Hobart Airspace Design Review

Final Report

March 2019

Contents

Purpose

The purpose of this document is to provide a summary of the Hobart Airspace Design Review, present the final design decision, and describe how stakeholder feedback has been considered and used to shape the final designs.

Background

Airservices Australia introduced changes to arrival and departure flight paths at Hobart Airport in September 2017. The changes were designed to organise aircraft departing from or arriving into Hobart Airport onto standard routes called Standard Instrument Departures (SIDs) and Standard Instrument Arrivals (STARs).

The implementation of new flight paths were associated with satellite-based navigation systems aimed at improving the safety of aircraft landing and departing at Hobart Airport. The use of satellite navigation systems is required by the Civil Aviation Safety Authority (CASA).

In response to negative community feedback regarding aircraft noise and visual impacts, we committed in November 2017 to amending the arrival flight path for Runway 30, and this was implemented in March 2018.

Hobart Runway 30 STAR Review Report (November 2017)

Terms of Reference

We committed to undertaking a full review of the SIDs and STARs, and commenced the Hobart Airspace Design Review in January 2018.

Hobart Airport Airspace Design Review – Terms of Reference (January 2018)

Timeline

A timeline of the Hobart Airspace Design Review was developed to present the progress of the review (**Attachment 1**).

Hobart Airspace Design Review Timeline (March 2019)

Social Impact Overview

We engaged a social planning and consultation firm, Tania Parkes Consulting (TPC), to conduct a social impact overview of the flight path changes, and to facilitate the consultation process.

Social Impact Overview of Hobart Airspace Changes (Sept 2017/March 2018) Consultation Summary Report (August 2018: updated)

Community Engagement Plan Survey Results (September 2018)

Hobart Airspace Design Review – Community Engagement Plan (September 2018)

Flight Path Design Considerations

Stakeholder feedback received between September 2017 and September 2018 shaped the design considerations that were incorporated into the proposed flight path designs.

We hosted a Stakeholder Reference Panel in Hobart on 14 September 2018, with stakeholders from airport, airlines, local and state government, and community representatives, to explain the design safety, operational and regulatory constraints and to verify the design considerations.

Hobart Airspace Design Review – Flight Path Design Considerations Infographic (September 2018)

Hobart Airspace Design Review – Stakeholder Reference Panel Summary Report (September 2018)

Proposed Design Development Process

Design alternatives were compared against a range of considerations relating to safety, efficiency, environment and community considerations to determine the total net benefit of each alternative. The designs that provided flight paths to and from the east of Hobart Airport were determined to provide the total net benefit.

The proposed design was presented to airlines on 13 August 2018 to confirm its safety and flyability.

This Hobart Airspace proposed design progressed to stakeholder consultation.

Fact Sheet Hobart Airspace Proposed Design Development Process (January 2019)

Environmental Assessment of Proposed Changes to SIDs and STARs at Hobart Airport (November 2018)

Stakeholder Consultation

A second Stakeholder Reference Panel was held in Hobart on 30 October 2018 to validate the community consultation materials.

We conducted consultation on the Hobart Airspace proposed designs between 31 October 2018 and 21 December 2018, with written submissions accepted until 7 January 2019. This included consultation with community and industry stakeholders (including airlines, airports and general aviation operators).

All stakeholders were provided an overview of the designs that did not progress to consultation for reasons of safety, operational and/or environmental issues.

Summary reports of the consultation and feedback from community and industry stakeholders were provided on the Airservices website.

Community members who had contributed to the review were invited to provide feedback on the *Proposed Design Feedback Consultation Summary Report* to ensure that their feedback had been accurately reflected. The report was subsequently updated in response to the feedback.

Hobart Airspace Design Review – Proposed Design Feedback Consultation Summary Report (February 2019) (March 2019: updated)

Hobart Airspace Design Review – Stakeholder Reference Panel #2 Summary Report (October 2018) (March 2019: updated)

Hobart Airspace Design Review – Industry Consultation Feedback Summary (March 2019)

Consideration of Feedback

The ‘consideration of feedback’ process consisted of several workshops where a thematic analysis was conducted on the collated feedback, to identify if the designs could be improved across safety, operations, environmental and/or community impact considerations.

Most of the design elements contained in the Hobart Airspace proposed design were broadly accepted by stakeholders, however several design elements were identified for further review, as a result of community feedback on noise and visual impacts. Community feedback specifically favoured the removal of the east coast over-the-water flight paths and amendments to Runway 12 SIDs.

