ENR 1 GENERAL RULES AND PROCEDURES

ENR 1.1 GENERAL RULES

1. Taking of aerial photographs

The taking of aerial photographs and the dissemination of them are authorised, subject to the legislation on the protection of MIL installations.

2. Glider flights, balloon ascents and parachute jumps in the Federal Republic of Germany and Austria

Since no medical assessment is required for the renewal of a Swiss licence for glider pilots, free balloon pilots or parachutists, the following dispositions have been agreed upon between the German and Austrian aeronautical authorities:

When operating Austrian or German registered ACFT over the respective territories, holders of Swiss glider pilot or free balloon pilot licences, provided that they are not holders of a valid licence for powered FLT at the same time, must carry on them a medical assessment report issued by an aeronautical medical expert or institute not longer than two years ago.

Additionally, for the operation of Swiss registered gliders and free balloons over the territories of the Federal Republic of Germany and Austria, the following has been fixed in accordance with article 40 of the ICAO Convention: Holders of Swiss glider pilot or free balloon pilot licences may OCNL carry out FLTs such as DIST FLTs, competition FLTs, training FLTs and similar with Swiss registered gliders or balloons without medical assessment, in accordance with ICAO Annex 1.

For holders of a Swiss parachutist licence, the dispositions fixed in and apply accordingly.

3. Fuel dumping regulations

3.1 Conception

Fuel dumping is defined as the jettisoning of unburned fuel from an ACFT during FLT.

3.2 Guide lines

3.2.1 Guide lines for aircrews

- Fuel dumping may only be carried out in an EMERG, and if the safe continuation of FLT may be endangered without the procedure being performed.
- The dumping of fuel has to be accomplished in airspace assigned by the ATC services.
  FLT ALT has to be 6000 ft AGL MNM.
- DEV from these guide lines, e.g. jettisoning of fuel below 6000 ft AGL is permitted only if the FLT is directly endangered.
- Detailed regulations of the Operations Manual remain reserved.

FLT crews shall report all fuel dumping to:

Post: Federal Office for Civil Aviation
CH-3003 Berne

3.2.2 Guide lines for air traffic services

If aircrews announce the need to dump fuel, ATS shall provide

- the necessary information and support to the aircrew;
- a protected and appropriate airspace;
- the possibility to accomplish the fuel dumping at 6000 ft AGL MNM.
- ATS shall report the incident to:

Post: Federal Office for Civil Aviation
Environmental Section
CH-3003 Berne

3.3 Validity

These guide lines are valid in all airspace managed by Swiss ATS with the reservation of foreign law over foreign territory.

4. Conditions for installation and use of RNAV equipment

4.1 Introduction

This section provides the procedures to be applied for the APV of RNAV operations, including the use of GNSS as an IFR NAV aid in Swiss airspace.

4.2 Mandatory equipment

ACFT, other than State ACFT, operating on the ATS routes* within the FIR/UIR Switzerland at and above FL 100 shall be equipped with, as a MNM, RNAV equipment meeting RNAV 5 (B-RNAV) in accordance with the requirements set out in ICAO Doc 7030 Regional Supplementary Procedures.

*An ATS route is defined in ICAO Annex 11 as follows: A specified route designated for channelling the flow of traffic as necessary for the provision of ATS.
The term “ATS route” is used to mean variously AWY, ADR, controlled or uncontrolled route, arrival or departure route, etc.

4.3 Equivalence to ICAO Doc 9613 PBN Manual requirements

With the publication of ICAO Doc 9613 Volume I & II, Performance-based Navigation (PBN) Manual, it is recognised within Swiss Airspace that RNAV 1 is equivalent to P-RNAV and RNAV 5 is equivalent to B-RNAV with regard to the NAV EQPT and certification requirements.

4.4 Use of GNSS

GNSS may be used in Swiss Airspace. Avionics receivers must be certified in accordance with ETSO (European Technical Standard Orders) / TSO (Technical Standard Orders). Consequently, the supported GNSS constellation is the NAVSTAR Global Positioning System (GPS) and the supported augmentation systems are the Aircraft Based Augmentation System (ABAS) and, the European Geostationary Navigation Overlay Service (EGNOS) - the European SBAS and the GBAS.

