

# AERONAUTICAL INFORMATION CIRCULAR 31/18

## ESTABLISHED ON RNP AR (EoR): IMPLEMENTATION AT CALGARY INTERNATIONAL AIRPORT (CYYC)

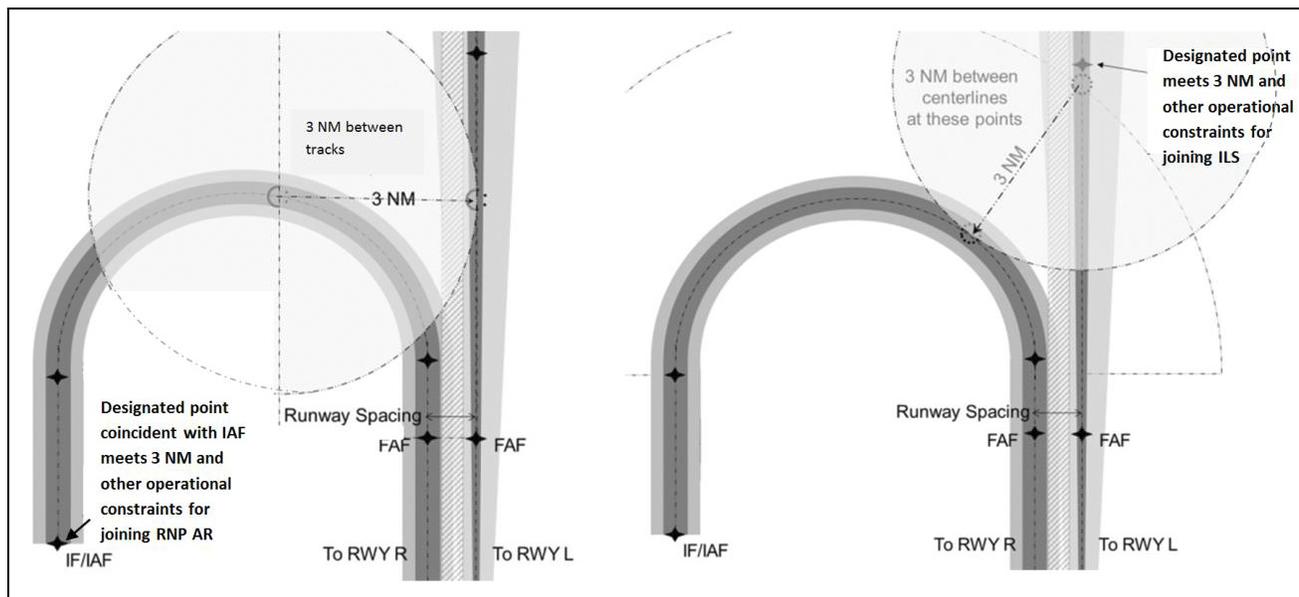
### Introduction

On 8 November 2018 the International Civil Aviation Organization (ICAO) will implement separation standards related to Required Navigation Performance Authorization Required (RNP AR) approaches in Document 4444, Procedures for Air Navigation Services – Air Traffic Management (PANS ATM), Section 6.7.3.5, “Determination that an aircraft is Established on RNP AR APCH.” NAV CANADA intends to incorporate the new separation standard “Established on RNP AR (EoR)” for parallel operations at Calgary International Airport (CYYC), effective 8 November 2018.

### EoR Concept

Established on RNP AR (EoR) refers to a new separation standard used during simultaneous parallel runway operations, taking advantage of the benefits of RNP AR containment. For the purpose of simultaneous parallel approach separation, the operation considers aircraft that are stabilized on an RNP AR approach procedure to be similarly-established to aircraft flying a straight-in instrument landing system (ILS) procedure.

When an aircraft is cleared for an RNP AR approach and past the intermediate approach waypoint (IWP) (intermediate approach fix [IF]), the aircraft is deemed to be **established** on the approach. The 1,000 feet vertical or 3 nautical miles (NM) lateral separation standard is not required between an aircraft established on RNP AR approach and an aircraft established on the approach for the adjacent parallel runway by a designated point on the approach.



**Established on RNP AR concept depicting the designated points at which aircraft are to be established on the approach**

RNP AR procedures at Calgary International Airport provide shorter track miles and optimized descent profiles, resulting in increased operational efficiency while also providing environmental benefits such as a reduction in noise and greenhouse gas emissions. EoR maximizes RNP AR benefits in busy parallel runway environments.

Use of EoR enhances safety for close-proximity parallel runway operations since there is a significant reduction in the exposure time where both aircraft are “side by side,” (e.g., at the same altitude on final approach.) In addition, the procedure enables earlier aircraft approach stabilization.

## EoR Operations at Calgary International Airport

EoR will be used during simultaneous parallel runway operations in both visual meteorological conditions (VMC) and instrument meteorological conditions (IMC). Automatic terminal information service (ATIS) shall indicate when simultaneous parallel runway operations are in effect.

Calgary International Airport RNP AR approach procedures are charted with the title RNAV (RNP) Y to all runways. Some approach procedure transitions commence at the same IWP (IF), serving different, adjacent parallel runways. All planned RNAV RNP procedures and the associated TRANSITION must be retrieved from the aircraft’s flight management system (FMS) database.

**CAUTION:** Due to the nature and proximity of simultaneous independent parallel approaches and procedures that commence at the same IWP (IF), incorrect runway selection will jeopardize separation and will likely require controller-initiated breakout intervention.

Arrivals planning RNAV (RNP) Y approaches at Calgary International Airport shall request the approach on initial contact with Calgary Arrival. To support EoR operations, RNAV (RNP) Y approaches shall be flown using autopilot until the aircraft passes the final approach fix (FAF). The use of autopilot assists air traffic control (ATC) in track conformance monitoring and reduces the likelihood of unnecessary ATC intervention.

If, at any stage of an RNP AR approach, a flight is **unable** to comply with an ATC clearance due to an avionics malfunction fault, FMS input error, or other non-normal condition, crews shall immediately advise ATC. Pilots shall **not** attempt to self-navigate or manually correct an RNP AR approach procedure deviation. The following phraseology must be used:

**Pilot:** UNABLE approach, REQUEST *{proposed course of action}*

### Example:

**Pilot:** NAVCAN123 UNABLE MUPUV TRANSITION, REQUEST VECTORS TO FINAL

## Break-out Instructions

Due to the nature and proximity of independent simultaneous parallel runway operations, navigation errors and approach irregularities in the proximity of final approach may require ATC intervention to ensure safety. Should a situation arise where an aircraft being sequenced to the adjacent parallel runway appears to be “non-compliant” with the expected final approach course or track, ATC will intervene and issue break-out instructions to the non-blundering aircraft. It is essential that pilots follow the ATC break-out instructions precisely and expeditiously.

**CAUTION:** When issued break-out instructions, reaction time may be critical. If expeditious compliance is required, an ATC break-out instruction may include the word IMMEDIATELY.

ATC instructions associated with a break-out shall normally include a heading and/or altitude instruction using the following phraseology:

**Example:**

**ATC:** NAVCAN123, turn left immediately heading 310 degrees, climb to 7 000'

Break-out instructions will be issued on the arrival or final-approach monitor frequency. No dual-frequency monitoring is required.

## Further Information

For further information, please contact:

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