

# Notice of Requirement NTC 91.263

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<b>FRT Navigation Specification</b>
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**Revision 1**

## **Preliminary**

The Director of Civil Aviation issues the following requirements (“the requirements”), conditions and restrictions relating to the use of Fixed Radius Transitions (FRT) Navigation Specification under section 28(5) of the Civil Aviation Act 1990 and Civil Aviation Rule 91.263(1).

## **Purpose**

The purpose of this notice is to specify the requirements for FRT operations, determined by the Director under rule 91.263, regarding:

- i. the application of the FRT operations;
- ii. the navigation functionalities the aircraft systems must have;
- iii. requirements for system redundancy, including requirements for conventional navigation equipment
- iv. continuing airworthiness requirements;
- v. operator procedures; and
- vi. the operational and training requirements placed on flight crew members.

Rule 91.263(b) requires compliance with the requirements in this Notice to ensure the safe operation of aircraft using FRT operations.

## General

Civil Aviation Authority (CAA) notices contain approvals and requirements including the detail about the approvals, standards, conditions, procedures and technical specifications that have been approved or determined by the Director under the Civil Aviation Rules. These details must be complied with by parties to whom it applies. They apply in particular circumstances to particular aviation document holders as specified in the notice.

CAA notices are issued under Civil Aviation Rules in accordance with section 28(5) of the Civil Aviation Act. This section permits the Minister of Transport to make ordinary rules, and to specify any terms and conditions within the rules:

- to require a matter to be determined, or undertaken or approved by the Authority, the Director or another person; or
- to empower the Authority, Director, or another person to impose requirements or conditions as to the performance of any activity, including (but not limited to) any procedures to be followed.

Notices support a performance-based approach to regulation and improve the flexibility and responsiveness of the Civil Aviation Rules. They may be used where performance-based regulation is the appropriate way to achieve the desired regulatory outcome, for example, in circumstances where new technological changes or challenges require more flexibility than prescribing requirements in the rules (and rulemaking may get quickly out-dated), or where there is a need to respond to safety issues which the rules do not adequately deal with.

The requirements stated in this notice are mandatory and must be complied with.

## Related Rules

Civil Aviation Rules 91.261, 91.263, 91.263B and 91.263C

## Effective Date

This notice comes into effect on 21 December 2022.

## Issue of CAA Notice



21/12/2022

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Signed by  
Director of Civil Aviation

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Date

## Revision History

Revision 1	Original version
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## FRT Navigation Specification



### 1. Application

These requirements apply to every operator of an aircraft operating under instrument flight rules using fixed radius transitions with RNP navigational procedure or route supporting FRT (FRT operations).

### 2. Operational Approval Requirements

- (a) Description of aircraft equipment:
  - (1) The operator must ensure that relevant documentation acceptable to the Director is available to establish that the aircraft is equipped with an RNP system with a demonstrated FRT capability.
  - (2) The operator must have a configuration list and, if necessary, a MEL detailing the required aircraft equipment for FRT operations.
- (b) Training documentation:
  - (1) An air operator certificated under Part 119 must have a training programme addressing the operational practices, procedures and training phases related to FRT operations.
  - (2) A private operator under Part 91 must be familiar with the practices and procedures referred to in clause 5 of this notice.
- (c) Operations manuals and checklists:
  - (1) An air operator certificated under Part 119 must ensure that the operations manuals and checklists address information or guidance on operational procedures referred to in clause 4 of this notice.
  - (2) The operator must ensure that the appropriate manuals contain navigation operating instructions and contingency procedures where specified.
  - (3) The operator must submit their manuals and checklists to the Director for review as part of the application process.

- (d) MEL considerations:
- (1) The operator must adjust the MEL, or equivalent, to allow for FRT operations, and specify the required dispatch conditions.
  - (2) Any MEL revisions necessary to address FRT operations must be approved by the Director.
- (e) Continuing airworthiness:
- The operator must -
- (1) submit to the Director the continuing airworthiness instructions applicable to the aircraft's configuration and the aircraft's qualification for FRT navigation procedure or route; and
  - (2) submit to the Director their maintenance programme, including a reliability programme for monitoring the equipment.

### 3. Aircraft Requirements

- (a) The operator must ensure that the following requirements regarding on-board performance monitoring and alerting are met:
- (1) Accuracy:
    - (i) The navigation system must have the capability to execute a flight path transition and maintain a track consistent with a fixed radius between 2 route segments.
    - (ii) The lateral TSE must be within  $\pm 1 \times \text{RNP}$  of the path defined by the published procedure for at least 95 % of the total flight time for each phase of flight and any manual, autopilot and/or flight director mode.
    - (iii) For path transitions where the next route segment requires a different TSE and the path transition required is an FRT, the navigation system may retain the navigation accuracy value for the previous route segment throughout the entire FRT segment.

- (iv) The navigation system may retain the navigation accuracy for the previous route segment if a transition occurs from a route segment requiring an accuracy value of 2.0 to a route segment requiring an accuracy value of 1.0, the navigation system may use an accuracy value of 2.0 throughout the FRT.

(2) On-board performance and monitoring:

- (i) The aircraft system must provide means for the flight crew members to monitor the FTE during the FRT.
- (ii) FTE monitoring must be provided by means of displaying the curved path of the FRT on a moving map display or navigation display, with pilot selectable range and numerical indication of the cross-track value.

(b) Functional Requirements:

The operator must ensure that the system is able to define transitions between flight path segments using a three-digit numeric value for the radius of turn to 1 decimal place in nautical miles.

#### **4. Operating Procedures**

- (a) The pilot must not fly a published FRT procedure unless it is retrievable by the procedure name from the aircraft navigation database and conforms to the charted procedure.
- (b) The pilot must not modify the lateral path, unless instructed to do so by ATC.

#### **5. Pilot knowledge and training**

- (a) Pilots must be trained and have appropriate knowledge of the topics specific to FRT operations as contained in AC 91-21, and AC 61-17 if applicable, including the limits of their navigation capabilities, the effects of updating, and contingency procedures where specified.

- (b) Pilots must be appropriately licensed, rated and endorsed on FRT operations, including knowledge of specific organisational standard operating procedures, if applicable.

## **6. Navigation database**

- (a) The operator must ensure that the navigation database complies with RTCA DO 200A/EUROCAE document ED 76, Standards for Processing Aeronautical Data, or an equivalent standard acceptable to the Director.
- (b) The operator must –
  - (1) report any discrepancies that invalidate a procedure to the navigation database supplier;
  - (2) inform the pilots about the affected procedure;
  - (3) prohibit the pilots from using the affected procedure; and
  - (4) conduct periodic checks of the operational navigation databases to ensure that existing quality system requirements are met.

## **7. Operator to comply with requirements before carrying out FRT operations**

An operator must not carry out FRT operations unless the operator complies with all the applicable requirements of this notice.