SMART TRACKING GOLD COAST AIRPORT

Airservices is implementing Smart Tracking at Australian airports to make air travel safer, cleaner and more dependable for approved operators.

Aviation is critical to the broader Australian economy and essentially links our people with each other and the rest of the world. In recent years, satellite technology has proved to be a quantum leap in aircraft navigation capability and new aircraft are increasingly being designed to be more capable with this technology. Satellite-assisted navigation is recognised internationally for its safety benefits which are achieved through navigation with high precision. For simplicity, we refer to the most advanced technology currently available as 'Smart Tracking'.

Smart Tracking aircraft has been successfully trialled by some aircraft landing at Gold Coast Airport since 2008. To achieve the best aircraft safety, noise and emissions outcomes for the Gold Coast, Airservices is working towards making Smart Tracking technology permanently available for all suitably equipped aircraft landing at this airport.

WHAT IS 'SMART TRACKING'?

A growing number of modern aircraft are now fitted with navigation systems that use satellite-assisted guidance. Specialised flight management systems in the cockpit use GPS information to fly aircraft with high accuracy and only a small variation in the actual tracks flown from one aircraft to another. These systems are known in aviation circles by the technical term 'Required Navigation Performance', meaning the aircraft can perform in accordance with a strict set of navigation parameters.

WHERE IS THE TRACK AT THE GOLD COAST?

The existing trial flight path is entirely within a longstanding flight path corridor for aircraft arriving from the south-east to land from the north on Runway 14. This maximises flight over the ocean, crossing the coast at Currumbin Creek which is just a short distance from the airport. Community feedback about this trial has been positive due to the intended design of the procedure to minimise flying over land.

WHAT IS GOING TO CHANGE?

There will initially be no change as all aircraft that can currently use Smart Tracking technology at Gold Coast are doing so. During 2015, other airlines which are not part of the trial will start to fit-out their planes and train their crews—meaning that over the next decade an increasing amount of aircraft will fly this path.

The new path can be used by all suitably equipped aircraft (whether arriving from the south or north) that will land on Runway 14. The new track closely replicates the existing trial track. However, it has a slightly wider turn radius before also crossing the coast at Currumbin Creek as shown in the map.

WILL THERE BE MORE AIRCRAFT NOISE?

Despite the new path being a small distance closer to the coast (about 300 metres closer to Palm Beach) aircraft using it will continue to be within an existing flight path corridor. As such, there will be no difference in the noise level from a single flight for Palm Beach and Currumbin residents.

However, as more aircraft begin to use Smart Tracking, and with continued airport growth, it is expected during the next 5-10 years here will be an increasing number of noise events over 60 dBA and 70 dBA for those communities.

WILL THERE BE ANY DIFFERENCE IN AIRCRAFT EMISSIONS?

Yes, it is estimated Smart Tracking will immediately save 950 tonnes of CO_2 emissions a year.

For aircraft arriving from the south-east, the Smart Tracking approach is shorter in distance by about 15 nautical miles (28 kilometres) to Runway 14 than either of the existing alternate instrument approaches. Airlines have advised this represents a difference in aircraft fuel consumption of 200 kilograms per flight which equates to about 300 tonnes of fuel a year.

WHEN WILL THIS CHANGE BEGIN?

This new path will be available from November 2014 subject to regulatory approval.

HOW DOES SMART TRACKING CHANGE THE WAY AIRCRAFT FLY?

Smart Tracking aircraft fly with greater accuracy than those using conventional navigation means. This gives them the ability to follow flights paths with high precision and to make smooth curved approaches even when close to the airport in all weather conditions. This makes air travel safer, cleaner, more dependable and can provide better noise outcomes for communities living close to airports.

HOW IS SMART TRACKING DIFFERENT TO AN INSTRUMENT LANDING SYSTEM?

An Instrument Landing System is a ground-based navigation aid which uses a radio signal to guide aircraft landing at an airport when there is bad weather and/or low visibility. It comprises two small antennas (one for vertical and one for lateral guidance) located at the far end of a runway which transmit signals to receivers in the aircraft cockpit. This ensures pilots have the kind of guidance they need when landing almost regardless of the weather conditions.

Smart Tracking uses satellite signals which are transmitted directly to the aircraft without the use of ground-based equipment. Aircraft using satellite-assisted guidance are able to fly a flight path with far greater accuracy that they could using any other form of navigation.

This increases safety through providing a more stable approach during bad weather and significantly reduces pilot workload in the lead up to landing.

HOW MUCH WILL SMART TRACKING BE USED?

Pilots landing at airports must be able to see the runway by a specified minimum altitude and distance from the runway before they can land; otherwise they must circle in a holding pattern while waiting for weather conditions to improve or divert to another airport. For Runway 14 at Gold Coast Airport, the critical decision altitude for pilots currently not using Smart Tracking technology is 700 feet when four kilometres from landing.

Current Smart Tracking path (blue), Proposed Smart Tracking path (orange). Current flight path used by aircraft not equipped for Smart Tracking in deteriorating weather (green).

The height at which a pilot must make a decision while flying a Smart Tracking approach is 500 feet and 2.1km visibility to the runway. The cloud base in the vicinity of the airport is rarely below 500 feet.

By 2015, about 90 per cent of aircraft landing at this airport will use Smart Tracking with the remaining 10 per cent equipped over the next 5-10 years.

WHERE CAN I GET MORE INFORMATION ABOUT SMART TRACKING?

There is more information about Smart Tracking on Airservices website at www.airservicesaustralia.com/projects/smart-tracking

For more information contact the Noise Complaints and Information Service on 1800 802 584 (free call), email NCIS@airservicesaustralia.com or by mail to Noise Complaints and Information Service, PO Box 211, Mascot NSW 1460. An interpreter service is available on 131 450.

14-188OCT Corporate Communication