Some community feedback requested that Airservices re-visit the concept of flight paths to and from the west of Hobart Airport. As these had previously been reviewed and discounted on the grounds of safety and operational concerns, this feedback did not progress to further review.

A summary of the consideration of feedback is provided in **Attachment 2.**

Final Design

Following consideration of all feedback, we have developed the final design.

The final design integrates the accepted proposed design elements with amended design elements that were shaped by community feedback including:

- Removal of the east coast over-the-water flight paths
- Amendment of the Runway 12 non-jet and jet SIDs.

The Hobart Airspace final design:

- Delivers a range of safety enhancements through:
  a. segregated jet and non-jet departures
  b. jet departures that no longer have a height restriction
  c. improved design for the SID/STAR cross-over
  d. 'Smart-tracking' arrivals with vertical guidance and terrain protection
- Maintains segregation of general aviation (GA) and regular public transport (RPT) operations
- Minimises the effect of aircraft operations on the environment
- Avoids areas of World Heritage and where possible, local community and cultural sensitivity
- Requires less additional controlled airspace than the proposed design
- Delivers airline stakeholder efficiency through an overall reduction in track miles.

The final design was presented to airlines on 14 and 15 March 2019 to confirm safety and flyability.

A comparison of the designs is provided in Figures 1, 2 and 3 in **Attachment 3.**

A zoomed in image of the arrival and departure flight paths in the South East region is provided in Figure 4.

Targeted Environmental Impact Assessment - Addendum

A Targeted Environmental Impact Assessment (TEIA) was conducted on the amended final design elements and found similar emissions and slightly less population overflight, when compared to current operations.

The amended final design elements, and the resultant integrated design (previously assessed via a TEIA), did not trigger the Environmental Protection and Biodiversity Conservation (EPBC) Act referral criteria, as defined in Airservices National Operating Standard (AA-NOS ENV2.100).

However, some communities will still be affected by aircraft noise, due to the low ambient noise levels in these areas, and visual impacts due to the direction and location of flight paths.

Hobart Airspace Design Review – Environmental Assessment Addendum (March 2019)

Community Impacts

The following provides an overview of how communities will be affected in the final design:

- The Runway 12 RNAV arrival flight path from the north, that was included in the proposed design, has been moved 3 kilometres (km) to the west of Kempton to avoid overflying communities of Kempton, Melton Mowbray, and Dysart.
- The Runway 12 RNAV arrival flight path from the east has been slightly adjusted to meet the needs of airline stakeholders. The community of Colebrook will experience arriving aircraft above 10,000 feet.
- When compared to the proposed design, there are no changes in the final design that will change the experience of the communities of Bagdad, Campania, Richmond and Sorell.
- Additional analysis of the projected use of the Strahan SID indicated it was not required to be implemented as part of the final design. As such the communities of Bridgewater and Brighton will not experience concentrated overflight of non-jet aircraft tracking to Strahan.
- The community of Nugent will experience increased overflight from the final Runway 30 arrival flight path design as a result of the removal of the proposed east coast over-the-water flight paths and the design of flight paths that track from IPLET waypoint to the Runway 30 approaches.
- Communities of Copping and Kellevie will experience arrivals on the Runway 30 STAR flight path that connects with the RNAV approach in the final design. This will be similar to the current arrival flights, but different from the proposed design. This is as a result of the removal of the proposed east coast over-the-water flight paths, and the design of flight paths that track from IPLET waypoint to join the Runway 30 approaches.
- In the final design, the community of Dunalley will experience arrivals on the Runway 30 STAR flight path, however this flight path will be 2 km to the west of the current design.