4.5 Applicable documents

Guidance material on the installation and airworthiness APV for RNAV operations and equipment, as well as appropriate guide lines for operators on the use of RNAV, can be found in the following documents:

- AC20-130A, Airworthiness Approval of Navigation or FMS Integrating Multiple Navigation Sensors
- AC25-15, Approval of FMS in Transport Category Airplanes;
- AC90-45A, Approval of Area Navigation Systems for use in the US National Airspace System;
- EASA AMC 20-5 Airworthiness Approval and Operational Criteria for the Use of the Navstar Global Positioning System (GPS), or a previously APV revision including JAA guidance material on the use of GPS (TGL 3, rev. 1; *JAA Interim Guidance on Airworthiness Approval and Operational Criteria for the use of the NAVSTAR Global Positioning System [GPS], GAI-20*).
- EASA AMC 20-4 Airworthiness Approval and Operational Criteria for the Use of Navigation Systems in European Airspace designated for Basic RNAV Operations, or a previously APV revision including *JAA TGL 2, rev. 1; AMJ 20X2-JAA Guidance Material on Airworthiness Approval and Operational Criteria for the use of Navigation Systems in European Airspace designated for Basic-RNAV Operations.*
- JAA TGL 10 rev 1, JAA Guidance Material on Airworthiness and operational approval for Precision RNAV operations in designated European airspace (Issue JUN, 2005).
- EASA AMC 20-26 Airworthiness Approval and Operational Criteria for RNP AUTH Required (RNP AR) operations.
- EASA AMC 20-27 Airworthiness Approval and Operational Criteria for RNP APPROACH (RNP APCH) Operations Including APV BARO-VNAV Operations.
- EASA AMC 20-28 Airworthiness Approval and Operational Criteria related to Area Navigation for Global Navigation Satellite System approach operation to Localizer Performance with Vertical guidance minima using Satellite Based Augmentation System.

Unless otherwise detailed in local procedures published in AD 2.24, an appropriate APV is required for operations on RNAV SID and STAR. NAV systems which are installed in ACFT, are in conformity with one of the guidelines listed above and which have been APV in accordance with to the ACFT Flight Manual (AFM), section “Terminal Area OPS”, are permitted.
Approach procedures may be flown as published in AD 2.24 if the ACFT installation is APV for RNP APCHs in accordance with EASA AMC 20-27 (or equivalent) and/or AMC 20-28 (or equivalent). In case of airborne equipment certified in accordance with EASA AMC 20-27 (or equivalent), a Receiver Autonomous Integrity Monitoring (RAIM) prediction check is required during pre-FLT planning. The RAIM prediction check is not required for airborne equipment certified in accordance with EASA AMC 20-28 (or equivalent).
An APV in accordance with RNAV 5 (B-RNAV) is required for operations on other RNAV routes. NAV systems which are installed in ACFT, are in conformity with one of the guidelines listed above and which have been APV in accordance with the ACFT Flight Manual (AFM), section “En-Route OPS”, are permitted.

Detailed information is AVBL from:

Post: Federal Office for Civil Aviation
Type Certification Section
CH-3003 Berne

4.6 Limitations of the GNSS constellation and equipment

All existing ground-based NAV aids are FLT calibrated and can SGL an alarm if erroneous SGL are being radiated.
For GNSS, SGL integrity equivalent to that obtained from conventional NAV aids is provided by the airborne equipment only.

Without proper airborne integrity MNT implementations, potential for unannounced failures may exist.

4.7 GNSS for different phases of flight

For the use of GNSS during different phases of FLT, the following rules apply:

4.7.1 RNP Approaches

For Instrument Rated (IR) pilots conducting RNP approaches, the FOCA directive O-017 E is applicable.

