Information Publication
	MilAIS	Military Aeronautical Information Service
	milAPP	Military Approach control
	MO-ATS	Manual of Operations Air Traffic Services
	MOC	Maritime Operation Controller
	MoD	Ministry of Defence
	MoT	Ministry of Transport, Building and Housing
	MRVA	Minimum Radar Vectoring Altitude
	MTA	Military Exercise and Training Area
	MTP	Minimum Time Profile
	MVPA	Military Variable Profile Areas
N	NAEW	North Atlantic Treaty Organization Airborne Early Warning
	NAPC COSA DEU	National Air Policing Center Coordinating and Scheduling Agency Germany
	NATO	North Atlantic Treaty Organization
	NatRep	National Representative
	NLFS GE	Night Low Flying System Germany
	NM	Nautical Mile
	NOTAM	Notice to Airman
	NVG	Night Vision Goggles
O	OAT	Operational Air Traffic
	OPS	Operations
	ORCAM	Originating Region Code Assignment Method
	ORE	Operational Readiness Evaluation
P	PCA	Planning and Coordinating Authority for Military Air Activities
	POC	Point of Contact
Q	QRA	Quick Reaction Alert
R	RADNET	Radar Data Network
	RCC	Rescue Coordination Centre
	RCF	Radio Communication Failure
	RVSM	Reduced Vertical Separation Minima
S	SAR	Search and Rescue
	SID	Standard Instrument Departure
	SSR	Secondary Surveillance Radar
	SSZ	Systemsteuerungszentrale
	STAR	Standard Instrument Approach
	SYNAX	Synthetic Air Exercise
T	TACCS	Tactical Air Command and Control Service
	TACEVAL	Tactical Evaluation
	TAD	Tactical Air Designator
	TFF	Terrain Following Flight
	TPA	Track Production Area
	TRA	Temporary Reserved Airspace
	TRAMON	TRA Monitoring Unit
	TSA	Temporary Segregated Airspace
	TTA	Tactical Training Area
U	UAC	Upper Area Control Center
	UIR	Upper Flight Information Region
	UUP	Updated Airspace Use Plan
V	VCS	Voice Communication System
	VFR	Visual Flight Rules
	VL	DFS Liaison Controller [Verbindungslotse]
	VMC	Visual Meteorological Conditions
W	WEF	With Effect From

Annex B

Area of common interest

B.1 FIR, UIR and MTA within the ACI

For FIR, UIR and airspace classification refer to AIP Germany ENR 2.1.

Lateral and vertical extensions, times of activation of ED-R (TRA) restricted areas, ED-D danger areas, ADEXA, LANIA, NLFS GE are depicted in AIP Germany (ENR 5.1,5.2), Mil AIP Germany and GEMIL FLIP MAP.

Air refueling anchors are depicted in Mil AIP Germany GEMIL FLIP MAP.

AEW orbit areas are depicted in LoA between NAEW-Force Command, DFS GmbH, AFSBw and GAFCOM.

B.2 ATC units, areas of responsibility and sectors

The AoR and sectors of the ATC units are contained in the regional supplements to this LoA.

B.3 Special areas within the ACI

B.3.1 The ATC unit shall be responsible for the provision of ATS within the respective FIR / UIR. The boundaries of the AoR of the ATC unit are fixed by mutually delegating the responsibility for the provision of ATS with adjacent ATC units.

The following ATS are provided:

air traffic control service (ATC), flight information service (FIS), alerting service (ALRS) and monitoring services in ED-R (TRA).

B.3.2 Special areas for AAIS, LORI, MVPA / TTA and test areas are contained in the regional supplements to this LoA.

B.3.3 **Delegation of the responsibility for the provision of ATS**

Areas where the delegation of ATS as agreed between adjacent ATC units affects the procedures specified in this LoA are contained in the regional supplements to this LoA.

The ATC unit reserve the right to revoke or change the delegation of the responsibility for the provision of ATS at any time. These delegations are not subject to an agreement with GAFCOM and/or AFSBw.

B.3.4 **Delegated services**

The provision of ATS in respect of this LoA means the following services:

Air traffic control service (ATC),flight information service for controlled flights, (FIS) alerting service for controlled flights (ALRS).

B.3.5 **Alerting service and operational regulations**

B.3.5.1 The ATC unit responsible for the provision of ATS, by virtue of delegation, shall provide alerting service and shall notify immediately the supervisor of the delegating ATC unit. The supervisor of the delegating ATC unit shall notify the appropriate rescue coordination centre as required.

B.3.5.2 Regulations of the DFS MO-ATS shall be applied by non-DFS ATC units within those areas, where the responsibility for the provision of ATS has been delegated.

B.3.6 **CRC operations in areas delegated to non-DFS ATC units**

If special or security flights operating under control of CRC are penetrating areas where ATS are delegated from a DFS ATC unit to a non-DFS ATC unit, this coordination shall be accomplished between the responsible CRC and the appropriate DFS ATC unit in due time to allow further coordination with the non-DFS ATC unit responsible for the provision of ATS along the intended flight path.

Annex C

Exchange of flight data

C.1 Automated forwarding of flight data to CRC

C.1.1 As long as FPTDDS is in operation, the DFS ADNC function is carried out by means of automated exchange of track data with correlated flight plan data.

In case of FPTDDS failure the appropriate ATC unit shall be notified immediately. On request CRC shall be provided with flight progress data of controlled flights verbally. The verbal exchange of flight progress data for identification purposes shall be limited to an absolute minimum.

C.2 Verbal coordination of flight data

C.2.1 Coordination

Verbal coordination shall be accomplished as applicable between:

- the appropriate sector planner at the ATC unit and the responsible AC / FA at the CRC;
- TRAMON of the appropriate ATC unit and AC / FA (AEW).

C.2.2 Verbal estimate

Verbal estimates shall be passed as early as possible but not earlier than 10 minutes before entering a coordinated area.

If correlated flight progress data are provided by FPTDDS verbal coordination can be reduced to a mutually agreed minimum.

Verbal estimates for missions intending to leave a training area and recovering the IFR flight plan shall be passed at least 5 minutes before the aircraft is estimated over a common significant point, the boundary of the training area or a mutually agreed hand-off position.

C.2.3 Verbal estimates shall contain the following flight details:

- callsign;
- number and type of aircraft;
- SSR code;
- ETO;
- cleared flight level and intended changes;
- route of flight or flight path;
- other information, if applicable.

C.2.4 Revision of previously coordinated flight data

Any significant revision to the flight data (FL, route, ETO) given in the estimate message shall be passed as soon as possible.

C.3 Directory of VCS and frequency allocation

C.3.1 General

C.3.1.1 Telephone calls shall be terminated by exchanging the **initials** of both coordination partners.

C.3.1.2 Exchange of flight plan data, estimates and air traffic control messages by telephone shall be carried out with ATS POC laid down in the tables of the regional supplements. CRC POC shall be coordinated prior mission start (depicted from table below).

C.3.1.3 As a back-up for the direct ground communication system, public network directories including fax numbers shall be laid down in the regional supplements to this LoA.

C.3.1.4 Frequency allocation at ATC units

For current information on frequency allocation at ATC units
see AIP Germany ENR 3.7.

C.3.2 VCS directory CRC (POC)

CRC	Meßstetten	Schönewalde	Holzdorf DCRC	Erndtebrück	Erndtebrück Training Center
Callsign	SWEETAPPLE	SUNRISE	RED HAWK	LONESHIP	SLATE ROCK
MC	7306	7606	7906	7406	7506
FA1	7313	7613	7913	7413	7513
FA2	7315	7615	7915	7415	7515
AC1	7317	7617	7917	7417	7517
AC2	7319	7619	7919	7419	7519
AC3	7321	7621	7921	7421	7521
AC4	7323	7623	7923	7423	7523
AC5	7325	7625	7925	7425	7525
AC6	7327	7627	7927	7427	7527
AC7 / ACCO	7329	7629	7929	7429	7529
AC8 / ACCO North	7397	-	-	7498	-
ACCO South	7398	-	-	-	-
IDO1	7348	7648	7948	7448	7548
IDO2	7349	7649	7949	7449	7549
IDO3	7350	7650	7950	7450	7550
IDOA	7351	7651	7951	7451	7551

Wesentliches

C.3.3 **VCS directory National Air Policing Center (NAPC)**

Position		
Duty Controller	DC	7100
Duty Controller Assistant	DCA	7102
Air Surveillance Manager 1	ASM 1	7104
Air Surveillance Manager 2	ASM 2	7105
Ressources Management Support Cell 1	SSZ 1	7106
Ressources Management Support Cell 2	SSZ 2	7107
Coordinating and Scheduling Agency 1	COSA 1	7109
Coordinating and Scheduling Agency 2	COSA 2	7111
Planning and Coordinating Authority for Military Air Activities	PCA	7113
Flight OPS	FlgBtrb 1	7114
Flight OPS	FlgBtrb 1	7115

C.3.4 **AutoFü directory National Air Policing Center (NAPC)**

DC Phone 2400 - 330

DCA Phone 2400 - 331

COSA Phone 2400 - 333

ASM Phone 2400 - 351 / 000

C.4 Failure of ground / ground voice communication

C.4.1 Fallback procedure for coordination

In the event of failure of the direct VCS lines between an ATC unit and CRC, coordination shall be carried out with the assistance of an adjacent ATC unit or otherwise by public telephone.

C.4.2 Public network directory TACCS

C.4.2.1 National Air Policing Center Uedem

Duty Controller Phone 0 28 24 97 74 31 01 Fax 0 28 24 97 74 32 29
COSA Duty Officer Phone 0 28 24 97 74 32 40 Fax 0 28 24 97 74 32 49
SSZ Duty Officer Phone 0 28 24 97 74 32 20 Fax 0 28 24 97 74 32 29

C.4.2.2 **CRC Meßstetten**

Master Controller Phone 0 74 31 63 47 55 55
Fighter Allocator Phone 0 74 31 63 47 55 41

C.4.2.3 **CRC Erndtebrück**

Master Controller Phone 0 27 53 6 04 30 40 / 0 27 53 6 04 37 94
Fighter Allocator Phone 0 27 53 6 04 30 41

CRC Erndtebrück Training Center

Master Controller	Phone	0 27 53 6 04 39 40
Fighter Allocator	Phone	0 27 53 6 04 39 41

C.4.2.4 **CRC Schönewalde**

Master Controller	Phone	0 35 3 89 86 33720
Fighter Allocator	Phone	0 35 3 89 86 33740

C.4.2.5 **DCRC Holzdorf**

Master Controller	Phone	0 35 3 89 86 33680
Fighter Allocator	Phone	0 35 3 89 86 33683

C.5 Directory of addresses and frequency tables for operations along the NLFS GE

C.5.1 Addresses of designated recipients for the daily updates

Current responsibilities and addresses see local supplements

BREMEN FIR Bremen ACC - Supervisor FDA
Phone 0421 5372 127 FAX 0421 53 55 33

LANGEN FIR

Area north of green line acc. Supplement Langen (Annex B.2.3.1)

Center Langen - Supervisor CC
Phone 06103 707 6600 FAX 06103 707 6680

Area south of green line acc. Supplement Langen (Annex B.2.3.1)

Center Langen - Supervisor CC
Phone 06103 707 6200 FAX 06103 707 6285

MÜNCHEN FIR München ACC - Supervisor CC
Phone 089 9780 330/331 FAX 089 9780 396
Email: bnl.muenchen@dfs.de

AFSBw Dez. II 3; Operations Center MilAIS
Phone 069 79 307 3311 FAX 069 79 307 3309

Dez II 1; COMIL
Phone 06103 3105 758 FAX 06103 3105 797
Email: AFSBw_COMIL@bundeswehr.org

NAPC COSA DEU

Phone 0 28 24 97 74 32 40 Fax 0 28 24 97 74 32 49
Email: FueZNatLVCOSA@Bundeswehr.org

Note: other military units shall be informed on a “need to know basis”

C.5.1.1 Originator of the daily update

NAPC Planung / Unterstützung Flugbetrieb

Phone 0 28 24 97 74 3233 Fax 0 28 24 97 74 3229
Email : FueZNatLVPl@Bundeswehr.org

C.5.2 Frequency allocation for operations along the NLFS GE

C.5.2.1 DFS ATC units — Current frequencies see AIP ENR 3.7

Bremen FIR

BREMEN RADAR — west of MG1 and LJ 2: 362.300 MHz
east of MG1 and LJ 2: 265.050 MHz

Routing MJ2 – MJ1 – LJ2 – MH1 – MG1: 265.050 MHz

LANGEN RADAR 371.725 MHz
along route segment HG2 - JH1; HH3 - HH1

MÜNCHEN RADAR 356.725 MHz

along Route segment MG1 – MG2

Langen FIR

LANGEN RADAR 371,725 MHz
along route segments
GG1E- HH1 – HH3;
HH1 – HG2;
HG1E – HG2 – JH1

München FIR

MÜNCHEN RADAR north of MF2 356,725 MHz
MÜNCHEN RADAR south of MF2 362,300 MHz

C.5.2.2 CRC

Langen FIR

CRC Monitor 244,275 MHz
along route segments
KF2 - KE1 – LE1;
KE1 - JE1 - JD1/2/3 - KD1/2/3;
HD1E - JD2.