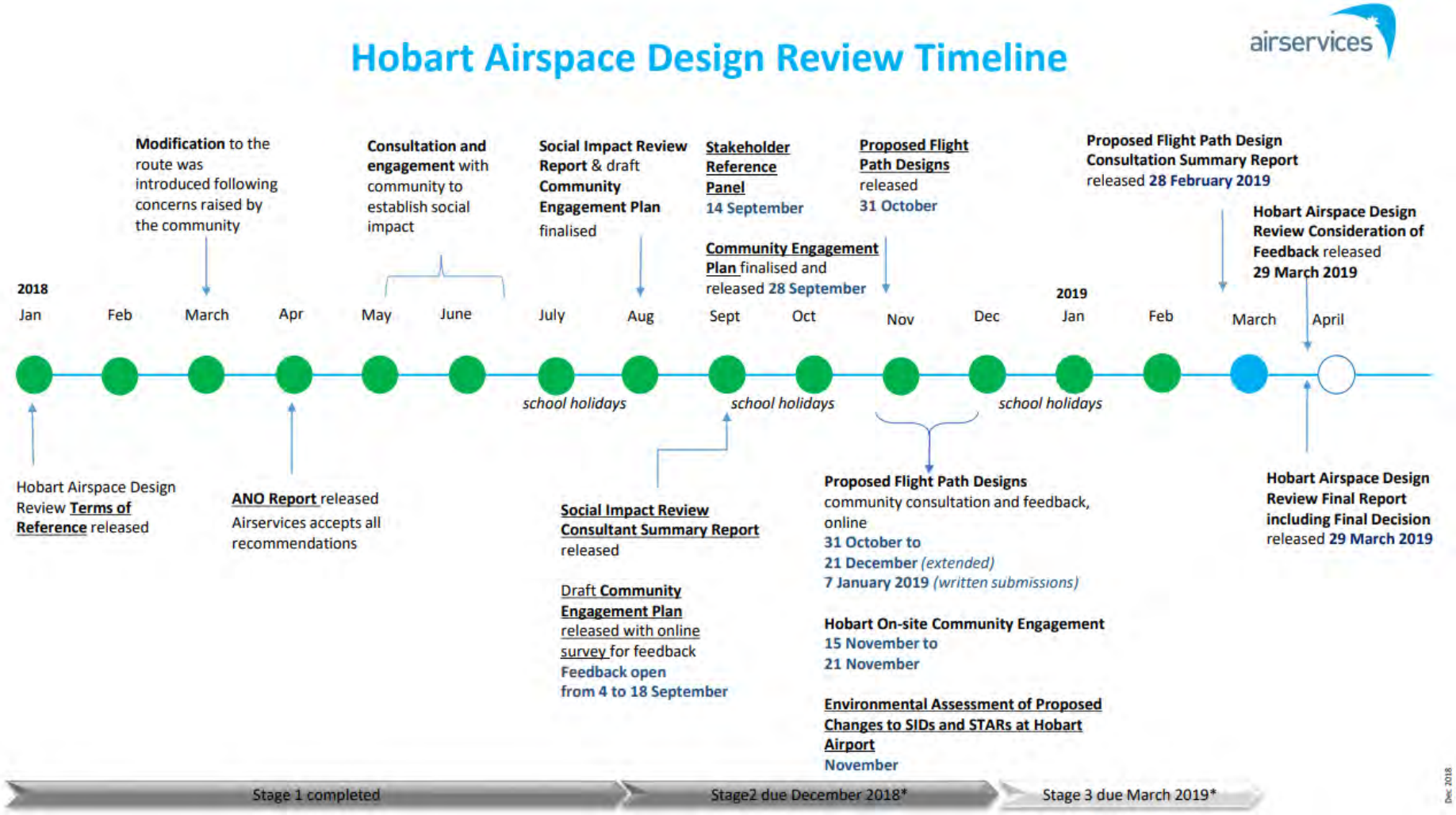
- Communities of Dunalley, Boomer Bay and Marion Bay will not experience arriving aircraft to the south in the final design, due to the removal of the proposed east coast over-the-water flight path that connected to the Runway 30 RNAV approach.
- Communities in the area of Murdunna, Sloping Main and Saltwater Creek will not experience arriving aircraft to the north in the final design, due to the removal of the proposed east coast over-the-water flight path that connected to the Runway 30 RNAV approach.
- Communities in Primrose Sands and Carlton will experience the Runway 30 Smart Tracking (RNP-AR) approach, however they will not experience the Runway 12 SID overflight in the final design.
- In the final design, the Runway 12 jet SID tracks between Connellys Marsh and Dunalley, however it tracks 4 km further over water than the proposed design, before turning over land. It is designed with a tracking point to contain the expected area of aircraft operations during the turn and will cross land at 6,000 feet, nearly 1000 feet higher than in the current or proposed designs.
- In the final design, the communities of Dodges Ferry, Forcett and Pawleena will experience non-jet aircraft operating on the Runway 12 non-jet SID, and this SID has been slightly tightened on the left turn near Forcett and Pawleena to enable the jet SID to be slightly amended to the west near Nugent.
- Communities in the area of Copping and Kellevie will experience the Runway 12 jet departures. However, as a result of the extension of the jet SID over water, most departing jet aircraft are expected to be higher than in the proposed design when flying near these communities (above 9,000 feet). Departing jet aircraft will be also be higher near Nugent than in the proposed design (above 10,000 feet).