4.7.2 Non-Precision Approach NPA (overlay)

A non-precision approach may be flown as an overlay approach using GNSS when each of the following conditions are met:

- Aircraft and Aircrew are authorized to perform RNP approaches.
- Procedures and restrictions of the AFM are adhered to at all times.
- The ground-based navigation aids required for the use of the respective conventional flight procedure and the associated aircraft equipment remain in operation during the execution of the entire procedure.
- The ground-based navigation aids and the associated aircraft equipment required for the published approach procedure are operational and remain the primary means of navigation during the execution of the entire procedure.
- The pilot ensures that the underlying conventional flight procedures are adhered to by monitoring the information of the ground-based navigation aids and taking appropriate corrective actions if the tolerances are exceeded.

4.7.3 Aircraft documents

The operator is responsible for the APV of his RNAV equipment. The capability of the appropriate equipment will be stated in the *"scope of utilisation"* within the operators ACFT documents.

4.7.4 GNSS Prediction Services

GNSS applications often require the use of a RAIM prediction program. In Switzerland, RAIM prediction information is provided for APCH operations through specific AD-related NOTAM for all ADs with a published RNP APCH.
Alternatively, a RAIM prediction-tool is provided by EUROCONTROL on the Internet under:

URL: https://augur.eurocontrol.int
EGNOS prediction information is also provided through specific AD-related NOTAM for all ADs with a published RNP APCH to Localiser Performance with Vertical Guidance (LPV) minima.
For the ATS routes of the Low-Flight Network (KY251, KY 252, KY 253, KY 256, KY 257), EGNOS prediction information is provided only. The EGNOS prediction information of the ATS routes includes the associated routes.
The information is based on the RNP0.3 navigation performance and calculated for the geometric centre of the individual ATS routes.

ATS route	Associated LNK routes
KY251	KQ811, 821, 831, 832, 833, 834, 861, 862, 868
KY252	-
KY253	-
KY256	-
KY257	-

4.8 Low Flight Network (LFN) for IFR helicopter operation - Restricted Use

Introduction and Certificate Verification

A national Low Flight Network for rotary wing aircraft is established for which an enroute navigational performance of RNP 0.3 (see ENR 1.3 §8.4) and a specific state authorization are required. Operations are limited to rotary wing aircraft equipped with GNSS avionic receivers using the European Geostationary Navigation Overlay Service (EGNOS) - the European SBAS. Request such authorization at Federal Office of Civil Aviation 3003 Bern Switzerland.
Description:
This network consists of low-level routes and associated routes to and from various landing sites or regions (see ENR 3.4 Helicopter Routes). All segments are within controlled airspace and ATC service is provided.

Access Procedures:
Flights operating on this network need to comply with an approval process by the Swiss state authority and an access process by the national ATS provider.

As the number of flights per time is limited the following access procedures are established:

- A time window shall be requested from Flight Management Position (FMP) CTA Zurich;
- The request may be handed in by mail (sua-preact@skyguide.ch) on the day before operation latest by 1200 or by telephone (+41 (0) 43 931 69 62) for same day operation; An approval must be received to conduct the requested flight;
- The reservation process is based on a "first come - first served" basis;
- An ICAO IFR flight plan must be submitted;
  Clearance for IFR operation on LFN is delivered upon initial contact with the first ATC unit corresponding to the point of departure;
- For Joining flights refer to procedures in ENR 1.3 §2.1
- Flights are to be conducted with the respective ATC unit QNH, received with the ATC clearance;
- The network is available during Zurich DELTA opening hours from 0700 - 1630

4.8.1 New LFN PinS Chart in the Skybriefing En-Route Charts

Apart from VFR traffic, there is also IFR traffic in airspace classes E and G. This includes the Low Flight Network (LFN) which, as the name implies, leads to a situation where IFR traffic may be encountered at a lower altitude. The use of the LFN is restricted to helicopters in possession of the relevant licence for LFN which, currently, involves the REGA and Swiss Air Force. The LFN comprises a route network and subsequent IFR approach and departure procedures (Point in Space, PinS) for helipads such as those found at hospitals and military infrastructures. The Skybriefing "LFN PinS Chart" (https://skybriefing.com/enroute-charts-ch) shows a representation of the LFN routes currently in existence as well as approaches and departures at so-called PinS for helipads at hospitals and military infrastructures.