München FIR

CRC Monitor 244,275 MHz
along route segments
ME3 – NE3;
KD3/6 - LD1 - LE1 - ME1/3 - NE3.

C.6 Public network directory DEU F124 Frigates (POC)

FGS Sachsen

Fighter Controller (Iridium):	(00)* 881651438316
Fall Back (Inmarsat):	00870 761 651 366 /-367
General (Inmarsat):	00870 600 364 958 /-959
Harbour Wilhelmshaven:	+49-(0)4421 68 7 (Vermittlung)
E-Mail:	fgs.sac@t-online.de

FGS Hamburg

Fighter Controller (Iridium):	(00)* 881651438313
Fall Back (Inmarsat)):	00870 763 935 128 /-129
General (Inmarsat):	00870 764 920 676 /-677
Harbour Wilhelmshaven:	+49-(0)4421 68 7 (Vermittlung)
E-Mail:	fgs.ham@t-online.de

FGS Hessen

Fighter Controller (Iridium):	(00)* 881622424629
Fall Back (Inmarsat):	00870 764 141 675 /-676
General (Inmarsat):	00870 764 833 690 / -691
Harbour Wilhelmshaven:	+49-(0)4421 68 7 (Vermittlung)
E-Mail:	fgs.hes@t-online.de

**For calls out of DFS Maastricht UAC*

Annex D

Procedures for coordination

Contents

D.1 General conditions for acceptance of flights

D.1.1 The following OAT are subject to coordination between ATC units and CRC:

- security flights;
- practice security flights;
- missions intending to operate in MTA, e.g. ED-R, ED-D, LANIA, ADEXA, when monitored by a CRC;
- missions intending to operate with a CRC supported by AAIS;
- AAR operations monitored by CRC.

D.1.2 Transfer of aircraft shall be verbally coordinated between the appropriate transferring and receiving controllers.

D.1.3 If the receiving controller cannot accept a flight offered in accordance with the conditions specified, the controller shall clearly indicate the inability and specify the conditions under which the flight will be accepted.

D.2 Aircraft in emergency situations

D.2.1 The responsible CRC (aircraft inside TPA) shall inform the supervisor of the appropriate ATC unit as soon as possible on aircraft observed in emergency situations.

D.2.2 Inquiries on an observed emergency shall be made only by the responsible CRC and shall be addressed to the supervisor of the appropriate DFS - ATC unit.

D.3 General procedures for the use of MTA

D.3.1. General

D.3.1.1 AAR shall have priority over other training flights.

D.3.1.2 (D)ACT are only permissible in ED-D and ED-R (TRA).

D.3.1.3 For intercepts in IMC the following areas are available:

- ED-R, ED-D, ADEXA and LANIA.

D.3.1.4 Reduced verbal coordination procedures for ingress and egress to / from training areas may be implemented (see regional supplements).

D.3.2 Scheduling

D.3.2.1 A CRC may use a training area either in part or as a whole and shared use with other CRC is permissible provided separate segments have been defined. The area can either be laterally and / or vertically divided.

D.3.2.2 Units intending to make use of a training area shall forward their request through the PCA to the AMC on the day before the planned activity.

Aircraft operating on behalf of the MoD, test flights by the aviation industry and aerial photography, check and research flights or other similar civil flights shall participate in the area scheduling procedure.

D.3.2.3 The use of training areas will be determined in detail by the AMC. The schedule shall be published as AUP. During the published opening hours of the AMC, the AMC is responsible to announce cancellations or changes for specified areas by UUP.

D.3.2.4 NAPC COSA DEU shall provide the supervisor of the appropriate ATC unit at least 15 minutes before commencing scheduled operations in ED-D, ED-R, LANIA, ADEXA and AAR anchors with the following data:

- scheduled area and responsible CRC;
- estimated time of occupation of the scheduled airspace;
- callsign, number and type of aircraft, if applicable;
- departure and destination aerodrome, if applicable;
- type of mission.

NAPC COSA DEU shall provide the supervisor of the appropriate ATC unit at least 15 minutes before commencing operations in training areas supported by AAIS with the following data:

- area;
- responsible CRC;
- estimated time of occupation.

The final decision for the utilization of MTA supported by AAIS rests with NAPC COSA DEU.

D.3.2.5 Revisions

Revisions to scheduling information mentioned above shall be forwarded by NAPC COSA DEU as soon as possible.

D.3.3 Operations in MTA

D.3.3.1 Actual beginning of operations

D.3.3.1.1 The CRC intending to take responsibility for a MTA shall inform the ATC unit responsible for the scheduled MTA about the beginning of operations and forwards the designation of the responsible position at the CRC.

The responsible working position at the ATC unit shall be provided with the following information:

- area designation and slots, if applicable;
- callsign, number and type of aircraft, if applicable;
- SSR code;
- departure and destination aerodromes;
- TAD or frequency.

The responsible working position at the ATC unit shall release the scheduled area to the responsible CRC.

D.3.3.2 Ingress of uncontrolled flights

The ATC unit issues a general clearance for ingress and use of the area when releasing the area to the responsible CRC. (Exception: ED-R (TRA) 205 refer to Supplement Langen ACC).

D.3.3.3 Ingress of controlled flights

The clearance for ingress and use of the area is issued when the radar hand-off to the CRC has been accomplished.

D.3.3.4 **Egress of uncontrolled flights**

The CRC shall advise the ATC unit about aircraft leaving in accordance with VFR. (Exception: ED-R (TRA) 205 refer to Supplement Langen ACC).

D.3.3.5 **Egress of controlled flights**

D.3.3.5.1 The CRC shall advise the responsible position at the ATC unit 5 minutes in advance of training aircraft intending to leave the MTA. After prior coordination an ATC clearance based on the estimate shall be obtained before the mission is leaving the training area.

D.3.3.5.2 A radar hand-off shall be accomplished by the CRC with the responsible position at the ATC unit.

D.3.3.5.3 Formation flights shall be handed over in standard formation.

D.3.4 **Termination of operations in MTA**

D.3.4.1 The CRC shall advise the responsible position at the ATC unit about the termination of training.

D.3.4.2 The CRC shall inform the ATC unit about the number of aircraft, type and callsign, which used the MTA.

D.3.4.3 With the termination of training the released responsibility for the area is returned to the ATC unit to resume normal operations.

D.4 Security flights, Practice Security flights and MTP

D.4.1 **Notification procedure**

D.4.1.1 The CRC, which is responsible for the transmission of a Scramble Order (Scrambling Agency), shall notify the appropriate ATC unit as soon as possible of a status increase (minutes) of QRA - aircraft, in order to provide the early information about a possible security flight with a reduced reaction time. The reaction time for the QRA – aircraft can be reduced up to 2 minutes to be ready for departure.

D.4.1.2 The Scrambling Agency shall notify the appropriate ATC unit as soon as possible, if the security flight will not be carried out.

D.4.1.3 The responsible CRC shall notify the appropriate ATC unit as soon as possible of a security flight, forwarding the following information, if applicable:

- "**ALPHA SCRAMBLE**";
- aerodrome of departure;
- callsign;
- number and type of aircraft;
- route between two defined fixes or heading (scramble vector);
- level during the en-route phase and climb performance;
- actual or estimated time of departure;
- target area;
- call sign of the aircraft to be intercepted;
- SSR – code;
- callsign of the accepting CRC and TAD (primary / secondary)

D.4.1.4 The supervisor shall notify those control sectors and (as far as necessary) adjoining ATC units which are affected by the security flight. All efforts shall be made to keep the planned route (level, heading) clear of all other air traffic.

D.4.2 Phases of a security flight

D.4.2.1 Departure phase

As a rule, the appropriate DFS ATC unit shall be responsible for the departure phase. The transfer of control of the security flight to the responsible unit of the TACCS shall take place as soon as possible. If in individual cases, the tactical situation requires a transfer of control at the request of the responsible TACCS unit, this shall be conducted as quickly as possible.

D.4.2.2 En-route phase

D.4.2.2.1 As a rule, the appropriate TACCS unit shall be responsible for the en-route phase. The en-route phase begins with the transfer of control to the TACCS unit, but no later than when the aircraft reaches the planned level, and ends when the target area is reached.

D.4.2.2.2 The competent ATC unit shall confirm the reserved routing (level and heading) with the phrase **SCRAMBLE VECTOR AND LEVEL ARE ASSURED**. By this confirmation the competent ATC unit takes over the obligation to keep the minimum distances (prescribed radar separation minimum, however, not less than 5 NM horizontal or 1000 FT, respectively, above FL 290, 2000 FT vertical) with respect to the reserved routing.

D.4.2.2.3 If the security flight is under guidance of a CRC but the competent ATC unit could not confirm reservation of the routing, the obligation to keep the minimum distances remains with the CRC.

D.4.2.2.4 If, for compelling reasons, a deviation from the agreed routing (level and/or heading) becomes necessary, the CRC takes over the obligation to keep the minimum distances. The competent ATC unit will be informed about the deviation without delay. The ATC unit will inform the CRC if able to take over the obligation for separation again.

D.4.2.3 Target area phase

In the target area, security flights are conducted exclusively under the guidance of the TACCS unit.

D.4.2.4 Return phase

The return phase of the security flight starts with the termination of the mission order. The situation may dictate to maintain the status security flight of the QRA - aircraft. Otherwise, the TACCS unit will inform the appropriate ATC unit about the status change of the security flight to that of a practise security flight. The transfer of control to the responsible ATC unit takes place at the earliest possible moment. In the latter case the procedures according D.4.3 shall apply.

If the practice security flight is continued, the appropriate ATC unit shall be responsible for the route to the training airspace. Deviating procedures shall be coordinated in individual cases.

The shortest possible route shall be used for QRA - aircraft returning to the aerodrome of destination.

D.4.2.5 **Diversion from the obligation to keep the prescribed minimum distances**

When a security flight (ALPHA SCRAMBLE) is conducted, TACCS may deviate from the prescribed minimum distances if this is required for the execution of air-defence-related tasks.

D.4.3 **Practice security flights**

D.4.3.1 Practice security flights have the same profile and phases of flight as security flights. Their status is that of government flights. The priority handling of a practice security flight ends with the transfer to the responsible TACCS unit but starts again when the flight is returned to the responsible ATC unit for the return phase. They are called **TANGO SCRAMBLE**.

D.4.3.2 The military ATC unit or the TACCS unit concerned will always coordinate practice security flights with the DFS ATC unit. All flight plan data necessary to issue an ATC clearance will be forwarded to the DFS ATC unit.

D.4.4 **Status change**

If the status of a practice security flight changes to that of a security flight, the procedures acc. to D.4.2 shall be followed.

D.4.5 **Intercept of civil aircraft**

D.4.5.1 As a rule, in the scope of security flights, the responsible CRC shall maintain the minimum vertical distances corresponding to the prescribed separation minima during intercept procedures on civil aircraft.

D.4.5.2 If for tactical reasons the vertical minimum distances have to be infringed (e.g. visual identification) and a possible TCAS resolution advisory alarm is to be expected, the altitude information (Mode C) and if necessary the Mode S of the transponder will, after coordination between the vectoring CRC and the responsible DFS - ATC unit, be switched off in time before infringing the minima, however not further away than 20 NM from the target. The transmission of Mode 3/A will remain activated in any case. After Mode C / Mode S have been switched off, every change of coordinated flight route (course / level) shall be coordinated without delay between the responsible CRC and ATC unit.

D.4.5.3 Depending upon the situation, other civil aircraft in the vicinity of the security flight may be informed of the Mode C / Mode S) deactivation at the discretion of the controller / watch supervisor.

D.4.5.4 After leaving the target and when the agreed minimum distances are re-established, Mode C / Mode S will be reactivated immediately as instructed by CRC.

D.4.6 **Minimum Time Profile (MTP)**

D.4.6.1 **General**

D.4.6.1.1 MTP missions are conducted as intercept training for flight crews and CRC personnel within minimum time.

MTP training flights are conducted by at least two aircraft:

- one aircraft acts as target;
- the other aircraft act(s) as interceptor.

D.4.6.1.2 **Procedure**

- the target aircraft take-off shall be 5 – 20 minutes ahead of the interceptor or is already airborne;
- the interceptor aircraft should not be subject to take-off delays;
- restrictions along the flight path shall be kept to a minimum;
- immediately after take-off the interceptor seeks to head straight for the target. Flight path and climb performance depend on tactical requirements.

D.4.6.2 **Control and coordination procedures**

D.4.6.2.1 The responsible CRC shall notify the appropriate ATC unit at least 15 minutes prior to the conduct of the MTP and forwards the following data on target and interceptor aircraft:

- T-scramble, only if applicable;
- aerodrome of departure;
- callsign, number and type of aircraft;
- planned flight path (scramble vector);
- assigned training area;
- operational level;
- TAD or frequency.