Implementation

We are seeking to have the designs implemented in full by 7 November 2019, subject to CASA approving the Airspace Change Proposal.

We will be conducting a Community Update Program in May 2019, consisting of drop in sessions at central locations in the Hobart Area, and the provision of additional community specific information.

Attachment 1 – Hobart Airspace Design Review Timeline



Attachment 2 – Consideration of Feedback

Workshops were conducted to analyse the collated feedback from all stakeholders.

A.2.1 Process

Design Elements

The feedback was categorised against each of the design elements that formed the basis of the proposed design, and were presented in the consultation material, including during the on-site consultation sessions. Additional elements were added for consideration based on community feedback.

Themes

The feedback was then categorised according to the following themes:

- Safety
- Efficiency
- Noise distribution
- Noise concentration
- Environment/emissions
- Operational (ATC)

Region/Location

The feedback was categorised based on the region and location of the proponent of the feedback, to identify if there were common threads by region.

Response

The feedback was also categorised based on the overall nature of the feedback, to determine if it was a positive, negative or neutral response to the design element/s or the proposed designs overall.

Outcome

Following analysis of the feedback the proposed design element was assessed as to whether it could be accepted and incorporated into the final design, needed further review, or could not be incorporated into the final design. Feedback that required no further action was reviewed and noted.

Feedback that did not inform the flight path design but was related to internal processes and/or practices was reviewed for continuous improvement opportunities.

A.2.2 Design Consideration of Feedback Outcomes

1. Re-design of the Runway 30 Satellite Based Area Navigation Approach (RNAV) to extend it over water
A key aspect of this design element included moving the three 'forks' of the RNAV approach closer to the runway, and adjusting the splay, so as to reduce the effect of aircraft noise on the community.
Consideration: This design element was generally accepted by stakeholders without further feedback that could improve its design.
Outcome: This proposed design element has been accepted in the final design.

2. Runway 30 Required Navigation Performance – Authorisation Required (RNP-AR; 'Smart Tracking')
Key aspects of this design element included the increased precision with navigation including lateral and vertical guidance, to provide safe, predictable and dependable operations in almost all weather situations, delivering safety and operational improvements and a reduction of emissions.
Consideration: This design element was generally accepted by stakeholders. Some community stakeholders expressed concern regarding the location of the track and the expectation of concentrated overflight on a known and predictable path. Others sought to have the turn on the Smart Tracking (RNP-AR) approach adjusted to 'tighten' the turn, so as to move the potential audible effect away from some communities. Some community members queried whether the same flight path could be used for the Smart Tracking (RNP-AR) approach, and the RNAV approach. This is not possible due to the different design criteria and constraints required, and the opportunity to provide a shorter and longer approach to improve operational efficiency. The Smart Tracking (RNP-AR) approach, could not be further adjusted due to design constraints and criteria to ensure stable approaches for the final stages of flight.
Outcome: This proposed design element has been accepted in the final design.

3. Runway 12 Required Navigation Performance – Authorisation Required (RNP-AR; 'Smart Tracking')
Key aspects of this design element included the increased precision with navigation including lateral and vertical guidance, to provide safe, predictable and dependable operations in almost all weather situations, delivering safety and operational improvements and a reduction of emissions. It included the associated Runway 12 STAR flight path that links to this approach.
Consideration: This design element was positively accepted by stakeholders over the current flight paths.
Outcome: This proposed design element has been accepted in the final design.

4. Runway 12 Standard Instrument Arrival (STAR) to the RNAV
The proposed design element included flight paths for jet and non-jet aircraft to connect with the RNAV approach to Runway 12.
Consideration: This design element was generally accepted by stakeholders. However the Runway 12 RNAV arrival flight path from IPLET waypoint was slightly adjusted to accommodate airline operations. Previously it had been designed to support non-jet aircraft only. We did not receive feedback to amend the proposed Runway 12 RNAV arrival flight path from the north, however on review of the design element it was identified that this flight path could move 3 km to the west, so as to avoid three communities, who will no longer be directly overflown.
Outcome: These amended design elements have been incorporated in the final design.

