Transport Canada Transports Canada

Advisory Circular

Subject: **Procedure to be followed in order to support Instrument Procedures (IP) at a non-certified aerodrome**

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1.0 Introduction

(1) This Advisory Circular (AC) provides guidance on complying with Transport Canada Publication (TP) 308/ General Pilot Handbook (GPH) 209, “Criteria for the Development of Instrument Procedures”. It delineates the most effective procedure to follow in order to support an Instrument Procedure (IP) with an attestation to “Aerodrome Standards and Recommended Practices” (TP 312) 5th Edition specifications for the development of instrument procedures (IPs) at non-certified aerodromes.

(2) This AC is provided for information and guidance purposes. It describes an example of an acceptable means, but not the only means, of demonstrating compliance with regulations and standards. This AC on its own does not change, create, amend or permit deviations from regulatory requirements, nor does it establish minimum standards.

1.1 Purpose

(1) The purpose of this AC is to provide operators of non-certified aerodromes with a set of instructions that outlines the procedure and specifications to be followed in order to support IPs at a non-certified aerodrome.

1.2 Applicability

(1) This document applies to operators of all non-certified aerodromes who are seeking attestation to the TP 312 5th Edition specifications for the publication of instrument procedure, as outlined in TP 308/GPH 209.

(2) Additionally, it serves as a reference for Transport Canada Civil Aviation (TCCA) headquarters and regional Aerodromes and Air Navigation divisional personnel, IP designers and sponsors, and other professionals within the aviation industry.

1.3 Description of changes

(1) This AC adds the concept related to the application of the aerodrome operator attestation requirements based on TP 308/GPH 209 Change 9.1, paragraph 120(a), specifically for the development of Instrument Approach Procedure (IAP) and Instrument Departure Procedure (DP).

2.0 References and requirements

2.1 Reference documents

(1) It is intended that the following reference materials be used in conjunction with this document:

(a) *Aeronautics Act* (R.S.C., 1985, c. A-2)

(b) Part VIII Subpart 3 of the *Canadian Aviation Regulations* (CARs) – Aeronautical Information Services

(c) Section 803.02 of the CARs – Development and Publication of Instrument Procedures

(d) Transport Canada Publication (TP) 308/GPH 209, Change 9.1, 2025-04-01 – Criteria for the Development of Instrument Procedures

(e) TP 312 5th Edition, 2015-09-15 — Aerodrome Standards and Recommended Practices

(f) Advisory Circular (AC) 302-019, Issue 02, 2024-05-03 – Methodology for the Identification of the Aircraft Group Number

2.2 Cancelled documents

(1) By default, it is understood that the publication of a new issue of a document automatically renders any earlier issues of the same document null and void.

2.3 Definitions and abbreviations

(1) The following **definition**s are used in this document:

(a) **Aerodrome operator attestation:** A formal record certifying that the aerodrome meets TP 312 5th Edition specific requirements for aerodrome runway obstacle free environment to support the development of an instrument procedure (IP) at a non-certified aerodrome.

(b) **Aerodrome reference point:** The designated geographical location of an aerodrome**.** The aerodrome reference point is typically located at the actual or planned geometric centre of the aerodrome and normally remains at that location.

(c) **Aircraft Group Number:** A method for interrelating the numerous technical specifications concerning the aerodrome and the characteristics of the critical aircraft for which the aerodrome, or part thereof is provided.

(d) **Critical aircraft:** The aircraft identified as having the most demanding operational requirements with respect to the determination of movement area dimensions, and other aerodrome physical characteristics at the aerodrome or part thereof.

(e) **Instrument Procedure (IP):** For the purpose of this publication, a published procedure used by aircraft flying in accordance with the instrument flight rules which is designed to achieve and maintain an acceptable level of safety in operations. IP includes Instrument Approach Procedure (IAP) and Departure Procedure (DP).

(f) **Non-certified aerodrome:** an aerodrome that is not certified under Subsection 302.03 of the CARs.