D.4.6.2.2 Transfer of communication to the responsible CRC shall take place as soon as the aircraft on transfer is clear of conflicting traffic, when reaching the operational level at the latest.

D.4.7 Renegade Exercise/Readiness Verification Coordination

D.4.7.1 General

RENEGADE exercises are planned and coordinated by the NAPC to maintain the capabilities of the air defence system. Their frequency depends on current exercise and training demands.

Readiness verifications are performed as tactical evaluations at irregular intervals by the CC AIR HQ Ramstein to evaluate the readiness of the air defence system. The verifications are performed at the same time in a CRC, the competent CAOC and the unit carrying out the practice security flight. For the territory of the FEDERAL REPUBLIC OF GERMANY, two verifications per year are likely and may include border crossings. Within the framework of the tactical evaluation, RENEGADE procedures may also be practised, which, however, does not involve a verification of the competent national units (NAPC).

When performing tactical readiness verifications, the only units privy to the verification are the CC AIR HQ Ramstein, the NatRep, GAFCOM and the NAPC. Passing the information on to the units to be evaluated (CRC, fighter wing, CAOC) is not admissible. The DFS will be informed via the NAPC and will appoint a “trusted agent” for the project.

When performing renegade exercises / readiness verifications, all the units involved / DFS units will detail “trusted agents” briefed about the exercise objectives.

The exercise may be aborted for safety reasons at any time.

The readiness verifications and renegade exercises are based on practice security flights. With regard to flight profiles and flight phases, these practice security flights correspond to security flights. Once the practice security flights have been transferred to the competent TACCS, their priority handling ends. It starts again, however, when the flight is accepted by the ATC unit responsible for the return phase.

D.4.7.1.1 Airspace

With the exception of the NLFS GE, all the MTAs (cf. D.5.2.1) are used for renegade exercises or readiness verifications.

NAPC COSA DEU reserves these airspaces for the day of the event and activates them for the training period.

D.4.7.1.2 Target Aircraft

Every military aircraft or civil aircraft flying on behalf of the MoD may be used as target aircraft.

D.4.7.1.3 Flight Route of Target Aircraft

For readiness verifications, the flight route of the target aircraft will be planned by the CC AIR HQ Ramstein in cooperation with the NatRep of GAFCOM and the NAPC. The result of this plan will be harmonized with the BNL of the DFS units concerned.

During renegade exercises / readiness verifications, the target aircraft will fly according to an IFR flight plan previously coordinated.

If deviations from the specified flight route are necessary, the “trusted agent” of the TACCS shall be informed by the “trusted agent” of the DFS unit.

D.4.7.1.4 **Adherence of Separation Minima**

The CRC shall be responsible for establishing either a minimum lateral or a minimum vertical distance between aircraft under their control and all other known or unknown air traffic as observed by radar.

To enable the visual identification of the target aircraft, the separation minima between the practice security flight and the target aircraft will be infringed. This has been agreed on by contract.

D.4.7.1.5 **Intercept Control Procedures**

Following the transfer of control to the TACCS, both the practice security flight and the target aircraft will be vectored according to the “close positive control” intercept control procedure.

D.4.7.1.6 **Weather Conditions**

Renegade exercises and readiness verifications will be carried out in VMC and IMC.

D.4.7.1.7 **Hours**

Renegade exercises and readiness verifications will be carried out during the operating hours specified in the MILAIP.

D.4.7.2 **Exercise Coordination**

The CC AIR HQ Ramstein coordinates exercises with GAFCOM no later than 14 days prior to the day of the event. GAFCOM subsequently coordinates the necessary details with the NAPC. Decisions about cancelling or postponing readiness verifications (e.g. for reasons of weather) will be taken by the CC AIR HQ Ramstein. For traffic control reasons, the DFS shall be informed about a cancellation or a postponement no later than 2 hours prior to the beginning of the exercise.

Readiness verifications and renegade exercises will be coordinated by NAPC COSA DEU (military exercise coordinator) with the BNL of the DFS units concerned no later than 5 working days prior to the day of the event.

D.4.7.3 **Principles Governing the Performance of Exercises**

On the day of the event, final coordination will be effected between all the “trusted agents” by the military exercise coordinator/CC AIR HQ Ramstein.

Practice security flights shall be transferred from the DFS to the TACCS as soon as possible, either in VMC or IMC (VMC/IMC option).

The end of the exercise will be announced by the “trusted agent” of the TACCS. Following the end of the exercise, all the aircraft will be transferred to the competent ATC unit.

D.4.7.3.1 **Exercises Performed in VMC (Option 1)**

The target aircraft will operate according to an IFR flight plan under the control of the DFS.

The practice security flight will carry out an intercept mission against the target aircraft.

Following prior coordination with the ATC unit, the practice security flight will transmit Mode 3A only once a distance of 20 NM has been reached.

At the request of the TACCS, the target aircraft shall be transferred from the DFS to the TACCS and IFR shall be cancelled to enable the visual identification.

Once the visual identification has been performed, the practice security flight will stay in formation with the target aircraft according to the planned exercise scenario. Deviations from the planned route shall be coordinated with the competent ATC unit.

D.4.7.3.2 **Exercises Performed in VMC (Option 2)**

The target aircraft will operate according to an IFR flight plan under the control of the DFS.

The practice security flight will carry out an intercept mission against the target aircraft.

While maintaining the specified vertical minima, the practice security flight will reduce the distance to 2 NM (tail).

At the request of the TACCS, the target aircraft shall be transferred from the DFS to the TACCS and IFR shall be cancelled to enable the visual identification. Following prior coordination, the practice security flight will transmit Mode 3A only during further approach (visual identification and establishment of a formation).

Wesentliches

Once the visual identification has been performed, the practice security flight will stay in formation with the target aircraft according to the planned exercise scenario. Deviations from the planned route shall be coordinated with the competent ATC unit.

D.4.7.3.3 **Exercises Performed in IMC (Option 1)**

The target aircraft will operate according to an IFR flight plan under the control of the DFS.

The practice security flight will carry out an intercept mission against the target aircraft.

While maintaining the specified vertical minima, the practice security flight will reduce the distance to 2 NM (tail).

Once this position has been reached, the exercise will be terminated by the “trusted agent” of the TACCS.

Following the end of the exercise, the practice security flight will be transferred to the competent ATC unit.

D.4.7.3.4 **Exercises Performed in IMC (Option 2)**

The target aircraft will operate according to an IFR flight plan under the control of the DFS.

The practice security flight will carry out an intercept mission against the target aircraft.

While maintaining the specified vertical minima, the practice security flight will reduce the distance to 2 NM (tail).

At the request of the TACCS, the target aircraft shall be transferred from the DFS to TACCS to enable visual identification within airspaces designated for performing intercept missions in IMC. Following prior coordination, the practice security flight will transmit Mode 3A only during further approach (visual identification and establishment of a formation).

Once the visual identification has been performed, the practice security flight will stay in formation with the target aircraft according to the planned exercise scenario. Deviations from the planned route shall be coordinated with the competent ATC unit.

D.5 ATC / TACCS information service

D.5.1 Purpose

To enable the responsible CRC to establish the prescribed minimum distances between aircraft under control of this unit and all other known or observed air traffic, the appropriate ATC unit shall provide current traffic information during air defence missions when outside temporary segregated areas.

D.5.2 General

D.5.2.1 Normally missions supported by AAIS shall be conducted in designated areas as depicted in the regional supplements to this LoA.

If no standard AAIS areas are agreed, the supervisor of the appropriate ATC unit shall define and recommend an AAIS area in cooperation with the ACCO, based on the current traffic situation, AUP / CRAM, CFMU forecast, weather forecast and the area request.

Shared use of ED-R (TRA) for AAIS missions is permissible. AAIS areas may be used combined or in part or may be combined with other adjacent training areas. CRC is responsible for the coordination with the responsible ATC units.

(D)ACT and missions in IMC are prohibited for missions supported by AAIS.

D.5.2.2 The supervisor of the ATC unit shall

- assign the required IL for the mission;
- inform the control sectors concerned;
- notify the ACCO of the recommended AAIS area.

D.5.2.3 The IL shall provide information service to only one CRC and not more than two ACCO positions. Verbal coordination is required.

D.5.2.4 At an ATC unit not more than two separated AAIS – missions will be supported simultaneously.

D.5.2.5 The CRC shall be responsible to keep the minimum distances between training flights and aircraft subject to ATC clearance.

The ATC liaison and information controller do not share the responsibility of the CRC to keep the minimum distances between training flights and aircraft subject to ATC clearance.

D.5.2.6 The functions of the DFS liaison controller and the IL are laid down in the MO-ATS and BesAnMilFS 2-100.

The presence of the DFS liaison controller at a CRC is not required for the conduct of an AAIS - mission.

D.5.3 Procedures

D.5.3.1 The ACCO shall provide the IL prior to commencing operations in the recommended area of the following flight data of the mission aircraft:

- callsign;
- SSR code;
- special training requirements;
- required vertical extension of the training area.

D.5.3.2 Mission aircraft to and from the designated AAIS area shall be under control of the appropriate ATC unit.

D.5.3.3 If correlated flight progress data are provided by FPTDDS verbal coordination can be reduced. Depending on the intended flight profiles ACCO and IL may agree on the data to be forwarded verbally. This agreement shall include forwarding of the following data:

- change of SSR code;
- change of flight path;
- arrivals and / or departures to / from certain airports including callsign, SSR code, number and type of aircraft.

D.5.3.4 The IL shall be informed immediately of a FPTDDS failure. In consequence the ACCO shall be provided with the following flight progress data in due time prior to entry of the AAIS area:

- departure messages for defined aerodromes;
- callsign;
- present position of essential traffic;
- SSR code;
- planned route of flight through the AAIS area.

D.5.3.5 The ACCO shall notify the IL of the termination of the AAIS mission.

D.5.3.6 Short term deviations from the procedures specified for the AAIS are permissible when mutually agreed between IL and ACCO, provided the safety and efficiency of air traffic are ensured.

D.6 ED-R (TRA) monitoring services provided by CRC

For the time period 30.06.2011 – 14.12.2011 the provision of ED-R (TRA) monitoring services for certain ED-R (TRA) is based on special procedures of a stepped approach field trial.

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)".

The coordination concerning services provided by NAEW shall always be carried out between the appropriate ATC unit and the appropriate deployable or fixed TACCS unit. The further coordination with NAEW shall be carried out by the deployable or fixed TACCS unit.

D.6.1 General

D.6.1.1. ED-R (TRA) are established for the conduct of uncontrolled OAT in compliance with VFR and for the training of special operations, e.g. intercepts in IMC. ED-R (TRA) are depicted in AIP ENR 5.1 and Mil AIP Germany. As a rule, OAT shall have priority in ED-R (TRA).

D.6.1.2 ED-R (TRA) monitoring services can be temporarily released to CRC. However, the responsible ATC unit remains in charge of the ED-R (TRA).

D.6.2 Maximum number of exercise aircraft admitted simultaneously in ED-R (TRA)

D.6.2.1 ED-R (TRA) table (maximum number of exercise aircraft ordered by GAFCOM)

ED-R (TRA)	Maximum number	ED-R (TRA)	Maximum number
201 N	8	302	12
201 S	8	302 A	8
202	8	302 B	8
203	4	305 A	4
205 A	4	305 B	4
205 B	4	305 C	4
205 C	4	305 D	4
205 D	4	306	12
206	12	307	8
207	10	308	6
208 A	6		
208 B	2		

D.6.2.2 If booked with PCA / AMC and after prior coordination with the responsible TRAMON the maximum number of exercise aircraft admitted simultaneously in ED-R (TRA) may be exceeded for COMAO and / or LFE.

D.6.2.3 In particular cases GAFCOM A 5 III may approve or order deviations from the maximum number of exercise aircraft admitted simultaneously in ED-R (TRA).

D.6.2.4 At night D.6.3.4. shall be applied for opportunity flights.

D.6.3 **ED-R (TRA) scheduling**

D.6.3.1 Flying units and civil aircraft operating on behalf of the MoD, test flights by the aviation industry and aerial photography, check and research flights shall request scheduling of ED-R (TRA) and / or ED-R (TRA) segments through the PCA by the AMC. Details are depicted in “The concept of the flexible use of airspace”; October 1, 1998 and in the Mil AIP.

D.6.3.2 AMC will promulgate the AUP for the next day.

D.6.3.3 **ED-R (TRA) requests not in compliance with procedure:**

On the day of the planned activity, late bookings can be accepted by the AMC, after the published opening hours of the AMC, by PCA. During the published opening hours of the AMC, these late bookings shall be published by UUP for specified areas.

D.6.3.3.1 ED-R (TRA) shall be made fully available when the request is forwarded at least 3 hours ahead of the intended time of use. During the published opening hours of the AMC, these late bookings shall be published by UUP for specified areas.