5. Runway 30 Jet Standard Instrument Departure (SID)
The proposed airspace design introduced separate SIDs for non-jet and jet aircraft. This segregation of different types of aircraft introduced safety improvements through the strategic separation of the flight paths. This would also deliver environmental efficiency by allowing jet aircraft to climb unrestricted and minimise fuel burn, while enabling aircraft to climb faster away from communities.
Consideration: This design element was generally accepted by stakeholders.
Outcome: This proposed design element has been accepted in the final design.

6. Runway 30 Non-Jet Standard Instrument Departure (SID)
The proposed airspace design introduced separate SIDs for non-jet and jet aircraft. This segregation of different types of aircraft introduced safety improvements through the strategic separation of the flight paths. This would also deliver environmental efficiency by allowing jet aircraft to climb unrestricted and minimise fuel burn, while enabling aircraft to climb faster away from communities.
Consideration: This design element was generally accepted by stakeholders.
Outcome: This proposed design element has been accepted in the final design.

7. Holding Patterns with operations below 6000 feet were moved to be located over sparsely populated areas wherever possible.
The proposed design included mandatory airspace design elements of holding patterns. They were orientated over less populated areas wherever possible.
Consideration: This design element was generally accepted by stakeholders. Some community feedback sought to have the holding pattern for the Runway 30 RNAV approach moved out to the east, off the coast of Tasmania. This feedback was unable to be incorporated into the design due the need for low level holding patterns to be located at the Initial Approach Fix (IAF), in accordance with international design standards. It was noted that these holding patterns would be used infrequently by jet aircraft, however may be used by trainee pilots conducting instrument training flights.
Outcome: This proposed design element has been accepted in the final design.

8. Movement of flight paths away from World Heritage listed sites
The proposed design included moving the Runway 30 arrival flight path to the RNAV approach away from, and further north of, the Coal Mine Historic Site.
Consideration: While this design element was generally accepted by the community, feedback also included requests to: avoid the UNESCO-listed convict heritage site on the west coast of Maria Island; avoid Maria Island's unique ecological environment completely; and not to fly further down the Tasman Peninsula near or over Port Arthur Historic Sites. Some community feedback questioned why areas of National Environmental Significance and World Heritage areas need to be taken into consideration. Airservices considers areas of National Environmental Significance and World Heritage sites in accordance with our procedures that comply with the Environmental Protection and Biodiversity Conservation Act (1999). The amended design elements were reviewed to ensure flight paths do not operate in close proximity to these areas, while ensuring safety of operations.
Outcome: The final design does not overfly known areas of National Environmental Significance or the Coal Mine Historic Site, Maria Island, Freycinet Peninsula or Tasman Peninsula.

9. Antarctica Standard Instrument Departure (SID)
A key aspect of this design element involved the introduction of a dedicated SID for flights to Antarctica.
Consideration: This design element was positively accepted by stakeholders without further feedback that could improve its design.
Outcome: This proposed design element has been accepted in the final design.

10. Strahan Standard Instrument Departure (SID)
A key aspect of this design element involved the introduction of a dedicated SID for flights to Strahan.
Consideration: This design element was positively accepted by stakeholders, however the forecast utilisation, adjusted for revised aircraft movements, identified that this element of the design did not need to be incorporated at this time.
Outcome: This proposed design element has been removed from the final design.

11. General Aviation operations

It was a requirement of the Hobart Airspace Design Review to consider Cambridge Airport operations.

Consideration:
Some community feedback sought to have the GA operations from Cambridge and the designated training area, Danger Area 316, relocated, reduced or re-sized, so as to afford flight paths that could track to the west of Hobart.

GA stakeholders were supportive of the proposed designs and expressed concern regarding any large or significant changes to the airspace around Hobart that would restrict their operations.

Airline stakeholders were supportive of the proposed designs as they maintain the safe segregation of general aviation operations and RPT operations.

Airservices has requirements to ensure equity of access to airspace for the range of airspace users. We determined that any changes to GA operations that affected the potential segregation of training operations from commercial and RPT operations may have a compounding negative effect on the safety of operations, due to the risk of airspace infringements leading to loss of separation, and the associated increased workload for air traffic controllers and pilots.

Outcome: The final design considers Cambridge Airport operations.