(g) **Obstacle limitation surfaces:** Surfaces that establish the limit to which objects may project into the airspace associated with an aerodrome so that aircraft operations at the aerodrome may be conducted safely. For the purpose of this AC, these surfaces consist of the following:

i. Approach surface. An inclined plane preceding the threshold of a runway.

ii. Transitional surface. A complex surface along the side of the runway strip and all or part of the side of the approach surface, that slopes upwards and outwards to a specified height.

iii. Take-off Surface: An inclined plane beyond the end of the runway or clearway. It is applied when either of the conditions specified in TP 312 5th Edition paragraph 4.1.1.2. exist for departure procedure.

(h) **Obstacle-free environment:** An airspace associated with a runway type, such as non-instrument or non-precision, that includes specific obstacle limiting surfaces as per the latest amendment of TP 312 5th Edition. It provides an assessment of obstacles above the aerodrome and the surrounding area that enable safe transition to or from the landing surface in the visual portion of the Instrument Procedure.

(i) **Periodic Review:** For the purpose of this publication, a Periodic Review is a thorough examination of an IP that is valid for 5 years and ensure compliances with TP 308/GPH 209 requirements for obstacle clearance, navigational guidance, safety, and practicality.

(j) **Registered aerodrome:** means an aerodrome registered by the Minister pursuant to Subpart 1 of Part III of the CARs.

(k) **Runway-holding position.** A designated position intended to protect a runway, an obstacle free zone, or an ILS critical/sensitive area at which taxiing aircraft and vehicles stop and hold, unless otherwise authorized by the air traffic service unit where provided.

(l) **Runway strip.** A defined area, which includes the runway, and stopway where provided, intended to protect aircraft flying over it during take-off or landing operations.

(m) **Sponsor.** A "sponsor" is defined as to an individual or organization that voluntarily accepts the regulatory responsibility for an Instrument Procedure (IP) at an aerodrome or operational location.

(2) The following **abbreviations** are used in this document:

(a) **AC** means Advisory Circular

(b) **AGN** means Aircraft Group Number

(c) **ASDA** means Accelerate stop distance available

(d) **CAP** means Canada Air Pilot

(e) **CFS** means Canada Flight Supplement

(f) **DER** means Departure End of Runway

(g) **DP** means Departure Procedure

(h) **HAA/HAT** means height above aerodrome or height above touchdown

(i) **IAP** means Instrument Approach Procedure

(j) **IP** means Instrument Procedure

(k) **LDA** means Landing distance available

(l) **OLS** means Obstacle Limitation Surface

(m) **TCCA** means Transport Canada Civil Aviation

(n) **TODA** means Take-off distance available

(o) **TORA** means Take-off run available

3.0 Background

(1) Section 803.02 of the CARs regulates the development of civil IPs in Canada through the standards manual entitled TP 308/GP H209, 'Criteria for the Development of Instrument Procedures". Paragraph 120(a) of TP 308/GPH 209 establishes the specific aerodrome requirements that must be met before publishing any IPs.

(2) TP 312 5th Edition – "Aerodrome Standards and Recommended Practices" document came into effect on September 15th, 2015 and includes several changes relating to the runway obstacle free environment needed to support an IP at an airport. While TP 312 5th Edition is not in itself binding on non-certified aerodromes, it does establish the minimum level of safety with regards to the characteristics of the runway obstacle-free environment needed to support an IP.

(3) The rationale for linking the aerodrome characteristics and TP 308/GPH 209 is to ensure that a specific obstacle-free environment is provided in the vicinity of the non-certified aerodrome to support the visual segment of an IP.

(4) The aerodrome operator attestation uses the Aircraft Group Number (AGN) as the reference element linking to the aerodrome requirements (Non-Instrument, Non-Precision or Precision requirements) for IPs. This is consistent with the application of the obstacle free environment

supporting IPs at Canadian airports (certified aerodromes). In doing so, all Canadian aerodromes (certified and registered) supporting IPs will provide the same level of safety with regards to the runway obstacle-free environment.

(5) The aerodrome operator will complete the attestation based on the actual runway obstacle free environment provided at their aerodrome in support of an IP.

Note: AC 302-019 – Methodology for the Identification of the Aircraft Group Number (AGN) provides guidance regarding sources of information for aircraft characteristics.