D.6.3.3.2 If the request is forwarded at least 2 hours but less than 3 hours ahead of the intended time of use, operations may be subject to restrictions in favour of GAT along CDR. During the published opening hours of the AMC, these late bookings shall be published by UUP for specified areas.

D.6.3.3.3 If the request is forwarded less than 2 hours ahead of the intended time of use, the area made available for operations may be restricted vertically and / or laterally.

D.6.3.3.4 Even when not scheduled in compliance with procedure ED-R (TRA) shall be made fully available when required by urgent military necessities. The flying unit concerned shall submit the request through the PCA to the AMC.

D.6.3.4 ED-R (TRA) shall be made available for **opportunity flights**. The area made available for operations may be restricted vertically and / or laterally by TRAMON.

ED-R (TRA) ingress of opportunity flights shall be refused if the maximum number of exercise aircraft to be admitted simultaneously in ED-R (TRA) would be exceeded.

During the night time a use on opportunity basis is only permissible for one mission (one or several aircraft, which accomplished a common pre-flight briefing) per ED-R (TRA) or published parts of ED-R (TRA).

D.6.4 **TRAMON functions**

TRAMON shall perform the following functions:

D.6.4.1 Inform pilots of aircraft performing training exercises in the ED-R (TRA) as early as possible that they are approaching the ED-R (TRA) boundary in order to enable them to maintain the required horizontal distance from the ED-R (TRA) boundary and ensure that the vertical boundaries are not infringed. The responsibility for maintaining the applicable distances within the TRA shall remain with the pilots concerned;

D.6.4.2 Inform pilots entering a defined part of the TRA about the status of neighbouring parts of the TRA.

Inform pilots of aircraft performing training exercises in a defined part of the TRA as early as possible that they are approaching the boundary of the part of the TRA. This is to ensure that the boundary of that part of the TRA is not crossed.

Inform pilots that another aircraft performing training exercises in an adjacent part of the TRA is approaching the joint boundary of the TRA parts. The responsibility for flying within the assigned airspace boundaries shall remain with the pilots concerned;

D.6.4.3 Maintain a safe distance at all times from civil transit flights and transit flights performed by military transport aircraft as well as from transit flights performed with single- or two-seated military jet aircraft at night. The distance shall be at least the prescribed radar separation minimum, but not less than 5 NM, or the vertical distance applicable in the area concerned;

D.6.4.4 Provide traffic information to pilots of aircraft performing training exercises about military IFR transit flights which must be taken into account. If possible, traffic information shall be given; consisting of true bearing and range.

D.6.4.5 Define and allocate demand-oriented blocks of airspace inside the ED-R (TRA) if requested by the users;

D.6.4.6 Ensure that the maximum number of aircraft flying inside the ED-R (TRA) is not exceeded;

D.6.4.7 Reject opportunity flights if the maximum number of aircraft, inside the ED-R (TRA) or a part of the ED-R (TRA), has already been reached by other military aircraft performing training exercises.

D.6.4.8 Inform the ATC - working positions concerned about the actual beginning and termination of use;

D.6.4.9 Provide information about IFR transit flights and flights acc. D.6.5.1, except for flights performed on published ATS routes acc. MIL AIP to the CRC concerned;

D.6.4.10 Assign the available airspace to opportunity flights and impose restrictions, depending on the current traffic situation;

D.6.4.11 Temporarily close the ED-R (TRA) or limit the number of aircraft flying inside the ED-R (TRA), if necessary for safety reasons (priority handling of civil flights and military transport aircraft).

D.6.4.12 If a CRC is applying radar monitoring to flights inside an ED-R (TRA), this unit shall perform TRAMON tasks with the exception of the tasks D.6.4.9 and D.6.4.10. The regulations of BesAn EinsFüDstLw 103/3551 shall be applied.

D.6.5 **Flights through ED-R (TRA)**

D.6.5.1 As a rule, no transit clearances for GAT and military transport flights shall be issued when a ED-R (TRA) is in use.

Exceptions:

- 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 in order to avert imminent danger due to adverse weather conditions;
- Flights proceeding on ATS routes as published in Mil AIP. Notwithstanding that published restrictions for GAT remain.

D.6.5.2 After prior coordination flights through ED-R (TRA) by civil aircraft are permissible in compliance with special rules or agreements. Such flights are e.g. aircraft operating on behalf of the MoD, test flights by the aviation industry and aerial photography, check and research flights.

D.6.5.3 After prior coordination other civil IFR flights and flights of military transport aircraft through ED-R (TRA) are permissible as long as OAT training missions and the training objectives are not restricted.

D.6.5.4 After prior coordination military IFR flights performed with single and two seated military jet aircraft shall be permitted. Exercising traffic in TRA shall be affected as little as possible. Requirements of IFR flights with single and two seated military jet aircraft through TRA shall be taken into account.

D.6.5.5 On principle crossing the ED-R (TRA) or that part of ED-R (TRA) which is used, shall be prohibited for civil IFR flights and flights of military transport aircraft during (D)ACT.

If within a ED-R (TRA) the area used for (D)ACT is limited, and the categories of traffic listed under D.6.5.1.and D.6.5.2 as well as transit flights performed with single- or two-seated military jet aircraft at night are admitted to transit, a minimum distance of 5NM as observed on radar or a minimum vertical distance of 1000 FT below FL 290 or 2000 FT at and above FL 290 shall be maintained to the boundaries of the area used for (D)ACT.

Only if the training aircraft agree, the area used for (D)ACT may be limited vertically. If the area used for (D)ACT cannot be restricted to admit traffic listed under D.6.5.1.and D.6.5.2 as well as transit flights performed with single- or two-seated military jet aircraft at night to transit, (D)ACT shall be terminated using the phraseology “knock it off”. The termination of (D)ACT shall be acknowledged by the training aircraft prior to admitting the transit traffic.

D.6.6 **Control and coordination procedures**

D.6.6.1 The CRC responsible for the provision of particular TRAMON functions shall apply the coordination and transfer procedures for OAT laid down in the annexes and supplements to this LoA.

D.6.6.2 If agreed in local LoA IFR flights to and from ED-R (TRA) may be conducted under the responsibility of military approach control units.

D.6.6.3 After prior coordination between TRAMON / CRC and the appropriate ATC unit either one of these units may use the airspace up to the ED-R (TRA) boundary. Between traffic inside and outside of the ED-R (TRA) a minimum distance of 5NM horizontally shall be maintained.

D.6.6.4 TRAMON shall not be responsible for the provision of separation between military training aircraft; traffic information shall be provided as far as possible. On request advisories for evasive actions shall be given.

D.6.6.5 TRAMON shall not be responsible for the provision of separation between military training aircraft and single and two seated military jet aircraft on an IFR flight through the ED-R (TRA). ATC shall clear these flights so that the training aircraft shall be affected as little as possible. ATC shall issue traffic information on the training aircraft to the flights through the ED-R (TRA).

D.6.6.6 If due to technical problems TRAMON functions have to be discontinued aircraft operating within the ED-R (TRA) shall be notified and instructed to leave ED-R (TRA) in accordance with VFR. If this procedure is not applicable aircraft shall be transferred to the appropriate ATC unit for IFR recovery.

D.7 Procedures for operations in ED-D

D.7.1 General

D.7.1.1 In compliance with AIP Germany uncontrolled VFR flights shall be taken in consideration at any time in airspace E below FL 100.

D.7.2 Flights through ED-D

D.7.2.1 IFR flights along the following ATS routes shall have priority over OAT training flights:

- (U)N873;
- R125;
- P999;
- (U)M864;

D.7.2.2 Controlled air traffic on other routes shall be coordinated between CRC and ATC units.

D.7.2.3 The procedure during (D)ACT for crossing aircraft on published ATS - routes is laid down in the regional supplements Bremen and Maastricht.

D.7.3 Usage of ED-D 41 A / B, D 44 und D 46

D.7.3.1 If not exclusively booked for separate use, areas (ED-D 41 A / B, D 44 und D 46) located within the confines of other areas (ED-D100, D101A und D 101B) shall be considered as part of these areas.

D.8 Operations in ADEXA

D.8.1 General

D.8.1.1 ADEXA are TSA subject to the “Concept of the Flexible Use of Airspace”.

D.8.1.2 The vertical limits of the ADEXA areas as depicted in AIP GER, ENR 5.2 shall be considered as flight levels used by CRC.

The minimum distances to be maintained to ADEXA boundaries described in F.2.3.2 shall be applied.

D.8.2 Flights through ADEXA

D.8.2.1 Flights along ATS routes at FL in compliance with the AIP are permissible.

D.8.2.2 Other flights intending to pass through the area are permissible after prior coordination with CRC.

D.8.2.3 Single and two seat military jet aircraft may cross through the ADEXA. Training missions and the training objectives shall be restricted as little as possible by crossing traffic.

D.9 Operations in LANIA

D.9.1 General

D.9.1.1 LANIA are TSA subject to the “Concept of the Flexible Use of Airspace”.

D.9.2 Flights through LANIA

D.9.2.1 Non - participating flights intending to cross through the area are permissible after prior coordination with CRC.

D.9.2.2 Training missions and the training objectives shall be restricted as little as possible by passing traffic.

D.9.2.3 In principle flights through the area are permitted after a radar point out has been executed, and the flight

- has to avoid adverse weather conditions;
- is vested with priority of service in compliance with MO-ATS / BesAnMilFS 2-100, e.g. flights carrying sick or injured persons;
- is either arriving at or departing from an aerodrome below LANIA or;
- is proceeding along published SID / STAR or ATS routes.

D.9.2.4 Flights through the area are permitted after prior coordination has been executed, and the flight

- has to rely on route or level within the confines of LANIA due to the aircraft performance data;
- is OAT not along published ATS routes.

D.9.3 Special procedures for milAPP

D.9.3.1 As a rule, activated milAPP AoR towering into the airspace of LANIA shall not be part of the MTA. Coordination concerning the use of these areas for LANIA operation shall be initiated by the CRC.

D.9.3.2 Prior starting LANIA operations CRC shall request the status of milAPP AoR at the respective ATS – unit.

D.9.3.3 During LANIA operations any changes of the status milAPP AoR shall be forwarded by the respective ATC – unit to the CRC.

D.9.4 NLFS GE route segments through LANIA

D.9.4.1 CRC shall maintain distances acc. F.2.3.4. to the boundaries of the activated night low flying system.

D.10 Intercepts in IMC

D.10.1 Areas

D.10.1.1 For intercepts in IMC the following areas are available:

- ED-R (TRA), ED-D, ADEXA and LANIA.

D.10.2 Procedures

D.10.2.1 The control procedures to be applied during intercepts in IMC shall either be Close Positive Control or Loose Positive Control.

D.10.2.2 At the beginning of the actual military use the scheduled areas shall be cleared of all controlled civil air traffic by the appropriate ATC units.

D.10.2.3 Transfer of control of exercise aircraft may take place in IMC.

D.10.3 Flights through areas used for intercepts in IMC

D.10.3.1 As a rule, no transit clearances for GAT and military transport flights shall be issued through areas where intercepts in IMC are in progress.

Exceptions:

- 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 in order to avert imminent danger due to adverse weather conditions;
- Flights proceeding on ATS routes as published in Mil AIP. Notwithstanding that published restrictions for GAT remain;
- After prior coordination other flights, as long as the training flights and the training objectives are not impaired,
- Flights which have to pass through LANIA when in compliance with D.9.2.3.

D.10.3.2 Single and two seat military jet aircraft may cross through the MTA, where intercepts in IMC are in progress as long as the training flights and the training objectives are not impaired.

D.10.4 **Radio communication failure procedures**

D.10.4.1 When a training aircraft is experiencing RCF the responsible CRC shall carry out the join-up of the formation.

D.10.4.2 The aircraft experiencing RCF shall

- set the transponder to Mode 3/A code 7600;
- proceed to the position inside the training area as fixed during pre-flight briefing.

D.10.4.3 If a join-up cannot be accomplished, the aircraft with RCF shall hold inside the training area for 7 minutes. These 7 minutes commence counting when the transponder is set to 3/A 7600.

After 7 minutes the aircraft with RCF shall continue in accordance with the current flight plan to the initial approach fix of the destination.

D.10.4.4 If the aircraft with RCF cannot hold for 7 minutes (e.g. further difficulties or fuel shortage) the transponder shall be set to 3/A 7700 and the aircraft shall continue in accordance with the current flight plan to the initial approach fix of the destination.

D.11 Air refuelling operations

For the time period 30.06.2011 – 14.12.2011 the provision of ED-R (TRA) monitoring services for certain ED-R (TRA) is based on special procedures of a stepped approach field trial.

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)“.

For details in regard to responsibilities for AAR refer to “Zeitlich befristete Nebenabrede zur Vereinbarung zwischen Amt für Flugsicherung der Bundeswehr (AFSBw) und DFS Deutsche Flugsicherung GmbH über die Durchführung von Luftbetankungseinsätzen (DFS – AFSBw AAR)“.

D.11.1 General

D.11.1.1 Air refuelling shall have priority over other training flights.

