Additional Questions and points for clarification to Airservices - 23.07.19

1. Why has a 3-degree arrival profile been adopted for continuous descent?

3° (5.24%) is the standard arrival profile used internationally as it most suitable for a safe and stable approach.

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5.3 DESCENT GRADIENT

5.3.1 Gradient/angle limits

5.3.1.1 Minimum/optimum descent gradient/angle. The minimum/optimum descent gradient is 5.2 per cent for the final approach segment of a non-precision approach with FAF (3° for a precision approach or approach with vertical guidance). Descent gradients steeper than the optimum should not be used unless all other means to avoid obstacles have been attempted since these steeper descent gradients may result in rates of descent which exceed the recommended limits for some aircraft on final approach.

2. Given that 3 degrees only just fits within the LOWEST SAFE altitude tolerance for terrain over Yandina Creek and Verrierdale, why haven't higher altitude tolerances been incorporated through steeper descent profiles (to minimise noise impacts and improve safety profile)?

3 degrees is safely above the terrain by more than the required PANS-OPS MOC (obstacle clearance buffer). Publishing a steeper gradient can have adverse effects on noise and safety. To maintain aircraft within safe operating limits, the aircraft must use speed brake devices and lower the undercarriage to arrest the speed of a steeper descent profile which can cause more noise and is a non-standard method of configuring an aircraft on approach.

We are able to implement an approach gradient as steep as 3.5° for noise abatement as per the following design criteria rule.

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Appendix B to Chapter 5

NON-PRECISION APPROACHES: STEEP ANGLE APPROACHES

1.2 Steep angle approach procedures do not meet PANS-OPS criteria. Such non-standard procedures should only be published after careful consideration that at least includes an aeronautical study and a special approval by the appropriate State authority. They should only be considered:

a) if there is a significant operational need;

b) for obstacle clearance purposes and not as a means to introduce noise abatement procedures; and

3. What proportion of craft will adopt CDA – please explain the choice of this procedures over an above a more nuanced procedure design which could be used to more effectively mitigate noise impacts on communities?

All aircraft flying the procedures with a modern Flight Management System (FMS) will be using CDA from the commencement of the STAR over water. All aircraft flying the published RNAV / RNP-AR approach will be on the 3° approach path as depicted on the chart.

We are unsure what is meant by the 'nuanced procedure design' method – all procedures would be at 3° regardless. Any approach without CDA will have a higher noise impact on communities due to CDA offering minimum thrust settings.

4. What is the flight profile for craft not capable of adopting CDA?

For the RNAV/ RNP-AR Approaches, all aircraft flying these procedures will maintain a stabilised 3° approach path as depicted on the chart. Aircraft not using our published approaches to arrive at Sunshine Coast airport may or may not utilise CDA. We expect all large passenger aircraft operations to use our published approaches as they offer safe predictable arrival.

7. Please describe the flightpath and noise implications of adopting RNP and the percentage of arrivals that will be capable of adopting RNP and why this approach has been mapped over noise sensitive areas.

Refer to TEIA

8. Please describe the flightpath and noise implications of adopting RNAV tracks and the percentage of arrivals that will be capable of adopting RNAV.

Refer to TEIA

9. What does "800m adjustment to runway threshold" mean in respect of GA traffic?

This describes the location of the threshold adjusted 800m metres from its previous location.

10. What NADP is to be adopted for the airspace?

No NADP will apply, but Noise Abatement Procedures (NAPs) will apply.

Refer to the Proposed Final Design and Consideration of Feedback Report p14 refers

13. Please explain ASA's airspace equity rational for adopting the proposed airspace design – which is a threefold increase in current controlled airspace around SCA.

Airspace changes were comprehensively consulted with local and national industry stakeholders.

14. Please explain the nature of ASA's engagement with General Aviation operators at SCA and surrounds and how this has been factored into your decision making with regard to the proposed airspace design.

Airspace changes were comprehensively consulted with local and national industry stakeholders. Airservices consulted with general aviation operators in South East Queensland and nationwide through the CASA RAPAC forum.

15. Please explain the irregularity of a non-circular airspace designation.

Airspace does not need to be circular. It is designed to be location specific and be the minimum required to protect instrument approach and departure procedures at the airport.

16. Please explain the irregular nature of the north south airspace designation line to the west of SCA.

The control zone retains its existing western boundary that provides a visual reference point with the Bruce Highway to assist visual flight rules aircraft such as many GA.

18. Please confirm the distance from the end of the runaway at which aircraft can technically depart the Primary approach / departure route to the north-west.

Departures: An aircraft flying our published procedure has the option to track other than by the published departure path when another means of terrain clearance has been achieved (ie 25NM MSA or Grid Lowest safe altitude), this would require coordination with ATC as a clearance to do so is required. However it is expected that the majority of regular public transport will track along our entire published path as it is designed to deliver the aircraft into our complex en-route structure in a safe manner, with continuous climb ready for connection to their destination.

Approach: Our procedures do not have provision for joining the approach at a point other than the starting waypoint. The designed path is an efficient and stable method for getting to the runway, and aircraft would not want to compromise this by departing from the primary approach path.

23. At what distance from the end of RW can different approach and departure paths be introduced – for each of the different aircraft types proposed for the airport.

This is not a simple distance figure, but rather a complex calculation dependent on multiple variables including aircraft type, airport infrastructure, terrain, and many other variables. We cannot provide a single figure.

31. The TEIA Conclusion (14) states that GHD and Airservices developed the scope and methodology for undertaking this assessment. Please explain how the scope and methodology were determined, what parameters were applied and how independent evaluation was factored in.

Please refer to AA-NOS-ENV-2.100

32. Please refer to ASA's response to Question 19 of FPF's Questions and points for Clarification From Airservices submitted on 2 July. Please advise how ASA have considered 'varying degrees of aircraft noise' as per the Minister's advice.

We are not sure what this question is asking.

36. Please refer to ASA's response to question 4 of FPF's Questions and points for Clarification From Airservices submitted on 2 July. ASA states that the targeted EIA was carried out with the objective that the assumptions remain consistent with the EIS. This is a self-limiting and inappropriate assumption on which to base further evaluation and one that restricts ASA's obligation to evaluate any change in circumstances which may have occurred between 2011/2012 and 2019.

The TEIA was carried out in line with AA-NOS-ENV-2.100, one objective of which is to determine whether the assumptions remain consistent with the EIS.

55. At what stage in the SCA flight path design process have the ASA engaged with and proceeded in line with their own stated 'Environmental Assessment Process for changes to aircraft operations'?

Screening assessment was completed in Dec 2018.

58. Please advise what, if any, recommendations have been made to the ASA Executive Team regarding these flight path proposals.

The Airservices Executive are aware of the proposed flight path designs and that the Airspace Change Proposal is currently with CASA.