Digital Response to Heathrow Consultation on Slightly Steeper Approaches
2 April 2021

Question: Do you support the permanent adoption of Slightly Steeper Approaches at Heathrow Airport?

RHC Response: No

Reasons:
Richmond Heathrow Campaign (RHC) recommends the SSA airspace change process be withdrawn for two or more years while progress is made on Airspace Modernisation and then re-evaluated under the new circumstances.

Given the small projected RNAV usage of 0.6% of arrival aircraft through to the year 2031 and the small marginal average noise benefit of 0.51 dBA (SEL) from each aircraft using RNAV, the acknowledged noise impact on the ground is very marginal. There would be no meaningful loss to the community from deferral of the SSA and the following issues could be better addressed before proceeding with the CAP 1616 Airspace Change.

1. The SSA Full Options Appraisal (FOA) has not anticipated changes that may occur with Airspace Modernisation such as curved arrival paths joining the final straight approach at different points possibly much nearer the airport than today. The impact on SSA could be significant and vice versa. Likewise, the introduction of Performance Based Navigation (PBN) into the arrivals system and its impact on SSA and vice versa appears not to be part of the FOA.

2. Heathrow's Noise Action Plan seeks a number of operating measures to reduce noise, such as deferring the lowering of landing gear, which SSA may impact negatively. The SSA appraisal appears not to have examined this and other planned measures.

3. There is a specific Continuos Descent Approach (CDA) profile for Heathrow, as defined in the Arrivals Code of Practice, which is a 3 degree descent from 6,000ft to the joining point with the Final Approach. The aircraft are vectored as they leave the holding stacks at 7,000 ft so as to produce a steady stream of arrivals with similar speed along the final approach. The redesign of arrivals using queue management and removal of holding stacks will have implications for the final descent and its steepness. The FOA appears not to have examined the impact of SSA on the emerging redesign and vice versa.

4. The Airport's AIP (Aeronautical Information Publication) states that the minimum height at which aircraft can join the ILS during the day (between 6am and 11pm) is 2,500ft which is approximately 7.5 nautical miles (around 8.5 miles) from Heathrow. At night (between 11pm and 6am) an aircraft must be no lower than 3,000ft which is approximately 10 nautical miles (around 11.5 miles) from Heathrow. SSA will reduce the minimum distance from the airport but the FOA makes no mention of this and the consequences.

5. Heathrow's independent parallel approach (IPA) proposals, where aircraft land on both runways in parallel, could be impacted by SSA or vice versa and this has not

been considered by the FOA.

6. RHC and others in the recent CAA consultation on night flights seek a ban on night flights. According to the SSA webTAG evaluation, 40% of the £27 million (60 year NPV) benefit from SSA is due to a reduction in sleep disturbance. This could be better achieved by a night flight ban, which is not considered by the FOA.

7. Furthermore, we question the exclusion of the option of using the ground based instrument landing system (ILS) at steeper angles. Yes, the ILS is expensive and may be old and in need of replacement, but there will need to be an ILS for bad weather and insurance against RNAV system failure. Why can the ILS not be upgraded as and when it is renewed. We understand that the ILS is favoured by pilots, as evidenced by the small uptake of RNAV, and perhaps Air Traffic Control, and it is still widely in use on final approaches at airports around the world.

The FOA refers to the two SSA trials where the impact of SSA on some of the above variables was assessed but the point here is that the variables have not been examined as decision variables taking into account the effect of SSA. Importantly, safety is paramount and it has not been demonstrated how safety would be impacted in the scenarios referred to above.

RHC's comments above on flight path design and operating procedures should not be regarded as supporting or rejecting any of the measures discussed.

Other deficiencies in the FOA include the following:

1. The FOA says fleet change and population growth have been taken into account. They can have a significant impact on the results but these key components of the assessment are not detailed in the FOA for consideration by consultees.

2. The proposal is presented as SSA in which 3 degree and 3.2 degree descents are compared as the 'do-nothing' and 'do-something' options. However, as we understand the proposal, pilots have the option as whether or not to use RNAV descents and the choice of RNAV angle (within limits). Furthermore, the angles achieved by RNAV are not precise, as was demonstrated by the trials. In the trials some arrivals used ILS as the 'do-nothing' procedure and others used RNAV. It was not always clear whether an impact from the trials was due to RNAV compared to ILS or a difference in angle of descent. It is not clear whether the claimed benefit of SSA is at least in part the result of using RNAV instead of ILS.

3. The number of people negatively impacted, as shown by Appendix A of the FOA, is of concern. The webTAG shows 12,408 people experience an increase in noise in the daytime and 1,008 in the night time on account of SSA. Also, the trials in 2015 and 2017 showed the noise reduction, although averaging 0.51dBA, varied around this average depending on location and this is borne out by the number of people affected as shown in Appendix A. The people one might wish in fairness to receive the greatest benefit from noise mitigation are those where existing noise levels are the highest but seemingly they benefit the least from SSA, presumably because the height difference is less near the airport. RHC raised this issue of sharing of benefit in

response to Trial 1 and Heathrow responded that it would be addressed but we do not think it has been resolved.

4. Noise metrics: SEL is numerically equivalent to the total sound energy, whereas Leq is proportional to the average sound power. The FOA uses both metrics and it is not clear how the FOA conclusions have been reached. For example, it is said the noise impact of 0.51dB SEL from SSA may be difficult to perceive on the ground and yet there is a £27million noise benefit.

For the reasons given here, RHC recommends Heathrow withdraw its application to the CAA for an Airspace Change (CAP 1616) for SSA for two or more years after which the SSA can be re-considered under the circumstances and in particular clearer proposals for airspace modernisation.