D.11.1.2 The following regulations and documents govern the procedures for AAR:

- LoA between DFS and AFSBw, WEF September 1, 2001;
- NATO ALLIED TACTICAL PUBLICATION 56 (ATP 56);
- DFS Manual of Operations Air Traffic Services;
- BesAnMilFS 2-100;
- Operations Order GAFTAC North;
- Mil AIP Germany.

D.11.1.3 Within an AAR anchor normally a maximum number of two simultaneous AAR operations are permissible. Tanker cell formations count as one operation.

D.11.1.4 As a rule, AAR missions shall be performed in published AAR anchors.

D.11.1.5 (D)ACT shall be prohibited above AAR operations.

D.11.2 Responsibilities

ATC and CRC shall share the responsibility for the provision of control service for AAR operations as follows:

D.11.2.1 If the tanker pattern is located within an ED-R or ED-D

- ATC shall be responsible during month with odd numbers;
- CRC shall be responsible during month with even numbers.

D.11.2.2 If the tanker pattern is located outside or overlapping an ED-R or ED-D

- ATC or;
- ADE shall be responsible as mutually agreed.

If ADE is responsible, a controller of the appropriate ATC unit shall be assigned and authorized to give orders to the ADE in all matters related to ATC.

D.11.2.3 During exercises

- the procedures will be specified in the EXOPORD;
- normally the responsibilities for control of AAR are shared among CRC and ATC in daily rotation.

D.11.3 **Activation of the AAR anchor by CRC**

D.11.3.1 In due time the responsible CRC shall notify the supervisors of the appropriate ATC units of the beginning of AAR operations in the scheduled anchor and announces the required refuelling flight level.

D.11.3.2 AAR operations commence with the radar hand-off of the first receiver to CRC and shall be terminated when the last receiver is returned to ATC.

D.11.3.3 Any changes of the coordinated refuelling flight level require approval by ATC. The approved change shall be forwarded to NAPC COSA DEU by CRC.

D.11.4 **Procedures**

D.11.4.1 CRC shall notify ATC of the working frequency and the frequency used for communication between tanker and receiver aircraft.

D.11.4.2 **Tanker ingress**

ATC shall pass the following flight data to CRC

- callsign;
- type of aircraft;
- SSR code;
- estimated time at the agreed entry point for the anchor.

The radar hand-off to CRC shall be executed after the tanker is maintaining the planned refuelling flight level.

CRC will maintain the SSR code assigned by ATC and shall acknowledge receiving the tanker verbally.

D.11.4.3 **Tanker egress**

At the latest 5 minutes prior to terminating the refuelling operations CRC shall pass the following flight data to ATC

- requested level for the IFR recovery;
- ETO for exiting the anchor;
- further flight data if necessary.

The radar hand-off to ATC shall be executed at the refuelling flight level in the tanker pattern.

D.11.4.4 **Receiver ingress**

The radar hand-off to CRC shall be executed above or below the levels planned for refuelling. CRC shall acknowledge the hand-off accomplished by changing the SSR code.

CRC shall initiate climb / descent to the planned refuelling flight levels.

Direct coordination with / handover from adjacent ATC – units is permissible.

D.11.4.5 **Receiver egress**

At the latest 5 minutes prior to the estimated time of egress ATC shall be notified.

The radar hand-off to ATC shall be accomplished at the level above the tanker or two levels below refuelling flight level.

ATC clears the aircraft to leave the pattern immediately.

Direct coordination with / handover to adjacent ATC – units is permissible.

D.11.4.6 **Flights passing through a tanker pattern**

Flights not participating in refuelling operations intending to pass through a tanker pattern are subject to a transit clearance issued by the unit responsible for the refuelling. After prior coordination vacant levels in the tanker pattern may be used by ATC.

D.12 (Coordinated) target of opportunity

D.12.1 In cooperation with the TACCS, flying units shall conduct air defence training flights to visually identify the following targets of opportunity:

- single- or two-seated military jet aircraft or
- flights by aircraft with a civil registration which are conducted on behalf of the MoD and are not equipped with TCAS (e.g. PC 9).

Targets of opportunity are divided into

- targets of opportunity (VFR flight plan);
- coordinated targets of opportunity (IFR flight plan).

D.12.2 Intercepts against targets of opportunity are only admissible in airspace E and G and with the provision that current height information is available.

D.12.3 Intercepts against coordinated targets of opportunity are only admissible in controlled airspace and in VMC. They must have been previously coordinated with the responsible ATC unit and the consent of the pilot must have been obtained.

D.12.4 During the intercept, the following procedures shall be applied:

- aircraft shall squawk Mode C / Mode S;
- the coordinated targets of opportunity must not take evasive actions;
- a minimum distance of 1000 FT (vertical or horizontal) shall be maintained by the interceptor;
- the responsible ATC unit shall be notified immediately when the intercept is terminated.

D.13 Support of missions along the NLFS GE

D.13.1 General

D.13.1.1 CRC shall support flying units conducting low level missions at night along defined route segments in compliance with the agreement on coordination and control procedures for the use of the NLFS GE between DFS GmbH - GAFCOM and AFSBw from January 1, 2003.

D.13.1.2 NLFS GE

NLFS GE is part of the controlled airspace class E between 1000 FT GND and 2500 FT GND. All flights along the NLFS GE are IFR flights on an IFR flight plan. The flights are not subject to radar control but shall be monitored by radar.

D.13.2 Responsibilities

D.13.2.1 The responsibility for the conduct of the flight operations along the NLFS GE rests with flying units. The monitoring units support the aircrews accomplishing the mission.

D.13.2.2 The DFS ATC units Bremen, Langen and Munich shall be responsible for the monitoring of the NLFS GE.

D.13.2.3 As agreed, the monitoring of defined route segments of the NLFS GE shall be conducted by CRC.

D.13.2.4 The monitoring function consists of radar flight following and traffic information as far as possible limited by the available radio and radar range. The purpose of the monitoring is to increase the flight safety of the OAT along the NLFS GE and to facilitate the flexible use of airspace by GAT and OAT.

D.13.2.5 That part of the NLFS GE which will not be used according to the schedule released by NAPC flight operations, shall be available for unrestricted use by the ATC units without further coordination.

D.13.2.6 The ATC units shall be responsible to maintain the prescribed distances to the NLFS GE segments in use.

D.13.2.7 The appropriate working positions of ATC units monitoring the NLFS GE segments in use may issue clearances to other traffic to cross the NLFS GE.

If CRC are responsible for monitoring the NLFS GE clearances to other traffic to cross the NLFS GE require prior coordination.

The monitoring unit issuing the crossing clearance shall be responsible to maintain the prescribed minimum distances between OAT along the NLFS GE and the crossing traffic.

D.13.3 **Scheduling of the NLFS GE**

D.13.3.1 NAPC flight operations shall be responsible

- to define the routing and times of application of the NLFS GE and promulgate these by operations order NLFS GE;
- to deconflict and separate users in the activated parts of NLFS GE;
- notify the DFS ATC units Bremen, Langen and Munich responsible for the monitoring of the NLFS GE;
- notify the AFSBw departments I 5 COMIL and II 3 NOTAM office responsible for airspace management;
- notify NAPC COSA DEU on behalf of CRC.

D.13.3.2 The following data shall be forwarded:

- date;
- flying unit, number and type of aircraft;
- point of entry;
- ETO point of entry - start of operations;
- route;
- point of exit;
- ETO point of exit – termination of operations.

D.13.3.3 NAPC flight operations shall be responsible to confirm or update the forwarded data until 1300 local on the day of the intended operations.

D.13.3.3 NAPC COSA DEU shall notify the ATC units concerned until 1400 local on the day of the intended operations on the CRC which will be responsible for the NLFS GE monitoring function.

D.13.4 **Filing of flight plans along the NLFS GE**

D.13.4.1 In the flight plan the intended route shall be filed using the NLFS GE route segments in compliance with operations order NLFS GE, e.g. NLFS20. The mission shall proceed along the filed route from entry to exit point.

D.13.4.2 If a route, different from those laid down in operations order NLFS GE will be filed, e.g. segments or combinations of routes designated in NLFS GE, all significant points of the route shall be filed. When leaving the NLFS GE earlier than planned, this shall be coordinated with NAPC flight operations and the ATC unit concerned.

D.13.4.3 An IFR flight plan category OAT shall be filed.

D.13.4.4 FPL item 15

In item 15 the last significant point of the IFR portion shall be followed by the first way point of the NLFS GE portion.

The route along the NLFS GE shall be filed using the way points designated with E, e.g. KK1E and NLFS GE route designations.

In case the exit point is the same as the entry point, the exit shall be marked with an X, e.g. KK1EX.

The exit point of the NLFS GE portion shall be followed by the first way point of the further IFR route of flight.

D.13.4.5 FPL item 18

For terrain following flights item 18 shall carry the remark OAT TFF.

D.13.4.6 Examples

Example 1 (LOW)
- ETSL ...
- N0420A050 SL121 LCH DCT LC1/N0450A010 NLFS31 KC1/N0420F080 DCT LUP DCT LCH DCT
- ETSL
- RMK/OAT NLFS31

Example 2 (High – Low – High)
- ETSL ...
- N0420F260 SL121 LCH DCT ULMEX DCT GBL TR9 OSB TL3 HOP TR10 WTM DCT HJ2/N0420A010 NLFS01 GG1E/N0420F250 DCT MILGI TB6 LCH DCT
- ETSL
- RMK/OAT TFF NLFS01

Example 3 (NLLNE/Vliehors)
- ETSB ...
- N0420F060 SB121 BUE DCT OLLIE DCT NOR DCT MILGI/N0420A050 DCT VKL DCT 1D/N0420A020 NLNG01 GG1E/N0420A050 DCT MILGI/N0420F070 DCT NOR DCT OLLIE DCT BUGAL DCT
- ETSB
- RMK/OAT TFF NLNG01

Example 4 (using route segments of designated NLFS routes)
- ETNN….
- N0420F070 NN85 WESL DCT GS DCT KG2/N0420A015 DCT KG3 DCT MG1 DCT MG2 DCT LG1 DCT LF2 DCT LF1 DCT KF1/N0420F120 COL DCT NOR DCT
- ETNN
- RMK/OAT TFF

D.13.4.7 The CRC monitoring the mission on the NLFS GE shall be responsible to forward all requested changes of the FPL to ATC.

For flights subject to monitoring on the NLFS GE no flight plan data activation messages will be exchanged between CRC and ATC.

D.13.5 **Mission support**

D.13.5.1 The units responsible for the monitoring of the NLFS GE shall analyse and evaluate the NLFS GE schedule and flight plan data and clarify inconsistencies with NAPC flight operations or NAPC COSA DEU.

D.13.5.2 If inconsistencies still exists, ATC shall be entitled to take appropriate measures to ensure that the prescribed time intervals of

- 5 minutes between succeeding flying units and / or
- 3 minutes between succeeding aircraft of the same unit

are maintained.

D.13.5.3 **Entry procedure**

The appropriate ATC unit shall issue an entry clearance to OAT approaching the NLFS GE via the entry point at the prescribed MRVA. A descend to the en-route / TFF - altitude shall be executed after passing the entry point at pilots discretion.

D.13.5.4 **En-route support**

The responsible monitoring unit shall

- receive the entry message;
- assign the SSR Mode / code 3/A 2000 to NLFS GE or monitor the usage of 3/A 0024 for TFF missions;

  If it becomes necessary in the interest of flight safety to assign discrete individual codes this is subject to coordination between ATC and the monitoring unit.
- monitor traffic flow;
- provide essential traffic information as far as practicable; evasive action shall only be recommended on request of the pilot;
- coordinate the hand-off to adjacent monitoring units;
- provide alerting service;
- ensure IFR recovery without delay.

D.13.5.5 Parallel or double track operations are laid down in OPS ORDER NLFS GE part 7 and shall be observed by the monitoring units.

D.13.5.6 **Exit procedure**

Prior to the exit point the appropriate ATC unit shall issue the IFR clearance on request of the aircrew.

If radio contact cannot be established short prior to the exit point, this may be due to insufficient radio coverage. To establish radio contact, the pilot will climb from the terrain following altitude / en-route altitude to the emergency altitude.

D.13.6 **Radio failure on the NLFS GE**

D.13.6.1 **Radio failure procedures with no other emergency involved**

D.13.6.1.1 If en-route prior to obtaining the clearance for the NLFS GE, the pilot will:

- squawk code 7600;
- maintain the flight route according to the current flight plan including the NLFS GE;
- in case of radar vectoring without specified limit, return on the shortest way and not later than at the next significant point to the flight route stated in the current flight plan;
- maintain / intercept the FL / altitude stated in the flight plan (with the exception of the levels on the NLFS GE);
- if an intermediate level has been assigned, maintain this level for 7minutes after switching to code 7600 and then climb to the level stated in the filed flight plan;
- fly to an IAF of the aerodrome of destination according to the current flight plan and perform a published instrument approach procedure from there without delay.