12. Easterly flight paths off the coast of Tasmania for aircraft arriving from Sydney or Brisbane

The proposed east coast over-the-water flight paths were informed and designed using a range of community feedback collated from September 2017 to September 2018. The flight paths were designed to cater for up to thirty percent (30%) of aircraft arrivals (coming from eastern ports of Sydney, Brisbane and Gold Coast) off the east coast of Tasmania and over water, instead of these aircraft flying over land. The intention was to provide flight path distribution and have arriving aircraft fly over less populated areas.

The proposed inbound STAR to the Runway 30 RNAV tracked over the water and crossed land only when necessary to join the RNAV approach, at a location that aimed to minimise noise impacts to rural communities.

The flight paths also included a new STAR to join the new Smart Tracking (RNP-AR) approach, which provided alternative tracking for arriving aircraft and flight path distribution for the community.

A change to air traffic control airspace volumes was required to accommodate the new flight paths and would require approval from the CASA.

Continued - Easterly flight paths off the coast of Tasmania for aircraft arriving from Sydney or Brisbane

Consideration:

Industry stakeholder feedback was supportive of these flight paths.

A number of community feedback submissions requested that we review the proposed east coast over-the-water flight paths.

Some community feedback sought to have these flight paths removed from the design, while others suggested retaining it, but moving it at least 5 km away from the Maria Island east coastline. Other community feedback suggested we retain the proposed east coast over-the-water flight paths, but that the point where the STAR that connects with the Runway 30 RNAV approach crosses land move further south than as depicted in the proposed design.

Careful consideration was given to removing these flight paths and re-routing them over land due to the need to ensure the safety of the operations, particularly as it related to the interdependencies of the non-jet and jet SIDs and the interplay between the SIDs and STARs.

Consideration was also given to ensuring that aircraft arriving from eastern ports were on different flight paths from those arriving from Melbourne, so as to minimise the number of aircraft on any one flight path.

The removal of the proposed east coast over-the-water flight paths, removal of Schouten Island waypoint, and re-design of flight paths from the IPLET waypoint would have a resultant impact on communities on the land and, wherever possible, flight paths designs should avoid directly overflying communities.

The STAR flight path for Runway 30 from IPLET waypoint was examined to avoid overflying some small rural towns wherever possible.

Consideration was given to having both Runway 30 STARs from IPLET waypoint join the STAR for Melbourne arrivals at the same common waypoint, however a number of turns in a short segment was assessed as increasing the risk of unstable approaches and increased operational complexity for pilots. This was not able to progress to the final design.

Outcome*:*

The proposed east coast over-the-water flight paths have been removed.

Flights arriving from ports such as Sydney, Brisbane and Gold Coast will track via IPLET waypoint and then connect to the Runway 12 STARs and the Runway 30 STARs.

The Runway 30 STAR flight path was re-routed slightly, within the constraints of ensuring separation from the Runway 12 SID, so as to avoid directly overflying some communities.

These amended design elements have been incorporated in the final design.

13. Runway 12 Non-Jet and Jet Standard Instrument Departures (SID)

The proposed airspace design introduced separate SIDs for non-jet and jet aircraft. This segregation of different types of aircraft introduced safety improvements through the strategic separation of the flight paths. This would also deliver environmental efficiency by allowing jet aircraft to climb unrestricted and minimise fuel burn, while enabling aircraft to climb faster away from communities.

***Consideration**:*

Industry stakeholder feedback was supportive of the jet SIDs, including the unrestricted climb and separation of non-jet traffic and inbound arrivals. Industry stakeholder feedback identified the SID design as a safety enhancement and efficiency improvement.

Some community feedback requested the following adjustments to the Runway 12 non-jet SID and jet SID:

- tighten up the departure turn off the runway and fly closer to the airport (westward) for both SIDs so as to approximate previous flight paths as much as possible
- extend the jet SID further over the water to east of the proposed design
- have the jet departure follow the same track as the arrival flight path
- examine if the jet aircraft could fly the designed non-jet SID.

In reviewing these SIDs, there were a range of operational constraints including strategic separation of non-jet and jet departures, strategic separation of SIDs and STAR, separation points to enable unrestricted climb for jet aircraft, track miles and ensuring an appropriate turn rate and climb gradient for common aircraft types.

