

 <p><b>SOUTH AFRICAN CIVIL AVIATION AUTHORITY</b></p>	<p><b>REPUBLIC OF SOUTH AFRICA</b></p> <p>CIVIL AVIATION AUTHORITY</p> <p><b>AERONAUTICAL INFORMATION CIRCULAR</b></p>	<p>CAA Private Bag x73 Halfway House 1685</p>
<p>Tel: (011) 545-1000 Fax: (011) 545-1465 E-Mail: mail@caa.co.za</p>		<p><b>AIC Series D</b> XXX/2022 XXXX XXXX</p>

**AIR TRAFFIC  
AND  
NAVIGATION  
SERVICES**

**SURVEILLANCE AND COMMUNICATION**

**ADS-B 1090 MHz and Mode S "Extended Squitter" AIRCRAFT TRANSPONDER REQUIREMENTS IN SOUTH AFRICA**

**1. Purpose**

*The purpose of this AIC is to inform the South African ATM community of foreseen developments in terms of enhancing and improving necessary Air Traffic Surveillance Services. It also serves to introduce the subject for collaboration by all affected members of the ATM Community prior to the proposed implementation of the Surveillance Services.*

*In the Republic of South Africa, transponder equipage; and operation in CLASS A, and CLASS C airspace is mandated according to SA-AIP ENR 1.6.1 to ENR 1.6.5. Furthermore, Regulation 91.05.1 of the Civil Aviation Regulations, 2011 (CAR 2011) read together with the SA-CATS 91.05.1; provide further clarity and support to this ENR mandate.*

**2. Introduction**

*For ATNS and any other Air Traffic and Navigation service providers to ensure that adequate conflict management and relevant navigational assistance can be provided as mandated by the State and ensured by the SACAA, it is necessary to continuously review and appropriately update the enabling technologies that allow for improved services, in line with Global, Regional and National plans.*

*It is expected that provision is made to supplement current surveillance systems as a matter of improvement and eventually replace certain of the current elements which may become obsolete or irrelevant in future. Surveillance Technologies such as Automatic Dependent Surveillance-Broadcast (ADS-B) has been identified as such a technology. In addition, due to the increased traffic volumes, especially in complex terminal areas, the introduction of Extended Squitter Mode Select, (Mode S) transponders are also required to ensure effective operational performance of the surveillance sensors.*

*ADS-B Mode S enables the automatic provision of essential information fed to the Automated Air Traffic Management Systems required to meet the challenges posed by the global concepts and resultant plans.*

**3. General**

*It is recommended that all new transponder installations consist of an ADS-B Extended Squitter/ Mode S. It is envisaged that all aircraft required to carry transponders will need to upgrade in accordance with a schedule consistent with Regional and National Plans which will be appropriately defined.*

*Considering the outcome of APIRG 22, it is expected that an assessment as to equipage be concluded by 2022, thereafter all aircraft operating in RVSM airspace, should be equipped with ABS-B transponders, extended squitter 1090 by AIRAC EFF 15 June 2023. Thereafter, all aircraft operating in the AFI region by 2025 (AIRAC EFF date to be communicated).*

*Concerning the requirement for ABS-B transponders extended squitter 1090 by AIRAC EFF 15 June 2023. An assessment for a Go or No-Go Decision to be conducted during 2022 targeting 90% aircraft equipped with Transponder Extended Squitter 1090 for AFI RVSM airspace as the threshold. This will determine if the requirement for ABS-B transponders extended squitter 1090 by AIRAC EFF 15 June 2023 stands.*

#### **4. Conclusion**

*Implementation progression and Installations carried out on South African registered aircraft will need to meet the specification as will be laid down in the CATS to be developed and in accordance with the schedules as defined by the CARS, also to be developed.*

**'DIRECTOR OF CIVIL AVIATION**