

Safety Directive

SD No.: 2026-01

Issued: 06 August 2026

Note: This Safety Directive (SD) is issued by EASA, acting in accordance with Art. 76(6)(a) of Regulation (EU) 2018/1139, to address an urgent safety problem. It is mandatory for natural and legal persons in respect of which EASA acts as the competent authority, including Third Country Organisations holding an EASA certificate.

Subject: **Inadequate Protection of SBAS-Based Instrument Approach Procedures**

Effective Date: 20 August 2026

Supersedure: Not Applicable.

Applicability:

- Flight Procedure Design (FPD) Providers holding EASA Organisation Approval
- Air Traffic Services (ATS) Providers holding EASA Organisation Approval

Definitions:

APV: Approach with Vertical Guidance

ILS: Instrument Landing System

LNAV/VNAV: Lateral Navigation / Vertical Navigation

LPV: Localiser Performance with Vertical Guidance

OCA/H: Obstacle Clearance Altitude/Height

OAS: Obstacle Assessment Surface

PBN: Performance Based Navigation

RNAV: Area Navigation

RNP: Required Navigation Performance

SBAS: Satellite-Based Augmentation System

TF: Track-to-Fix (ARINC 424 Path Terminator)

Reason:

EASA has been informed by the International Civil Aviation Organisation (ICAO)¹ that the flight procedure design criteria for the design of instrument approach procedures based on SBAS APV-I and Precision Approach Category I criteria established in ICAO Doc 8168, Volume II, make use of assumptions on performance of airborne navigations systems that are not always valid. In particular, ICAO Doc 8168, Aircraft Operations, Volume II, specifies that in the straight part of the final missed approach, the area semi-width is equal to 1.76 km (0.95 NM) (for helicopters 1.48 km

¹ ICAO Electronic Bulletin (EB) 2026/13, Revision 1, Reassessment of Existing Approach Procedures Based on Satellite-Based Augmentation Systems (SBAS)

(0.8 NM)). This was based on the assumption that the aircraft is operating to RNP 0.3 in this phase of the missed approach. However, according to applicable Minimum Operation Performance Standards (MOPS) for avionics, e.g. Radio Technical Commission for Aeronautics (RTCA) DO-229(), the RNP 0.3 is required only in a specific case when the missed approach is aligned within 3 degrees of the final approach course and coded as a TF leg in the Navigation Database. This logic is not necessarily followed by other types of coding or when management of the transition between final and missed approach is regulated by different MOPS and the applicable RNP value is RNP 1.

As a result, certain published LPV procedures may include approach minima that do not provide the intended level of obstacle clearance protection for all aircraft eligible to fly the procedure.

Further analysis in all relevant ICAO and industry standardization expert groups is ongoing. This may lead to further updates to the guidance in this Safety Directive, as well as other actions to potentially update and/or align the various applicable standards and procedures. The criteria in PANS-OPS (ICAO Doc 8168), Volume II are also being re-evaluated by ICAO.

Required Action(s) and Compliance Time(s):

ATS provider

To determine the extent of the safety concern and mitigate the immediate safety problem, the ATS provider shall, within 56 calendar days after the effective date of this Safety Directive, assess the level of risk posed by this issue, considering ICAO EB 2026/13, Revision 1, and implement mitigation measures resulting from this assessment. Alternatively, when such an assessment is not performed, the ATS provider shall implement mitigation measures to ensure the safety of air operations for all affected approach procedures.

The mitigation measures should, as appropriate for the procedure:

- a) for a procedure with at least LPV and LNAV/VNAV minima lines, raise LPV OCA/H to LNAV/VNAV OCA/H;
- b) for a procedure with LPV and LNAV minima lines, raise LPV OCA/H to LNAV OCA/H;
- c) for a procedure with LPV minima only, restrict the RNP APCH procedure from operational use;
- d) when LPV OCA/H is lower than ILS OCA/H, raise LPV OCA/H to ILS OCA/H in those situations when the RWY is provided with an ILS CAT I approach with the same OAS parameters and identical PBN (RNP 1 or RNAV 1) missed approach procedure.