D.13.6.1.2 If en-route after having obtained the clearance for the NLFS GE / within the NLFS GE, the pilot will:

- squawk code 7600;
- fly along the night low-flying route to the exit point according to the filed flight plan by performing a terrain following flight or maintaining the respective en-route altitude / terrain following altitude;
- not perform bomb release procedures;
- at the next exit point, initiate a climb to the EMERGENCY PULL-UP ALTITUDE according to GEMIL FLIP;
- maintain this level for 7minutes and then intercept the level stated in the filed flight plan;
- fly to an IAF of the aerodrome of destination according to the current flight plan and perform a published instrument approach procedure from there without delay.

D.13.6.1.3 If en-route after having left the NLFS GE, the pilot will:

- squawk code 7600;
- maintain the flight route according to the current flight plan;
- maintain / intercept the FL / altitude stated in the flight plan (with the exception of the levels on the NLFS GE);
- if an intermediate level has been assigned, maintain this level for 7minutes after switching to code 7600 and then climb to the level stated in the filed flight plan.
- in case of radar vectoring without specified limit, return on the shortest way and not later than at the next significant point to the flight route stated in the current flight plan;
- fly to an IAF of the aerodrome of destination according to the current flight plan and perform a published instrument approach procedure from there without delay.

D.13.6.2 **Radio failure procedures with a further emergency**

D.13.6.2.1 If the type and extent of the further emergency do not permit the application of the above procedures, the pilot will:

- squawk code 7700;
- the flight will be continued at the discretion of the pilot-in-command. Binding procedures for this situation cannot be laid down.

D.13.7 **Use of not activated parts / routings of the NLFS GE**

Parts of the NLFS GE that are not activated by the schedule of NAPC flight operations are available for unrestricted use by ATS – units.

D.13.8 **Crossing clearance**

D.13.8.1 The ATC position requiring a crossing clearance for the NLFS GE segment in use shall coordinate this request with the appropriate monitoring unit. Requests shall be forwarded in due time to be able to maintain the prescribed distances to the NLFS GE segments in use if a crossing clearance cannot be issued. Clearances can be subject to restrictions.

D.13.8.2 ATC may issue a crossing clearance for the NLFS GE segment in use if one of the following conditions is met:

- if ATC is monitoring unit and sufficient radar and radio coverage exist to apply the prescribed separation; or
- if ATC is monitoring unit and radar coverage is insufficient, then separation shall be established between OAT along the NLFS GE and crossing traffic by applying the following longitudinal separation based on time:
  - the OAT shall have at least 5 minutes flying time to the intersection or;
  - shall have passed the intersection at least 3 minutes ago; or
- if CRC is monitoring unit, only after the crossing clearance has been coordinated with the CRC.

D.13.9 **Priority crossing clearance**

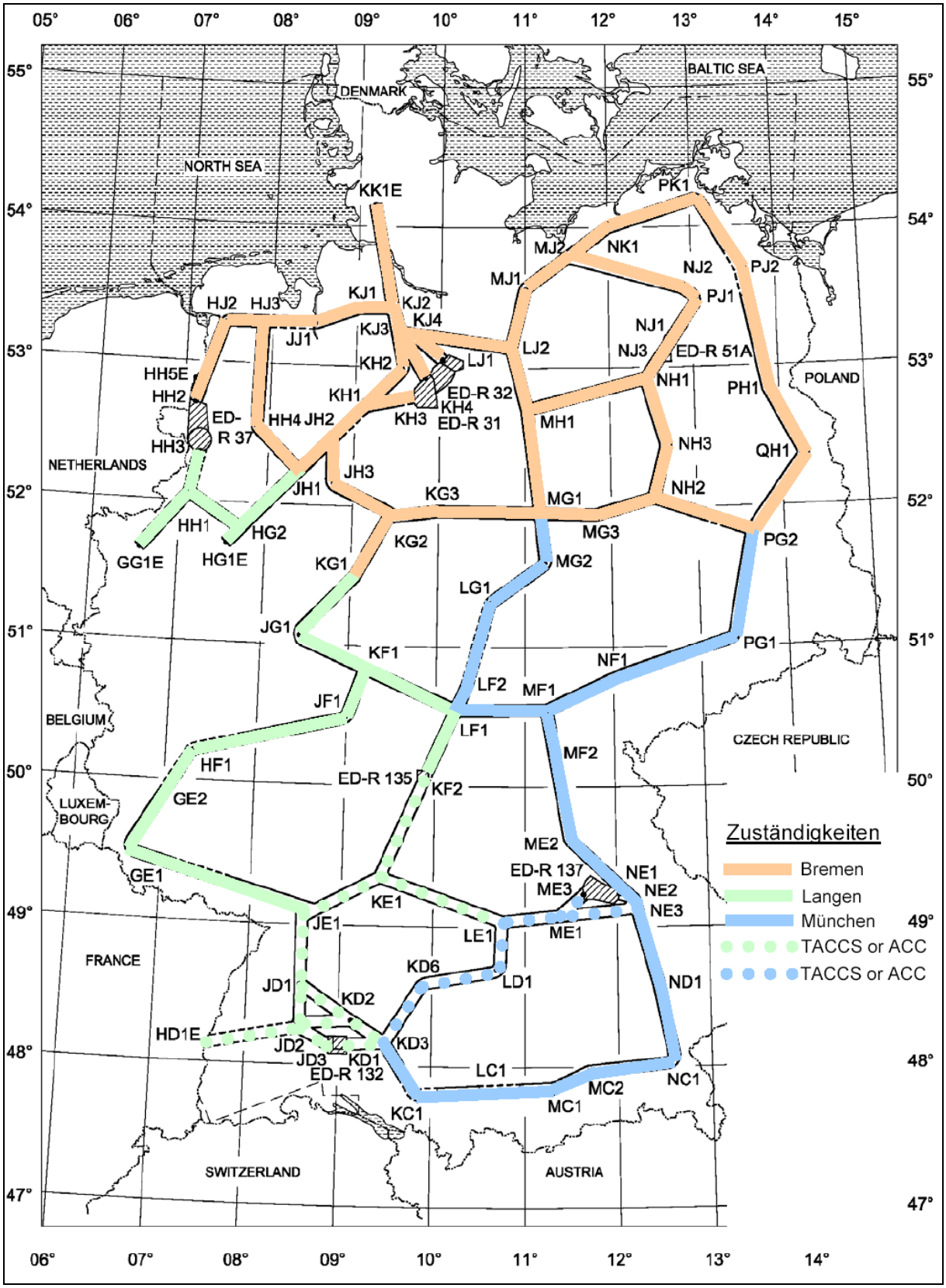
D.13.9.1 The monitoring ATC unit may temporarily increase the en-route altitude / terrain following altitude in the NLFS GE

- in urgent exceptional cases to avoid excessive delays of civil or military arrivals or departures through the NLFS GE; or
- to accommodate urgent flights of helicopters operated by customs and police services, SAR and emergency helicopter flights, if these flights are unable to pass below the NLFS GE segment in use maintaining at least 700 FT above GND or the nature of their missions requires them to remain in the NLFS GE for a longer period of time.

D.13.9.2 Regardless of the monitoring unit, the responsible ATC unit may temporarily suspend or stop the use of the system altitude and the TFF altitude in a NLFS GE segment to accommodate urgent flights operated by customs and police services and / or SAR having priority over OAT.

- If CRC is the monitoring unit, the necessary coordination shall be achieved through NAPC COSA DEU;
- OAT along the NLFS GE shall be instructed to climb to the emergency altitude;
- Flights operated by customs and police services and / or SAR shall be restricted to stay 1000 FT below the emergency altitude.

D.13.10 **Responsibilities for NLFS GE**



D.14 AEW operations

D.14.1 General

D.14.1.1 AC / FA operating on board of an AEW aircraft are legally subject to the same rules and regulations and shall apply the same procedures to aircraft over the territory of the Federal Republic of Germany as AC / FA at CRC fixed or mobile radar sites.

D.14.1.2 AEW - AC / FA are responsible for

- control and support of air defence traffic;
- tactical support of air traffic of the armed forces;
- the provision of alerting service to flights under control; immediate notification of responsible ATC unit (RCC and home base aerodrome shall be informed by the ATC unit);
- the control of “special flights”;
- support of air combat training in designated MTA and
- tactical support of COMAO

D.14.1.3 AEW - AC / FA **are not authorized** to assume control of

- operations within the scope of the ATC / TACCS information service;
- AAR conducted with heavy tanker aircraft e.g. KC10 or KC135;
- intercepts in IMC.

D.14.1.4 In exceptional cases AEW - AC / FA may assume control of security flights.

D.14.2 Areas

D.14.2.1 As a rule, AEW - AC / FA shall assume control of aircraft only in designated MTA or in airspace class E and G.

D.14.2.2 The following designated MTA are available:

- ED-R (TRA) except ED-R (TRA) 210 / ED-R (TRA) 310, ED-D, ADEXA, and LANIA.

Airspace allocation by NAPC COSA DEU / AMC is mandatory.

D.14.3 **Special procedures**

D.14.3.1 Radio communication between AEW - AC / FA and TRAMON of the appropriate ATC unit is required to coordinate the radar transfer of exercise aircraft entering or leaving the MTA and to coordinate other air traffic intending to pass through this area.

D.14.3.2 Flight progress data are not automatically forwarded to AEW - AC / FA, therefore verbal coordination is required.

D.14.3.3 Before the AEW - AC / FA will resume control of the MTA NAPC COSA DEU or the appropriate weapons manager

- shall discuss and agree with the ATC unit the operating frequency for coordination between AEW and TRAMON;
- forward the agreed operating frequency to AEW - AC / FA.

D.14.3.3 Only after a completed radio check AEW - AC / FA shall resume control of the MTA.

D.14.3.4 AEW - AC / FA shall announce the beginning of control operations at least 15 minutes in advance.

D.14.3.5 AEW - AC / FA shall obtain a clearance by TRAMON before starting operations.

ATC reserves the right to revoke this clearance whenever deemed necessary in the interest of safety of air traffic.

The clearance expires immediately in case of RCF between AEW and TRAMON.

In this case AEW AC/ FA shall transfer the exercising aircraft immediately to the published TRAMON – frequency acc. GEMIL FLIP MAP.

If AEW is encountering a total RCF the TRAMON shall call the exercising aircraft on the guard frequency, in order to transfer the aircraft to the TRAMON frequency.

D.15 Occurrences subject to mandatory reporting

D.15.1 **The following occurrences shall be subject to mandatory reporting:**

- hijacked aircraft;
- criminal attacks, bomb threats, and threats of violence against aircraft or similar cases;
- unexplainable and unauthorised deviations from the cleared flight path;
- unexplainable loss of radar target (particularly secondary radar targets);
- unexplainable loss of radio contact;
- other unusual occurrences which lead to the assumption that an act of unlawful interference has occurred.

D.15.2 **The ATC unit which becomes aware first of an occurrence subject to mandatory reporting shall notify the following units or persons without delay:**

- the supervisor in charge of the responsible control centre;
- the NAPC Duty Controller;
- the head of branch;
- The DFS/UZ department CC/FC

D.15.3 **On request, information on military aircraft accidents shall be exchanged between the supervisor ATC units and CRC. This information should at least include:**

- number and type of aircraft;
- callsign;
- home base.

D.16 “Reduced Lighting” - Flight Operations under Night Vision Goggles (NVG)

D.16.1 Flight Operations under Night Vision Goggles (NVG) Ops "Reduced Lighting” are authorized in areas with flight restrictions and danger areas (ED-R (TRA), MVPA and ED-D) in and above FL 100 only after prior airspace booking for this purpose. These flights are conducted during night time only. Regulations for ranges and respective restricted areas are not affected by these procedures.

D.16.2 Flight Operations under NVG Ops “Reduced Lighting” in TRA - segments acc D.6.4.2 are not authorized.

D.16.3 In reserved airspace, where ATS routes / routes acc D.6.5.1 are established, Flight Operations under NVG Ops “Reduced Lighting” are permissible only in areas authorized for the conduct of these operations acc GEMIL FLIP MAP.

D.16.4 Monitoring of Flight Operations under NVG Ops “Reduced Lighting” is provided by TACCS only in areas acc GEMIL FLIP MAP. Monitoring of these operations by US TACS (606 ACS) is restricted to ED-R (TRA) 205/305.

D.16.5 During Flight Operations under NVG Ops "Reduced Lighting" the procedures acc D.6.5.5 are to be applied. In case of crossing of IFR - flights the current setup shall be terminated and anti - collision lights and position lights shall be switched on.

D.16.6 In case the prescribed lateral and / or vertical distances to the boundaries of the areas applicable for Flight Operations under NVG Ops "Reduced Lighting" acc D.6.4.2 cannot be maintained, anti - collision lights and position lights shall be switched on immediately.

D.17 DEU F124 Frigate operations

D.17.1 General

D.17.1.1 AC operating on board of German Navy Frigates type F124 are legally subject to the same rules and regulations and shall apply the same procedures to aircraft as AC / FA at CRC fixed or deployable radar sites.

