

Deployment of ADS-B in New Zealand controlled airspace

The existing air traffic control radar network in New Zealand will be decommissioned at the end of its useful life in 2021 and ADS-B has been identified as the preferred system to replace it.

Equipage

Instead of relying on radar to interrogate transponder signals, ADS-B relies upon automated regular message transmissions from an aircraft including identity, position and altitude at a rate of twice per second.

ADS-B is totally reliant on aircraft equipage and given the level of per aircraft investment required, as well as avionics supplier and modification lead times, it is important that aircraft owners start planning their shift to the ADS-B environment.

To support ADS-B, the aircraft must have a GPS receiver as the position source and a datalink transmitter to actually send the ADS-B data. The datalink transmitter is a Mode S transponder with a feature called "Extended Squitter". This is the international standard for ADS-B output. The GPS must be an IFR certified receiver. Many legacy GPS receivers that were designed before ADS-B was invented do not include the necessary calculation of integrity and accuracy that ADS-B needs to operate. It is unlikely that these older devices can be upgraded and therefore a new GPS receiver will likely be required.

ATC ground infrastructure timeline

While it is proposed that all aircraft operating in controlled airspace will have to be ADS-B equipped by 2021, it is expected that as the ATC system itself migrates to ADS-B over coming years, we will see ADS-B availability occur prior to full fleet equipage.

The exact timeline for this ADS-B infrastructure roll out is still the subject of discussion at the ADS-B Planning Industry Task Force, however present indications are that airspace above 15,000 feet will be ADS-B ready during 2015, major TMAs will be ADS-B ready by 2017, and that all TMAs and Control Zones will be ADS-B ready during 2018.

Summary

- ADS-B is coming to New Zealand controlled airspace.
- If you are specifying avionics for an aircraft, it is advisable to ensure that the transponder is Mode S with Extended Squitter, and that the GPS has a TSO which ensures ADS-B capability.

Feedback requested

Any input you have regarding the proposed ADS-B rollout would be appreciated so it can be raised by AIA at the ADS-B Planning Industry Task Force.

Issues that have been identified to date include things like 'just because you can see it doesn't mean it needs to be controlled' and 'if you are going to control it then you should have to have visibility of it'.

Please direct any feedback you have to admin1@aia.org.nz.