For VFR airspace users, this means that IFR flights may also be encountered at lower altitudes on LFN routes. The rules in the corresponding airspace apply to all pilots, in other words, "see and avoid" also applies for IFR traffic. The difference is that helicopters in the Low Flight Network do not have to adhere to the visual meteorological conditions (VMC) and, for example, are therefore permitted to fly through clouds. Air traffic control is not responsible for ensuring separation between helicopters on the LFN and other traffic. Information about potential IFR traffic can be obtained from the flight information service (contact FIC). Maintenance of cloud separation, as well as operation of the transponder if one is available, is vital for the safety of all airspace users. Maintenance of the semi-circular rule for powered VFR traffic is a further important factor for flight safety.

When preparing for a flight, the LFN PinS chart should help to see how the routes are distributed and to plan accordingly. The charts are published in skybriefing.com and integrated in the aeronautical publications and thus updated at regular intervals. They are intended to raise the awareness of airspace users with regard to these IFR flights and contribute to general safety. The LFN PinS chart is not to be used for operational purposes. All LFN procedures may only be used by certified operators.

Information about using the chart: If the chart is opened using Adobe Reader, specific information can be selected or deselected to take account of the user's requirements. Moreover, the chart is vector-based meaning that the zoom function can be used to view a specific section without any loss in quality.

5. Maximum speed

a. In order to prevent hazards to the safety of air NAV, civil FLTs below FL 100 shall not exceed the MAX speed of 250 kt IAS.
b. ACFT that, according to PER specifications, must fly at a greater speed for safety reasons are exempt from this regulation. In such cases, the lowest possible speed according to FLT configuration shall be maintained. In the case of IFR FLTs the appropriate ATC unit shall be notified accordingly.
c. FOCA or the competent ATS unit can grant exceptions.
d. MIL ACFT FLTs below FL 100 are subject to special speed regulations.

6. Supersonic flights

Supersonic FLTs are prohibited within Swiss airspace.

7. Special air report

Special air reports shall be made by all ACFT whenever the following conditions are encountered or OBS:
a. moderate or severe TURB; or
b. moderate or severe icing; or
c. severe MT wave; or
d. TS, with or without GR that are obscured, embedded, WDSPR or in SQ lines; or
e. volcanic ACT.

When other meteorological conditions not listed above are encountered and which, in the opinion of the pilot-in-command, may affect the safety or markedly affect the efficiency of other ACFT operations, the pilot-in-command shall advise the appropriate ATS unit as soon as practicable.

When voice communications are used, special air reports shall contain the following detailed elements. These elements, including the format of the messages and phraseology, shall be used by FLT crews when transmitting special air reports:
a. special air report;
b. ACFT IDENT (for ACFT reporting to ATS units) or ACFT type (for ATS units retransmitting to other airborne ACFT likely to be affected);
c. PSN;
d. time;
e. FL or ALT; and
f. condition prompting the issuance of the special air report, to be selected from the list of conditions encountered above.

7.1 Reporting of wind shear

When reporting ACFT observations of wind shear encountered during the climb-out and approach phases of FLT, the ACFT type shall be included.

Where wind shear conditions in the climb-out or approach phases of FLT were reported or forecast but not encountered, the pilot-in-command shall advise the appropriate ATS unit as soon as practicable unless the pilot-in-command is aware that the appropriate ATS unit has already been so advised by a preceding ACFT.

8. Test-Flight Pattern EAST A9

Prior to the use of the test FLT pattern EAST A9, a request has to be filed in accordance with the procedure described on:

URL: https://www.skyguide.ch/services/special-flights

9. Transmission of Coordinated Universal Time (UTC) at controlled aerodromes

Before taxiing for take-off, the pilot in command shall ensure that the time in the aircraft is set and checked by synchronising it with the GPS time (corrected to UTC). This synchronisation shall be carried out with an aviation-approved GPS device located in the aircraft.
When unable to comply with this requirement, the pilot in command shall request the correct time from the aerodrome control tower.

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