All embarked AC on DEU F124 Frigate are members of the “Maritime Pool”. They are educated, trained and licensed in accordance with BesAnEinsFüDstLw. In addition they have to complete maritime training courses (system and procedures) prior of their first embarkation.

Based on the agreements between the appropriate departments of the MoT and the MoD, the **DEU F124 Frigates** 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.

- Federal German Ship (FGS) Sachsen (F219) c/s **BACKBONE**
- FGS Hamburg (F220) c/s **REDLIGHT**
- FGS Hessen (F221) c/s **WALLSTREET**

D.17.1.2 DEU F124 Frigate AC are responsible for

- control and support of air defence traffic;
- tactical support of air traffic of the armed forces;
- the provision of alerting service to flights under control; immediate notification of responsible ATC unit (RCC and home base aerodrome shall be informed by the ATC unit);
- the control of “special flights”;
- support of air combat training in designated MTA and
- tactical support of COMAO.

D.17.1.3 DEU F124 Frigate AC **are not authorized** to assume control of

- operations within the scope of the ATC / TACCS information service;
- AAR conducted with heavy tanker aircraft e.g. KC10 or KC135;
- intercepts in IMC.

D.17.1.4 In exceptional cases DEU F124 Frigate AC may assume control of security flights.

D.17.2 **Areas**

D.17.2.1 As a rule, DEU F-124 Frigate - AC shall assume control of aircraft only in designated MTA or in airspace class E and G.

D.17.2.2 The following designated MTA are available:

- ED-D 41 (Sylt)
- ED-D 44 (Helgoland)
- ED-D 46 (Nordsee)
- ED-D 100 (Borkum)
- ED-D 101 A (Deutsche Bucht)
- ED-R 201 (TRA Friesland)
- ED-R 206 (TRA Mecklenburg 1)*
- ED-R 306 (TRA Mecklenburg 2)*
- MVPA North East

Airspace allocation by NAPC COSA DEU / AMC is mandatory.

**According to LoA MVPA North East B.4 the booking and usage of the ED-R (TRA) 206/306 is not available.*

D.17.3 **Special procedures**

D.17.3.1 Flight progress data are not automatically forwarded to DEU F124 Frigate AC, therefore verbal coordination is required. Communication between ATC and DEU F124 Frigate will be established by satellite telephone (IRIDIUM, Backup: INMARSAT).

D.17.3.2 DEU F124 Frigate AC shall announce the beginning of control operations at least 15 minutes in advance to the appropriate ATC units.

D.17.3.3 DEU F124 Frigate AC shall obtain a clearance by the responsible position at the appropriate ATC units before starting operations.

D.17.3.4 ATC reserves the right to revoke this clearance whenever deemed necessary in the interest of safety of air traffic.

D.17.3.5 The clearance expires immediately in case of loss of communication between DEU F124 Frigate and the responsible ATC Unit. If DEU F124 Frigate is encountering a total RCF the responsible ATC Unit shall call the exercising aircraft on the guard frequency, in order to transfer the aircraft to the TRAMON frequency acc. GEMIL FLIP MAP.

D.17.4. **Special communication procedures**

D.17.4.1 Direct voice communication between DEU F124 AC and the responsible ATC unit is mandatory. The two way communication (direct voice communication) has to meet the conditions as specified for both parties, ATC unit and DEU F124 Frigate.

D.17.4.2 DEU F124 Frigates POC are laid down in Annex C 6.

Annex E

Transfer of control and transfer of communication

E.1 Transfer of control

E.1.1 A radar hand-off is mandatory prior to transfer of control.

As a rule, control of an aircraft shall be transferred when crossing the boundary of a MTA.

E.1.2 Aircraft flying in formation shall be

- considered as one flight;
- in standard formation on transfer, otherwise individual coordination is required for each element of the formation.

E.1.3 Transfer of control shall not take place before the conditions specified by the receiving unit are met.

E.1.4 Transfer of control directly from CRC to the local military ATC unit is only permissible provided the responsible DFS ATC unit has agreed and the transfer is in accordance with the ATC clearance.

E.2 Transfer of communication

E.2.1 The transfer of communication shall take place not later than the transfer of control, unless otherwise coordinated.

E.2.2 Transfer of communication shall take place as soon as the aircraft on transfer is clear of all conflicting traffic.

E.2.3 Any restriction to be maintained after transfer of communication shall be coordinated in due time.

E.2.4 Successful transfer of communication shall be acknowledged by changing the SSR code of the aircraft on transfer to the assigned code of the accepting unit.

Annex F

Radar based coordination procedures

F.1 SSR code assignment

F.1.1 ATC units shall transfer aircraft on verified discrete SSR codes assigned in accordance with ORCAM.

CRC shall transfer aircraft on verified discrete SSR codes assigned by CAOC.

F.1.2 For security flights the following SSR codes shall be assigned:

• CAOC Uedem	GERMANY NORTH	1305, 1306
	GERMANY SOUTH	1323, 1324
• QRA BELGIUM		1301, 1302
• QRA CZECH REPUBLIC		1311, 1312
• QRA NETHERLANDS		1313, 1314
• QRA DENMARK		1315, 1316
• QRA POLAND		1317, 1320
• QRA GREAT BRITAIN		1307, 1310, (AAR) 1321

F.1.3 Any change of the assigned SSR code by the accepting unit may only take place after the aircraft is in radar contact.

F.1.4 The accepting unit shall be notified of any observed irregularity in the operation of SSR transponders.

F.2 Separation / minimum distances

F.2.1 Minimum distances between aircraft to be established by CRC

CRC shall be responsible to establish either a minimum lateral distance observed by radar or a minimum vertical distance between aircraft under control and all other known or observed air traffic.

F.2.1.1 The minimum lateral distance shall be at least 5 NM.

F.2.1.2 The minimum vertical distance shall be at least

- 1000 FT between flights at and below FL 290;
- 2000 FT between flights at and above FL 290.

Infringement of these minima is permissible between air defence traffic.

F.2.2 **Minimum separation between aircraft to be established by ATC units**

The following minima between aircraft to be separated shall not be infringed.

F.2.2.1 The radar separation shall be the prescribed radar separation minimum, however, not less than 5 NM.

(The minimum radar separation shall be at least 3 NM in specified areas e.g.: APP - areas)

F.2.2.2 The minimum vertical separation shall be at least

- 1000 FT between flights at and below FL 290;
- 1000 FT between RVSM approved flights at and above FL 290 up to FL 410 inclusive;
- 2000 FT between flights at and above FL 290 up to FL 410 inclusive by
  - non-RVSM approved state aircraft and any other aircraft;
  - formation flights of state aircraft and any other aircraft;
  - an aircraft experiencing communication failure in flight / failure of RVSM equipment and any other aircraft.
- 2000 FT between flights above FL 410.

F.2.3 **Distances to airspace boundaries to be established by the parties**

The parties shall establish and / or maintain the following distances to airspace boundaries.

F.2.3.1 **Areas with air traffic**

(e.g. AoR, sectors, MTA, special activity areas).

F.2.3.1.1 Lateral distances

The minimum lateral distance to airspace boundaries shall be half of the value of the radar separation minimum prescribed for the area concerned, however, not less than 2.5 NM.

Distances according to the values of the radar separation criteria have to be maintained if in the adjacent area no lateral distances to the boundary are maintained.

F.2.3.1.2 Vertical distances

- 500 FT, if the boundary is below FL 290;
- 500 FT, if the boundary is at or above FL 290 and the aircraft involved are RVSM approved;
- 1000 FT, if the boundary is at or above FL 290 and the aircraft is a non-RVSM approved aircraft or a formation flight of state aircraft;
- 500 FT, if the boundary is at or above FL 290 and one of the aircraft involved is a non-RVSM approved aircraft or a formation flight of state aircraft and it is assured by prior coordination that the minimum vertical separation is maintained to any other aircraft in the adjacent airspace;
- 1000 FT, if the boundary is at or above FL 410.

These distances have to be doubled to the boundaries of MTA within which IFR flights are to be expected, if not otherwise agreed upon locally.

F.2.3.2 **Minimum distances to MTA – boundaries (excluding LANIA and NLFS GE)**

F.2.3.2.1 Lateral distances

The minimum lateral distance to airspace boundaries shall not be less than half the value of the prescribed radar separation minimum, however, not less than 2.5 NM.

Distances according to the value of the radar separation minimum have to be maintained if in the adjacent area no lateral distances to the boundary are maintained.

F.2.3.2.2 Vertical distances to be ensured with controlled air traffic outside MTA – boundaries (excluding LANIA and NLFS GE):

- 1000 FT if the boundary is below FL 290;
- 1000 FT below and 2000ft above, if the boundary is at FL 290;
- 2000 FT if the boundary is above FL 290.

Exception: A vertical distance of 500 FT is sufficient if the published boundary is an intermediate level (e.g. FL 245 or FL 285) below FL 290..

F.2.3.2.3 Vertical distances to MTA – boundaries (excluding LANIA and NLFS GE) to be hold by / with a/c using the MTA – boundaries (excluding LANIA and NLFS GE):

- the published vertical boundaries shall not be infringed.

Exception: A vertical distance of 500 FT shall be hold if the published boundary is an intermediate level (e.g. FL 245 or FL 285) below FL 290.

F.2.3.2.4 If only parts of the TRA are required for the planned exercises, aircraft may cross the unused part of the TRA. A lateral minimum distance of 5 NM from the boundary of the TRA part(s) in use and the prescribed minimum vertical distances from the TRA part(s) in use shall be maintained.

F.2.3.3 **Minimum distances to AAR operations**

F.2.3.3.1 **Minimum distances to tanker**

The parties will apply the prescribed radar separation / distance or vertical separation / distance to the tanker with other traffic subject to separation.

F.2.3.3.2 **Minimum distances to activated AAR anchor**

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

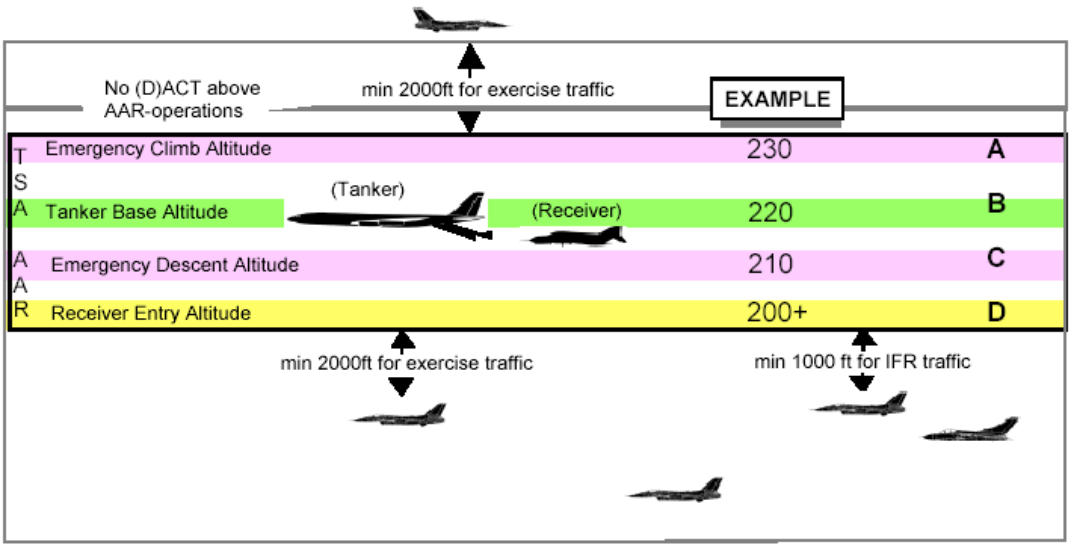
For exercise traffic a minimum vertical separation / distance above FL A and below FL D of 2000 FT shall be maintained.

F.2.3.3.3 The minimum radar separation / distance to a tanker formation (tanker and receiver) shall be increased by 1 NM.

F.2.3.3.4 With the tanker formation CRC shall be responsible to maintain a minimum distance of 3,5 NM as observed by radar to the boundary of the ED-R or ED-D.

F.2.3.3.5 (D)ACT shall be prohibited above AAR operations.

F.2.3.3.6 **Depiction of AAR operations below the RVSM airspace**



F.2.3.3.7 **En-route refuelling**

The parties shall maintain a minimum radar separation / distance of at least 6 NM to the tanker formation with other traffic subject to separation.

The parties shall apply the prescribed vertical separation / distance above the level of the tanker formation. Below the level of the tanker formation the prescribed vertical separation / distance shall be doubled.

F.2.3.3.8 En-route refuelling formations over flying MTA in use with less than 2000 FT vertical distance shall be subject to coordination.

F.2.3.4 **Minimum distances to the boundaries of the activated NLFS GE**

F.2.3.4.1 Lateral distances

The minimum lateral distance to the lateral boundary of the activated night low flying system shall be 5 NM.

