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POSITION PAPER

25POS24
12 November 2025

Runway Starter Extensions

INTRODUCTION

Runway starter extensions are already in use in some states. However, regulations on runway starter extension among these states differ, with some allowing its use without regulation. To avoid discrepancies in different regulations, consistent requirements should be developed. RSE don't have standards of lights or markings; as a result, they should use them with the proper risk assessment, including visibility and runway conditions.

DISCUSSION

A starter extension may be established where additional take-off distance, take-off run, or accelerate-stop distance is required, since physical limitations do not allow the provision of the mandatory runway or strip width. The use of the RSE makes a longer distance available for aircraft take-off operations when the full width of the runway strip is unavailable.

The provision of a section of runway exclusively for take-off, with a limited strip width, is reasonable in principle at aerodromes where the full width of the runway strip is physically unavailable, taking into account the low speed of aircraft during the first phase of take-off. Consideration could therefore be given to allowing an increase in the length of the take-off at aerodromes with limitations in the runway strip width.

The use of the RSE as a take-off surface is at the discretion of the operating crew only as a last resort for specific performance and operational needs.

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All take-off and landing surfaces should be of equal width, strength, and obstacle clearance over their entire length, including starter extensions.

SPECIFICATIONS

A RSE should comply with the following:

- Maximum length of the runway starter extension should not exceed 150 m (Ref to A41 WP/458).
- A starter extension should be of equal load bearing strength to that of the runway.

- Surface of the runway starter extension should provide surface friction characteristics at least equal to those of the associated runway.
- Slopes and slope changes of the runway starter extension and the transition from a runway to the runway starter extension should comply with the specifications for the runway with which the runway starter extension is associated.
- The width of the runway starter extension should be the same width as the associated runway and may be reduced to not less than two-thirds of the associated runway. If the full width of the runway is not rated to the same strength of the runway the shoulders should be marked with yellow chevrons.
- The starter extension should lie symmetrically astride the runway centreline extension.
- The starter extension strip width should not be less than the wingspan of the largest aircraft intended to use the runway, plus a safety margin of 8m but never less than 30m, up to the full width of the runway.
- The strip end need not be at right angles to the runway centreline.
- The starter extension end, or that enlarged area needed for aircraft to turn, should not be less than the wing overhang of the design aircraft, plus the greater of 8 m or 20% of the wingspan.

These distances may need to be increased to allow for the adverse effects of propeller or jet blast - for example where the extension stops at a public road and footpath.

OTHER CONSIDERATIONS

- The acceptance runway starter extension should be conditional on prior submission of a safety assessment in which operational and performance factors of the aircraft being operated are considered, as well as aerodrome factors, such as the proposed length of RSE, the reason for the narrow runway strip, the preparation of the narrow strip in the RSE section, the level of friction on the runway, weather, obstacles, visual aids, the impact of the jet blast of engines in take-off on internal roads, public roads, sensitive equipment, and other factors that affect operations.
- In the declared distances, the section of runway defined as RSE should be identified as available for take-off only. It should not be included in the calculation of the rest of the declared distances. The purpose of the identification is also to inform air operators that a narrow strip is provided in that section, so that this can be taken into consideration in contingency operations.

- The aerodrome's AIP publications should clarify that a certain length of the TORA, the TODA and the ASDA are for a section of runway where a narrow strip identified as an RSE is provided.
- The restriction on the use of the RSE in the opposite direction is mainly based on the higher speeds of aircraft that could consider that length of runway for take-off or as an accelerate-stop distance. Its consideration for TODA is a matter of analysis to be taken into account so as not to lead to misinterpretations when determining the take-off distance available, owing to the specification of the required width of the clearway.
- The procedure should be communicated/aligned with the ATS and Flight Ops.

RUNWAY START EXTENSION LIGHTING

White lights are used to mark the edges of the runway start extension. Pilots taking off from the RSE should see white edge lights a white center line. When landing, pilots should see blue lights on the center line as it could potentially be used as a taxiway.

RUNWAY START EXTENSION MARKING

The edge of the RSE should be marked by a plain white line.