No mitigation measure is necessary if any of the following conditions is applicable:

- a) the RWY is provided with an ILS CAT I approach with an identical missed approach trajectory, and LPV OCA/H is equal or higher than ILS OCA/H; or
- b) procedures fully based on RNP 0.3 requirements, e.g. RNP 0.3 (CAT H); or
- c) procedures are restricted to aircraft compliant with RTCA DO-229() requirements for Class Gamma receivers, provided, additionally, that the first leg of the missed approach must be aligned within 3° of the final approach course and coded as a TF leg in the navigation database.

FPD provider

Until ICAO Doc 8168, Volume II, is amended considering assumptions valid for all aircraft eligible to perform RNP APCH operation to LPV minima, the SBS APV-I and SBAS CAT I design criteria shall be adjusted by the FPD provider in accordance with any of the following options:



Option 1.

1. SBAS APV I procedures are evaluated against both SBAS APV I and Baro-VNAV criteria and the highest of the OCA/H values are published;
2. SBAS CAT I procedures are designed using ILS CAT I design criteria with the same OAS parameters and PBN-based (RNP 1 or RNAV 1) missed approach procedure.

Option 2.

a) in ICAO Doc 8168, Volume II:

1. 3rd columns of Tables III-1-2-14 and III-1-2-15, XTT and ATT, area semi-width for RNP APCH (aeroplane) in initial/intermediate/final approach and missed approach phases of flight, are not applicable to the Initial Straight Missed Approach;
2. Part III, Section 3, Chapter 5, Article 5.4.4 shall be read: Termination. The APV I or CAT I segment terminates at the point where the final phase of the missed approach commences or where the missed approach climb surface Z reaches a semi-width of 3.704 km (2.00 NM) (for helicopters 3.426 km (1.85 NM)), whichever occurs first;
3. Part III, Section 3, Article 5.4.5.3, last paragraph, shall be read: The SBAS OAS Y and Z surfaces are laterally limited by a corridor of 3.704 km (2.00 NM) (for helicopters 3.426 km (1.85 NM)) area semi-width or by a maximum height of 300 m, whichever occurs first;
4. Part III, Section 3, Chapter 5, Article 5.5.2.1 shall be read: Termination of the APV I or CAT I segment. The APV I or CAT I segment terminates at the range where the Z surface reaches a semi-width of 3.704 km (2.00 NM) (for helicopters 3.426 km (1.85 NM)). For the straight part of the final missed approach the area semi-width is equal to of 3.704 km (2.00 NM) for helicopters 3.426 km (1.85 NM)). Secondary areas are not applied;
5. All obstacles within the expanded missed approach area shall be assessed for potential impact on the procedure's required OCA/H.

Option 3.

Methodology described in ICAO EB 2026/13, Revision 1, Sections 7 and 8 except for Section 8 c). Section 8 c) can be applied for the design of procedures used exclusively by aircraft with avionics compliant with the RTCA DO-229() Class Gamma.

Information on the actions taken:

ATS and FPD providers shall inform EASA about measures taken within 56 calendar days after the effective date of this Safety Directive. This can be accomplished by reporting to AtmAnsOrg@easa.europa.eu.

Ref. Publications:

ICAO Doc 8168, Aircraft Operations, Volume II, Construction of Visual and Instrument Flight Procedures

ICAO EB 2026/13, Revision 1, Reassessment of Existing Approach Procedures Based on Satellite-Based Augmentation Systems (SBAS)



Remarks:

1. The results of the safety assessment have indicated the need for immediate publication and notification, without the full consultation process.
2. Enquiries regarding this SD should be referred to the EASA Safety Information Section, E-mail: ADs@easa.europa.eu.