(6) This AGN will be published in the CFS - RWY DATA section relating to the specific aerodrome. Its publication in the CFS does not result in any additional limitations to the minima's published in the CAP but does provide supplemental information for aircrews when considering the suitability of the runway and its obstacle free environment for the intended operation as per subsection 602.96 (2)(b) of the CARs.

4.0 Requirement

(1) The aerodrome operator attestation form is required to support:

(a) Public IAPs at non-certified aerodromes;

(b) Restricted IAPs with minima's lower than 500 ft HAA/HAT at non-certified aerodromes; and

(c) Public instrument departure procedure (DP) at non-certified aerodromes.

(2) The aerodrome operator is required to submit a signed attestation that includes all the information from Appendix A using the procedure stated in this AC for new and existing IPs, to meet the latest requirements of TP 312 5th Edition for the:

(a) Runway strip,

(b) Runway holding positions,

(c) Approach surface (OLS),

(d) Transitional surface (OLS), and

(e) Approach surface (OLS) on the departure procedure side and if necessary, take-off surface. Take-off surface (OLS) is required when:

(i) opposite threshold does not coincide with the end of TORA and the instrument departure climb gradient has not been assessed; or

(ii) a clearway has been established.

Note: The sponsor will have to complete a new aerodrome operator attestation by the next periodic review.

(3) The IP sponsor is required to submit a valid aerodrome operator attestation and other associated documentations to NAV CANADA as part of the IP submission or IP periodic review.

(4) To define the aerodrome characteristics needed to support an IP, the aerodrome operator should consider the physical and operating characteristics of the identified critical aircraft. Some aircraft may be assigned a higher AGN due to their reference approach speed at threshold (V_{REF}). (See TP 312 5th Edition, Table 1-1)

4.1 Procedure

(1) TP 308/GPH 209 Table 1-1, Non-Certified Aerodrome with aerodrome operator attestation, specifies the type of IPs, the associated minima and application (public or restricted) authorized for any combination of navigation aid (NAVAID capability versus the landing surface and applicable aerodrome design requirements) and approach system.

(2) The procedure to be followed by a non-certified aerodrome operator to support a public IP, or a restricted IP with minima lower than 500 ft is outlined in this section.

- (a) The aerodrome operator is responsible to ensure an assessment of the "Aerodrome Characteristics" is conducted and to maintain the aerodrome in the attested, or improved, condition. It is expected that a qualified person will conduct the assessment of the actual aerodrome characteristics. A qualified person in respect of this assessment, is a person who, because of their knowledge, training, and experience, is qualified to perform this assessment.
- (b) The aerodrome operator must ensure an assessment is conducted for each runway end for which an IP is published for non-instrument or non-precision. The assessment is based on the minimum requirements for the AGN specified in the following Tables of TP 312 5th Edition:
  - (i) Table 3.1.4.3 for Runway Strip Length,
  - (ii) Table 3.1.4.4 for Runway Strip Width,
  - (iii) Table 4-1 (a) Obstacle Limitation Surfaces (Approach and Transitional), and
  - (iv) Table 3.6.1.3 for Runway Holding Position.
- (c) TP 312 5th Edition, Figures 4-1 (a), 4-1 (b), 4-2 (a) and 4-2 (b) are illustration examples of the obstacle limitation surfaces.
- (d) For instrument Departure Procedure (DP), the aerodrome operator must assess the approach surface associated with the departure procedure and the take-off surface as described in TP 312 5th Edition paragraph 4.1.1.2., Figure 4-4 Mitigation for penetration of take-off surface and Figure 4-9 Clearway plane.
- (e) The aerodrome operator is responsible for:
  - (i) gathering all the required information to complete the Aerodrome Operator Attestation (Appendix A); and
  - (ii) providing a signed copy of the completed attestation form along with the assessment results to the IP sponsor.

(3) The attestation provides the sponsor of an instrument procedure with the documentation to confirm compliance with the requirements set out in paragraph 120(a) of TP 308/GPH 209 Change 9.1.

5.0 Information management

(1) Not applicable.