F.2.3.4.2 Vertical distances

As a rule, at least 1100 ft above the en-route flight altitude shall be maintained, however not less than 600 ft above the emergency/entry/exit altitude for the particular route segment.

- At least 1100 ft shall be maintained above the emergency/entry/exit altitude of the route segments actually used as entry/exit segments.
- At least 1000 feet below the en-route flight altitude shall be maintained to route segments where terrain flight following is prohibited and it is intended to underfly the NLFS.
- At least 1000 ft above the en-route flight altitude, however not less than 500 ft above the emergency/entry/exit altitude of the route segment, if the same QNH-value is used for the OAT-flight within the HLFS and other controlled flights.

F.3 Radar coordination procedures

F.3.1 Radar transfer

F.3.1.1 A radar hand-off shall be carried out by the radar position (coordinator or radar controller) responsible for the aircraft on transfer.

F.3.1.2 The transfer conditions shall be mutually agreed upon between the ATC unit and the CRC.

F.3.1.3 The CRC shall be responsible that aircraft on transfer keep to the agreed upon transfer conditions.

F.3.1.4 A radar transfer shall be accomplished by forwarding the following flight data to the receiving unit:

- callsign;
- number and type of aircraft;
- position of radar hand-off;
- SSR code;
- cleared flight level and route.

F.3.2 Transfer of identity without transfer of control and communication; radar point out to be applied to controlled flights intending to penetrate MTA in use.

F.3.2.1 A radar point out for controlled flights intending to penetrate areas where military training is in progress shall be executed as soon as possible, but not earlier than 30 NM flying distance to the lateral boundary of the area concerned.

F.3.2.2 The following flight progress data on IFR flights shall be forwarded:

- callsign;
- SSR code;
- type and number of aircraft;
- position,
- cleared flight level;
- route of flight or intended flight path;
- other information, if applicable.

F.3.2.3 If correlated flight progress data are provided by FPTDDS verbal coordination can be reduced to a mutually agreed minimum.

F.3.2.4 After a radar point out has been accomplished, intended changes of following flight data shall be coordinated in due time:

- flight path;
- flight level;
- SSR code;

F.3.3 **Minimum distance on transfer**

Transfer of radar control may be effected after prior coordination provided the minimum distance between aircraft or formations at the same level does not fall below 10 NM.

Note:

When using radar headings or speed restrictions to maintain the minimum distance of 10 NM, this has to be coordinated with the receiving executive controller / AC or FA prior to transfer of communication.

Annex G

Supplementary procedures

G.1 Assignment of DFS ATC units to CRC

G.1.1 Assignment table

DFS ATC unit	ADE	CATSE	Contingency
Bremen	Schönewalde	Schönewalde	Schönewalde
Maastricht	Erndtebrück	Erndtebrück	
Langen	Erndtebrück Meßstetten	Erndtebrück Meßstetten	
Karlsruhe	Meßstetten	Meßstetten	
München	Meßstetten	Meßstetten	Meßstetten

G.1.2 Commitment to deploy DFS liaison controllers

G.1.2.1 The deployment of DFS liaison controllers shall be coordinated with NAPC COSA DEU by July for the next year.

G.2 Common use of radar data

G.2.1 Purpose

To improve the radar coverage of the parties, the conditions for the common use of radar data available to DFS, CRC and local military ATC units are detailed in the agreement between DFS GmbH and AFSBw from January 1, 1995.

G.2.2 General

G.2.2.1 The common use of primary and / or secondary radar data means only to share received data. The additionally admitted user has no right to take decisive action in the control of the radar.

G.2.2.2 Advance coordination of the common use of radar data shall be accomplished between DFS headquarters, AFSBw on behalf of GAFCOM and the radar data provider concerned.

G.2.2.3 The following items governing the common use shall be clarified and entered in the record:

- data quality of data and restrictions of use;
- intended period of time;
- data interface;
- technical requirements;
- POC for failure and shutdown or other messages;
- POC for technical changes resulting in operational restrictions;
- scope of mutual support;
- procedures to solve differences of opinion.

G.2.3 Conditions for the common use

G.2.3.1 The radar data provider shall have priority over other users. In case the exchange of radar data will be temporarily suspended by the operator, other users are not entitled to claim damages.

G.2.3.2 In case of failure the operator of the radar will make all possible efforts for repair as soon as possible.

G.2.3.3 Radar data shall be provided in accordance with the rules governing operational and technical safety.

G.2.3.4 Passing on radar data to users not participating in this agreement and the EUROCONTROL Radar Data Network (RADNET) Radar Sharing Agreement shall be prohibited.

G.2.3.5 After terminating the shared use of radar data the previous conditions shall be restored at the expense of the user.

G.2.4 Shutdown, failure and change of radar data

G.2.4.1 Shutdown schedules shall be coordinated between radar data provider and users. Failures shall be reported to the users immediately.

G.2.4.2 Information on possible effects on commonly used systems or data connections shall be passed on immediately.

G.2.4.3 Advance information on changes of radar data shall be given to the user taking in consideration the user requirements.

G.2.5 Data transfer

Data interfaces shall be fixed in advance. The user shall provide the necessary data transfer equipment and maintenance. After the interface the user shall be responsible for further transfer and processing.

G.2.6 **Costs**

G.2.6.1 Sharing radar data shall be free of charge.

G.2.6.2 The implementation of the interface shall be at the expense of the user.

G.2.6.3 Maintenance and if necessary updating of the equipment shall be at the expense of the user.

G.2.6.4 A mutual agreement shall be reached concerning checks and service of equipment owned by the user of shared radar data shall be carried out by trained staff of the radar data provider without involving further costs. The radar data provider does not accept liability for these services.

G.3 Air Defence Element

G.3.1 **General**

G.3.1.1 The ADE shall enable CRC to carry out its functions during failures or maintenance down times of CRC.

G.3.1.2 The rules and regulations for CRC operations shall be applied.

G.3.1.3 The use of systems and links of communication including frequencies of the host ATC unit shall be shared.

G.3.2 **Responsibilities**

G.3.2.1 The host ATC unit shall make available one or if required and available two radar working positions with appropriate communications for ADE.

G.3.2.2 NAPC COSA DEU shall notify the host ATC unit of scheduled ADE operations one week in advance.

G.3.2.3 The supervisor of the host ATC unit shall be notified by NAPC COSA DEU of non-scheduled ADE immediately. The supervisor will take the necessary measures to accommodate the ADE.

G.3.2.4 Only trained and licensed CRC personnel familiar with the local air traffic management system shall be deployed to assume functions of the ADE.

G.3.3 **Functions**

ADE shall carry out the following functions by order of NAPC COSA DEU:

- intercept control and mission support;
- control of security flights (alpha scrambles);
- control of practice security flights (tango scrambles) and air defence training flights in agreed MTA (missions supported by AAIS are only allowed within the AoR of the hosting ATC- unit);
- monitoring of special flights;
- monitoring of the night low level flying system;
- control of AAR;
- particular ED-R (TRA) monitoring services;
- any additional information to the recognized air picture.

G.3.4 **ADE callsigns**

DFS ATC unit	ADE	Callsign
Bremen	Schönewalde	Teddybear
Maastricht	Erndtebrück	Loneship Lima
Langen	Erndtebrück	Loneship Foxtrott
Langen	Meßstetten	Strawbasket
Karlsruhe	Meßstetten	Shanty
München	Meßstetten	Race Card

G.4 CRC Air Traffic Services Element

G.4.1 General

G.4.1.1 In times of crises and conflicts regional military air traffic services personnel will be deployed by order of AFSBw to NATO offices and CRC as liaison elements. These deployments shall be trained in peacetime.

G.4.1.2 In the following the liaison elements shall be referred to as “CRC Air Traffic Service Element (CATSE)“.

G.4.1.3 The CATSE training is part of the tactical combat training of the regional military air traffic services personnel released from regular service to DFS and mobilization designees of DFS staff.

G.4.1.4 A one week initial training of CATSE personnel shall take place at Erndtebrück.

G.4.1.5 The CATSE teams shall be allocated to the CRC in accordance with G.1.1.

G.4.1.6 Training and deployment of CATSE personnel shall be in accordance with the Local Operating Procedure (LOP).

G.4.1.7 CATSE personnel deployed to CRC as DFS liaison controller shall use available time for CATSE training.

G.4.1.8 After prior coordination with the ATC unit concerned a “Response Cell” to simulate a realistic training environment may be set up during exercises with CATSE participation.

G.4.2 CATSE deployment

As training for tasks of the regional military air traffic services personnel in crises and conflicts and ATC liaison and CAOC NATO support functions, CATSE may be deployed during

- national or NATO exercises;
- local exercises of CRC (LIVEX / SYNAX);
- national or NATO evaluations (ORE / TACEVAL / CAPEVAL).

G.4.3 **OAT under control of CATSE at CRC**

The provision of ATC to OAT during peacetime operations by CATSE personnel at CRC shall be permissible provided the following conditions are met:

- the rules and regulations of MO-ATS / BesAnMilFS 2-100 shall be applied;
- personnel shall be licensed and rated for the area concerned;
- familiarisation with local procedures and systems at CRC.

G.4.4 **Responsibilities**

G.4.4.1 DFS shall

- provide AFSBw with a current list of staff planned as CATSE personnel;
- guarantee two combat ready CATSE teams per ATC unit;
- release staff for training and deployment.

G.4.4.2 GAFCOM shall

- in agreement with LwAusbKdo FA Ausb II f determine the objectives of training;
- in agreement with AFSBw and DFS determine and update the training objectives and implementing order for CATSE personnel at CRC;
- promulgate a template for a Local Operating Procedure (LOP).

G.4.4.3 AFSBw shall

- in close coordination with DFS make a training and deployment roster by the end of September for the next year;

G.4.4.4 CRC shall

- fix the periods for local CATSE exercise after prior coordination with DFS ATC units;
- be responsible for the training of the assigned CATSE;
- guarantee availability and equipment including means of communication of CATSE workplaces;
- draw up CATSE manuals of operation, one copy shall be handed over to the assigned ATC unit;
- be responsible for the amendment service of the CATSE manuals.

G.4.4.5 DFS ATC units shall

- release CATSE personnel for training and deployment in compliance with the AFSBw requests;
- be responsible for the safe keeping of CATSE manuals of operation in accordance with intelligence classification rating.

G.4.5 **Costs**

Training and deployment of CATSE personnel are covered in the scope of the OAT costs agreement.

G.4.6 **Allocation of CATSE teams to DFS ATC units**

DFS ATC unit	CATSE
Bremen	Schönewalde
Maastricht	Erndtebrück
Langen	Erndtebrück / Meßstetten
Karlsruhe	Meßstetten
München	Meßstetten

G.5 Contingency

G.5.1 Purpose

G.5.1.1 This agreement governs the cooperation between DFS, AFSBw and GAFCOM in a state of emergency when a DFS ATC unit has to be shut down and defines the scope of the necessary support.

G.5.1.2 The following defines measures to be taken in the scope of an emergency recovery plan when a DFS ATC unit has been shut down and operations shall be resumed at a CRC.

G.5.2 General

G.5.2.1 This agreement is based on the current “Agreement between MoT and MoD on the cooperation of air traffic control and air defence / TACCS in peacetime”.

G.5.2.2 In principle it is assured that operations of a shutdown ATC unit can be resumed at a CRC with DFS control staff relocated from this ATC unit.

G.5.2.3 An emergency recovery plan shall be agreed between ATC units and CRC in the regional supplements to this LoA.

G.5.2.4 Operations may be resumed at a CRC taking in consideration the following conditions:

- performing of sovereign tasks shall have priority over ATC operations and shall be guaranteed unrestricted;
- in case of different opinions on the use of means of radar or communication the air defence task shall have priority over ATC operations;
- restrictions in training and exercise air operations are acceptable;
- restrictions in crisis and conflict are not acceptable.

G.5.2.5 DFS operational staff shall have a security clearance.

G.5.3 **Procedures**

G.5.3.1 The feasibility of the emergency recovery plan shall be tested after prior coordination. Difficulties and suggestions for improvement shall be on record. The tests shall be repeated in sensible intervals. The results shall be forwarded to DFS, AFSBw and GAFCOM.

G.5.3.2 The ATC functions shall be performed exclusively by DFS operational staff, with the exception of special military procedures e.g. TRAMON, AAR or the like.

G.5.3.3 DFS operational staff shall be familiarised with the local control environment by CRC staff.

G.5.3.4 All possible means of equipment shall be used. In case of a foreseeable longer lasting shutdown of the ATC unit's facility an augmentation plan for the operational conditions at the CRC shall be drawn up by DFS in agreement with GAFCOM.

G.5.3.5 Experts responsible for the emergency recovery plan shall be named.

G.5.3.6 The parties shall keep each other current on scheduled shutdown of facilities or shifting of responsibilities.

G.5.4 **Costs**

DFS shall bear the costs involved when equipping a CRC to enable ATC units to resume operations in accordance with the appropriate emergency recovery plan at the CRC.

G.5.5 **Liability**

The parties shall be liable for damage caused wilfully or by gross negligence.

END