



CIVIL AVIATION PUBLICATION

CAP 27

STEEP APPROACH OPERATIONS

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1. INTRODUCTION

1.1 General

There are a number of aerodromes in Europe that require a steep approach approval. Examples are London City (EGLC) in the UK and Sion (LSGS) and Lugarno (LSZA) in Switzerland. The appropriate authorities of those States will only accept aeroplanes and operators approved by the State of Registry for such operations.

This CAP provides information on the application, required equipment, the approval process, as well as guidance on operational procedures and training. All San Marino registered aircraft planning to conduct steep approaches operations shall be required to obtain an approval from the CAA before the commencement of operations.

This guidance material is not airport specific and the principles applied could be transferred to any circumstance where steep approaches are required.

2. DEFINITION OF STEEP APPROACHES

The majority of approaches are flown at glideslope angles of 3°. Angles up to 3½° are considered to be routine and within the capability of any certificated aeroplane.

Approach angles greater than 3½°, but less than 4½°, are unlikely to produce significant problems in normal operations, and accordingly there are no special requirements. Operators using these approach angles should consult the aircraft manufacturer and satisfy themselves that the performance and handling characteristics are acceptable.

Approach angles of 4½° or greater are defined as steep by the San Marino regulations, although it should be noted that ICAO applies this definition to any approach angle greater than 3½°. Any approach angle of 4½° or greater requires specific CAA approval up to a maximum of 7½°.

A steep approach approval is required when an obstacle clearance requirement requires an initial approach angle of 4½° or greater even if the final segment is less than 4½°. (e.g. Sion (LSGS)).

3. APPLICATION FOR STEEP APPROACH APPROVAL

3.1 General

Operators may apply using Form SM 135 (for GA) and Form SM 135A (for CAT) to fly glideslope angles of 4.5° or greater and with screen heights of less than 50 ft but not less than 35 ft.

3.2 General Aviation Operator Application

An application Form SM 135 from a General Aviation operator for steep approach approval must include supporting documentation whilst also ensuring in the Compliance Declaration on the application form that the aircraft has suitably approved equipment (is eligible), the navigation database is valid, the pilot is suitably qualified and current with respect to the equipment and



adequate procedures (checklists) are in place. The applicant is required to provide the following supporting documentation;

- (a) The Aeroplane Flight Manual, which must state the maximum approved glideslope angle, any other limitations, normal, abnormal or emergency procedures for the steep approach as well as amendments to the field length data when using steep approach criteria;
- (b) The MEL must reflect mandatory systems serviceability of items for steep approaches, including equipment limitations (GPWS/TAWS, flight directors etc.);
- (c) The section in the Operations Manual that contains the operating procedures and training requirements for steep approaches; and
- (d) Evidence of previous approval from ICAO Contracting State (if applicable).

3.3 Commercial Air Transport Operator Application

An application Form SM 135A from a Commercial Air Transport operator for steep approach approval must include the following supporting documentation;

- (a) The Aeroplane Flight Manual, which must state the maximum approved glideslope angle, any other limitations, normal, abnormal or emergency procedures for the steep approach as well as amendments to the field length data when using steep approach criteria;
- (b) The MEL must reflect mandatory systems serviceability of items for steep approaches, including equipment limitations (GPWS/TAWS, flight directors etc.);
- (c) The Operations Manual OMA or OMB that contains the operating procedures and OMD training requirements (and suitable FSTDs) for steep approaches; and
- (d) Evidence of previous approval from ICAO Contracting State (if applicable).

3.4 Operations Manual Requirements

The following is a list of matters which must be addressed in the Operations Manual for both GA and CAT:

- (a) Weather minima must be stated for operational and training flights for each runway to be used with a steep approach. Consideration must also be given to the following:
 - (1) State AIP VFR weather requirements
 - (2) The obstacle situation;
 - (3) The type of glidepath reference and runway guidance such as visual aids, MLS, 3D-NAV, ILS, LLZ, VOR, NDB;
 - (4) The minimum visual reference to be required at DH and MDA;



- (5) Available airborne equipment;
 - (6) Pilot qualification and special aerodrome familiarisation;
 - (7) Aeroplane Flight Manual limitations and procedures; and
 - (8) Missed approach criteria.
- (b) Description of how performance data (including RTOM) is calculated.
- (c) The approach briefing should include all aspects of the steep approach, including as a minimum:
- (1) normal and abnormal procedures during the steep approach;
 - (2) transition from a glide path reference system to a visual glide path indicating system; and
 - (3) computation of the field length data when using steep approach criteria.
- (d) Mandatory path guidance – internal, external, visual or instrument.
- (e) The terms under which single pilot operation is permitted.
- (f) The training programme.
- (g) All airports with runways requiring steep approaches should be categorised as "C" in the Operations Manual.

3.5 Training Requirements

The training requirements must be addressed in the Operations Manual for both GA and CAT. Ideally training should be conducted in an approved simulator, which the operator has determined as being suitable for its use for a particular airport.

The crew should become proficient on the task sharing, in particular regarding go-around. Both pilots should conduct at least three approaches and be trained in the procedure for both PF and PNF.

An initial visit to an airport should be made and involve an ILS approach, go-around and landing in weather conditions not less than VFR for that airport. This would enable the pilot to become familiar with the local terrain.

Recurrent Steep Approach training should be performed at every LPC/OPC, and should include, as a minimum, one steep approach and, if conducted in a simulator, a second steep approach where non-normal situations are introduced during the approach.



4. CERTIFICATION

The steep approach approval will be issued on Specific Approval Certificate for General Aviation operators, a copy of which must be carried in the aircraft for all flights.

The steep approach approval will be granted by inclusion in the Operations Specifications of the AOC holder.