

## **Required Navigation Performance Authorization Required (RNP AR) approval**

**Today, Required Navigation Performance Authorization Required (RNP AR)<sup>1</sup> is the only approved approach technique available that allows avoiding overflying certain areas near an airport (for instance a noise sensitive area). The reason for this is that it allows to use curved flight trajectories very close to the runway (RWY). Conventional approach procedures are straight flight trajectories along the extended RWY axis to much greater extent. The text below describes the different approvals needed.**

### **Operator's approval**

To fly RNP AR, operators must apply for and receive operational approval from the applicable regulatory body. For airlines operating under the European Aviation Safety Association (EASA) regulation, it is since 2016 enough to obtain a generic specific RNP AR approval to fly all RNP AR procedures published in the Swedish Airport Information Publication (AIP), as long as the RNP AR approach is consistent with standard EASA regulations (meeting the applicable International Civil Aviation Organization (ICAO) procedure design criteria)<sup>2,3</sup>. The approval is issued by the regulatory body in the State of Operator or State of the State of Registry.

Applying for and maintaining an RNP AR approval is associated with additional costs for an airline. These include costs for the application, training, equipment, as well as the administrative work to maintain the approval. In addition to special training of pilots, the aircraft also needs to be equipped with the level of special navigation accuracy that the procedure requires, which – in some cases – can be substantial.

Until the change in the EASA regulation 2016, only some aircraft from SAS, Novair, Delta Airlines, and FedEx had received procedure specific approvals from the Swedish Transport Agency for the RNP AR procedures to RWY 01R and RWY 26 at Stockholm Arlanda Airport. After the new EASA regulation entered into force back in 2016, it is unclear how many airlines are approved to fly RNP AR in Sweden. The Swedish Transport Agency does not demand to see general approvals, but investigations from filed flight plans indicates that around 40% of traffic to Stockholm Arlanda Airport are approved to conduct RNP AR operation.

### **Airport's approval**

To be able to publish the approach procedures in the Swedish AIP the airport must apply for approval from the Swedish Transport Agency. The application should contain a safety assessment performed by the Air Navigation Service Provider

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<sup>1</sup> In this document, the abbreviation RNP AR corresponds and should be interpreted as synonymous with the ICAO navigation specification RNP AR APCH (Required Navigation Performance Authorization Required Approach) in accordance with ICAO Document 9613.

<sup>2</sup> Regulation (EU) No 965/2012, ARO.OPS.240 Specific approval of RNP AR APCH and SPA.PBN.100 PBN Operations.

<sup>3</sup> Prior to this change in regulation, each aircraft operator was required to have a procedure specific approval.

(ANSP) and a Flight Validation Report. The flight validation is to be performed in a flight simulator by a Flight Validation Pilot approved by the Swedish Transport Agency, using at least one common aircraft type.