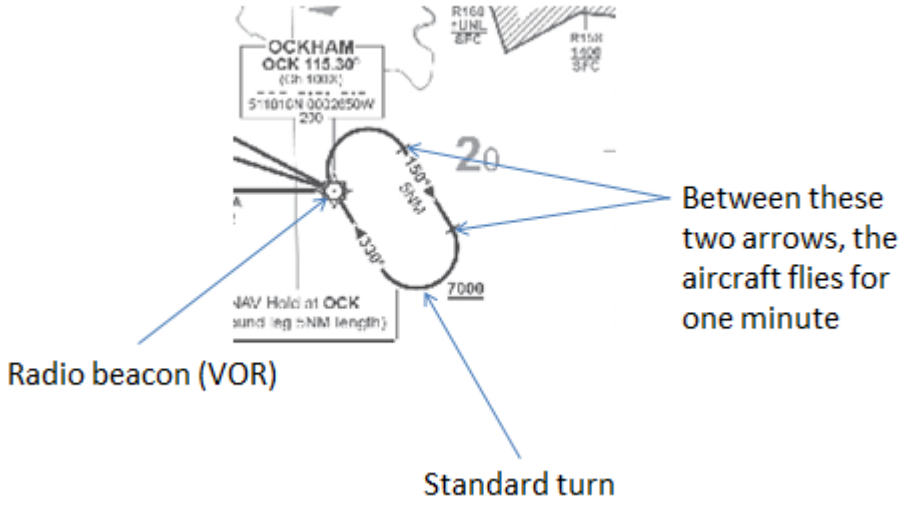
Operational trial at Ockham Holding Stack
Summer 2015

Background

The Ockham Hold is one of four holding "stacks" supporting Heathrow where aircraft circle, at busy times, until there is a place for them in the queue to land.

The position of the stacks was established in the 1960s and has not changed since. Aircraft enter the stack at between 8,000 and 15,000ft and up to nine aircraft can hold there, at 1,000ft separation. Aircraft descend through the stack and are generally directed off it below 9,000ft. The lowest level of the holding stack is 7,000ft.

Each circuit of the Ockham stack consists of two straight 'legs' and two turns, creating a "racetrack" pattern as illustrated below. Aircraft fly for one minute along the straight leg before making a turn. A circuit of the stack takes about five minutes.



The fixed point for entering the holding stack is via the radio beacon; however the circuit itself is not fixed geographically and will move slightly depending on variable factors such as air pressure, wind speed and direction. Different aircraft types will also fly it slightly differently.

What is changing?
NATS is conducting a trial from 30 April-30 September with the help of certain airlines, which involves flying the 'straight leg' on a distance basis rather than a time basis. So instead of flying it for one minute, these airlines will fly it for 5 nautical miles. Generally speaking, it takes one minute to fly 5nm so there should be no perceptible change.

All other airlines will continue to fly the straight leg as normal, for one minute.

The participating airlines typically account for c50% of the movements in the Ockham Hold when it is in use, which equates to up to 65 flights per day (based on July 2014 which is a peak summer month).

Why is NATS conducting this trial?
A new form of aircraft navigation, Performance Based Navigation (PBN) is being mandated across Europe which means it is required to be introduced in the UK by 2020.

PBN will replace the radio beacon that currently guides aircraft into the stack. The data captured from this trial will be used to inform policy relating to holding stacks in the future.

We expect that distance based rather than time based straight legs will formalise the point at which aircraft start to turn since it will be less affected by weather conditions, speed of the aircraft over the ground and other factors. This should reduce the number of aircraft that stray outside the holding pattern, which in turn could reduce overflight for some areas.

This is part of the work to underpin wider airspace modernisation under the UK's Future Airspace Strategy.

What will the impact be on the ground?
We do not expect any perceptible change. This trial only involves traffic above 7,000ft. The position of the holding stack is not moving and there will be no new areas overflown as a result of this trial. It will not affect the numbers or altitude of aircraft within the holding stack.

A similar procedure has already been assessed for the Biggin holding stack and has not resulted in a concentration of flights.

For these reasons we expect minimal impact for people living beneath the holding stack. NATS will work with Heathrow Airport Ltd to monitor the flight tracks and respond to any enquiries.