In addition to the constraints, considerations included the provision of flight path distribution for community, the height of aircraft crossing the coast, climb gradient to facilitate aircraft climbing away from communities as soon as possible, and the ability to further contain the splay when aircraft are turning on a SID.

The non-jet SID was adjusted slightly to tighten the turn but was not able to be brought in any closer due to the need for sufficient track miles to meet separation requirements and terrain considerations further along the departure flight path.

To minimise the effect of the jet SID on communities along the flight path, the outbound segment of the SID has been extended over the water for 4 kms before turning prior to the Lime Bay State Reserve, and crosses land between two communities. The jet SID is contained to fly along the boundary of a business operation in the area.

Due to the extended outbound segment, the aircraft will now cross the coast at higher altitude than in the current and proposed designs, and will be higher when flying near communities along the flight path

The jet SID flight path segment over land was adjusted to turn slightly westward near Woodvine Nature Reserve, earlier than in the proposed design, but was restricted in moving further west in the final design due to the need to ensure strategic separation and segregation of the non-jet and jet SID flight paths, and ensuring separation from the STARs.

Continued - Runway 12 Non-Jet and Jet Standard Instrument Departures (SID)

The non-jet SID could not be used for jet departures due to the speed restrictions, and height requirements that are required to ensure separation from the missed approach flight path and the STAR flight paths. The speed restrictions preclude jet aircraft from operating safely on this flight path.

***Outcome**:*

In the final design:

- The Runway 12 non-jet SID has been adjusted slightly to tighten up the turn closer to the airport.
- The Runway 12 jet SID has been further extended over water before turning left to cross the coast between two communities.
- The jet SID flight path segment over land has been adjusted to turn slightly westward near Woodvine Nature Reserve.

14. Topography

Community feedback noted areas of topography in different regions that were identified as being able to minimise the effect of aircraft noise on communities.

***Consideration**:* In reviewing the design elements, topography identified in community feedback was referenced. This included avoiding flying over Susan Bay, utilising flight paths over quarries and state forests, and identifying where flight paths could be adjusted either side of ridgelines or in areas that would be less likely to cause noise reverberation.

***Outcome**:* Flight paths in the final design have been adjusted to utilise topography to minimise the effect on communities wherever possible.

15. Crossover of the SIDs/STARs

The proposed design included an amendment to the SID/STAR cross-overs to provide for unrestricted jet SIDs and the addition of requirements on the STARs. The proposed design moved the cross-over points for jet aircraft further away from the airport, and raised the cross-over by several thousand feet.

***Consideration**:* In reviewing the Runway 12 SIDS and amending the STARs for Runway 12 and Runway 30, the safety and efficiency enhancements were maintained.

***Outcome**:* The SID/STAR cross-over enhancements are incorporated in the final design.

16. Flight paths to the west of Hobart

A number of community submissions requested we consider arrival and departure flight paths to the west of Hobart and/or airspace changes to Danger Area D316 (located south west of Hobart).

***Consideration**:* These flight path alternatives had previously been evaluated and discounted on the grounds of safety and operational complexity and concern about noise impacts on communities that currently experience few overflights.

Industry stakeholder feedback received during the consultation period supported this assessment and included safety concerns related to increased risk of Controlled Flight into Terrain (CFIT) due to operations near terrain, and aircraft controllability issues associated with severe turbulence and occasional aircraft icing.

Industry stakeholders also noted that flight paths that track down the path of the Derwent River do not provide adequate manoeuvring margins and would lead to a potential increase in missed approaches and go-arounds.

Flight paths from the west did not include the safety and operational benefits of the Smart Tracking (RNP-AR) approach.

Outcome: These flight paths were not further considered as part of this analysis.

17. Implementation

Some community feedback requested that the implementation of any change to flight paths be delayed for a period of 12 months from the release of the final design decision, to enable communities to prepare for the change.

There was also a request to defer implementation until the ANO recommendation related to review of environmental assessment criteria had been addressed and closed and the new criteria were applied to the environmental assessment of these designs. Other community members and industry stakeholders have requested that the final designs be implemented as soon as practicable so as to realise the changes to the airspace and aircraft operations.

***Consideration**:*
The ANO Recommendations are due for completion by June 2019. Delaying until this time would see the flight path changes implementation delayed until May 2020.

After considering all the requests, we have decided to implement the designs as soon as practicable, so as to realise the safety enhancements, deliver efficiency to airline stakeholders, and implement flight path changes that minimise the effect of aircraft operations on the community and environment, including World Heritage listed areas.