6.0 Document history

(1) AC 301-001, **Issue 05**, RDIMS 18135076 (E), 18135069 (F), dated 2022-03-14 – Procedure to be followed in order to support an IP at a non-certified aerodrome

(2) AC 301-001, **Issue 04**, RDIMS 18130920 (E), 181309408 (F), dated 2021-12-15 – Procedure to be followed in order to support an IP at a non-certified aerodrome

(3) AC 301-001, **Issue 03**, RDIMS 16595796 (E), 16595838 (F), dated 2020-11-15 – Procedure to be followed in order to support an IP at a non-certified aerodrome

(4) AC 301-001, **Issue 02**, RDIMS 11230682 (E), 13198791 (F), dated 2018-10-15 – Procedure to be followed in order to support an IP at a non-certified aerodrome

(5) AC 301-001, **Issue 01**, RDIMS 4014811 (E), 4172160 (F), dated 2008-10-01 – Procedure to be followed in order to support an IP at a non-certified aerodrome

7.0 Contact us

For more information, please contact the appropriate Transport Canada Civil Aviation Regional Office - Aerodromes at the following address:
https://tc.canada.ca/en/corporate-services/regions

We invite suggestions for amendment to this document. Submit your comments to:
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Appendix A — Aerodrome operator attestation and minimum requirements

SECTION A

Attestation type – Check appropriate box

☐ INITIAL

☐ UPDATED

Note: Sections A, B and C must be fully completed for proper processing.

SECTION B

I attest that the information, specified in Section C below, on Aerodrome Characteristics provided for _____ is accurate,

Name of aerodrome

and I further agree to maintain the characteristics of the aerodrome in the same, or improved, condition as they were on the date of the signing of this document. Failing this, I agree to immediately inform NAV CANADA and the sponsor of the Instrument Procedure of any change or modification of the aerodrome characteristics in order that an assessment of the continuing validity of these procedures be made.

_____

Print name of aerodrome operator

_____ _____

Signature of Aerodrome Operator Date

SECTION C: AERODROME CHARACTERISTICS		
Runway end Identification _____	Threshold Elevation _____(ft)	RWY Orientation _____ degrees (True)
Threshold Coordinates (1/100th sec) _____	Aerodrome Reference Point (degrees/minutes/seconds) _____	
Critical Aircraft: _____	Aircraft Group Number (AGN): _____	
TORA: _____ft TODA: _____ft	ASDA: _____ft LDA: _____ft	
Type of Runway	**Non-Instrument**	**Non-Precision**
Runway Strip Specifications:		
Strip width (each side of centreline)	_____m	_____m
Strip length (Prior to threshold)	_____m	_____m
Approach Surface Specifications		
Length of inner edge	_____m	_____m
Distance from threshold	_____m	_____m
Divergence (minimum each side)	_____ %	_____ %
Length (minimum)	_____m	_____m
Slope(maximum)	_____ %	_____ %
Offset approach surface (where applicable) • Offset degrees and orientation relative to extended runway centreline • Length of straight segment	_____degrees ___ (N, S, E, W) _____ m	
Transitional Surface Specifications		
Slope (maximum) • First segment • Second segment (where required)	_____ % _____ %	_____ % _____ %
Take-off Surface: Established (Yes/No)		
Departure End of Runway (DER) : Elevation: _____ pi Coordinates (1/100th sec): _____		
Slope of the take-off Surface____% for AGN ____ Runway	The length of the Inner edge: _____ m	Clearway provided (Y/N) Climb Gradient _____ft/NM
Runway Holding Position(s) Specifications		
Taxiway designator(s) **and** holding position distance from runway centreline	Taxiway ___: _____m Taxiway ___: _____m	Taxiway ___: _____m Taxiway ___: _____m

Notes:
1) The values entered in this section must meet or exceed the minimum requirements of TP312 5th Edition where applicable.
2) A form is required for each runway end served by an instrument procedure.
3) For offset approach surfaces, the visual procedures must be annotated on the IP chart.
4) As per TP 312 5th, **Resolution of runway data** as followed:

   i. Threshold elevation: elevation must be given to the nearest foot.

   ii. Threshold coordinates: the geographic coordinates of the runway threshold must be given to the nearest 1/100th of a second.

   iii. Runway Orientation: bearings must be given to the nearest 1/100° surveyed.