***Outcome**:* The final design will progress to implementation on 7 November 2019, subject to CASA approval of the Airspace Change Proposal.

Attachment 3 – Comparison of Designs

Figure 1. Current Design (March 2018) – arrivals (yellow); departures (blue); waypoints (white triangles)

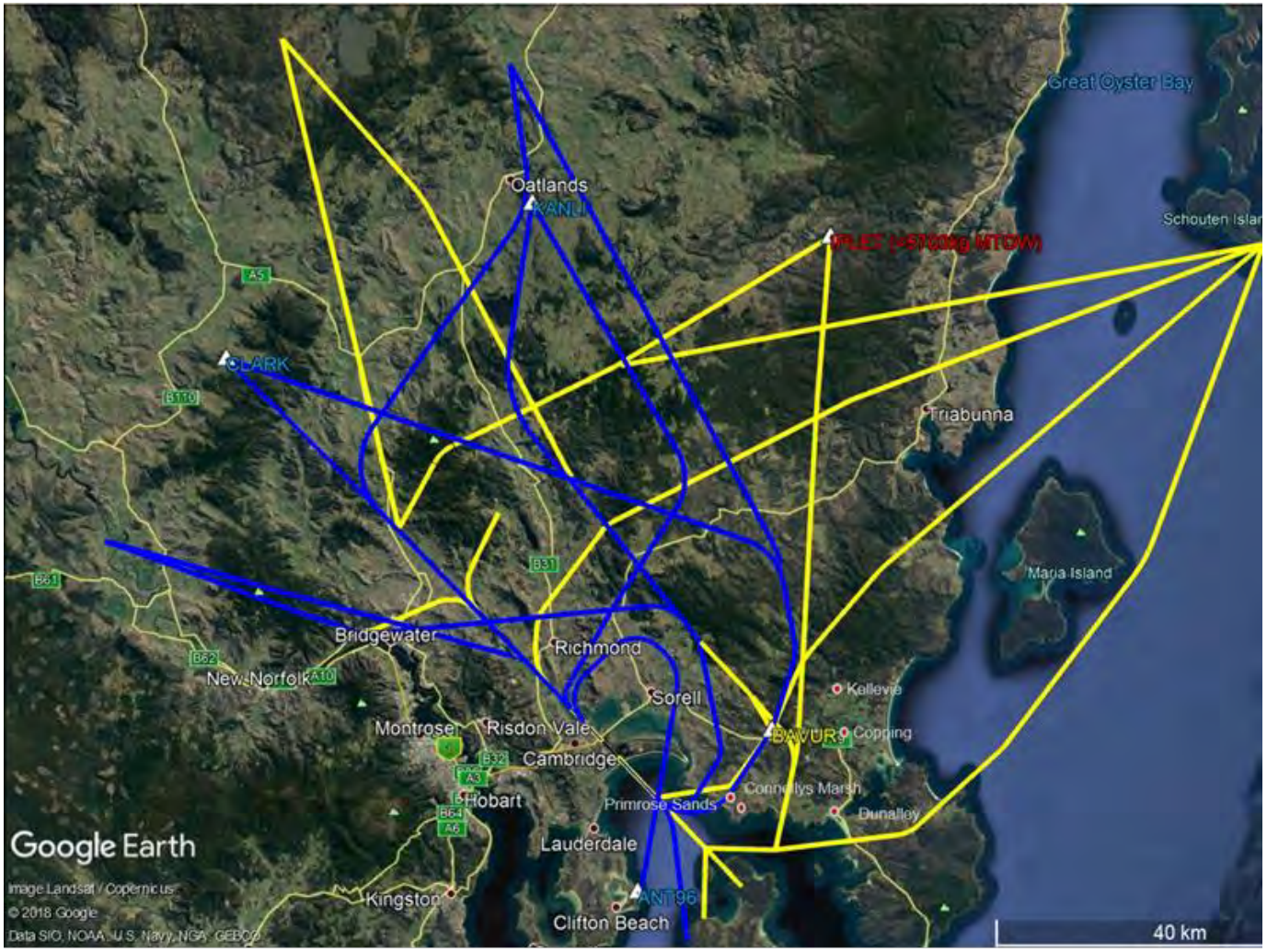


Figure 2. Proposed Design (October 2018) - arrivals (yellow); departures (blue); waypoints (white triangles)

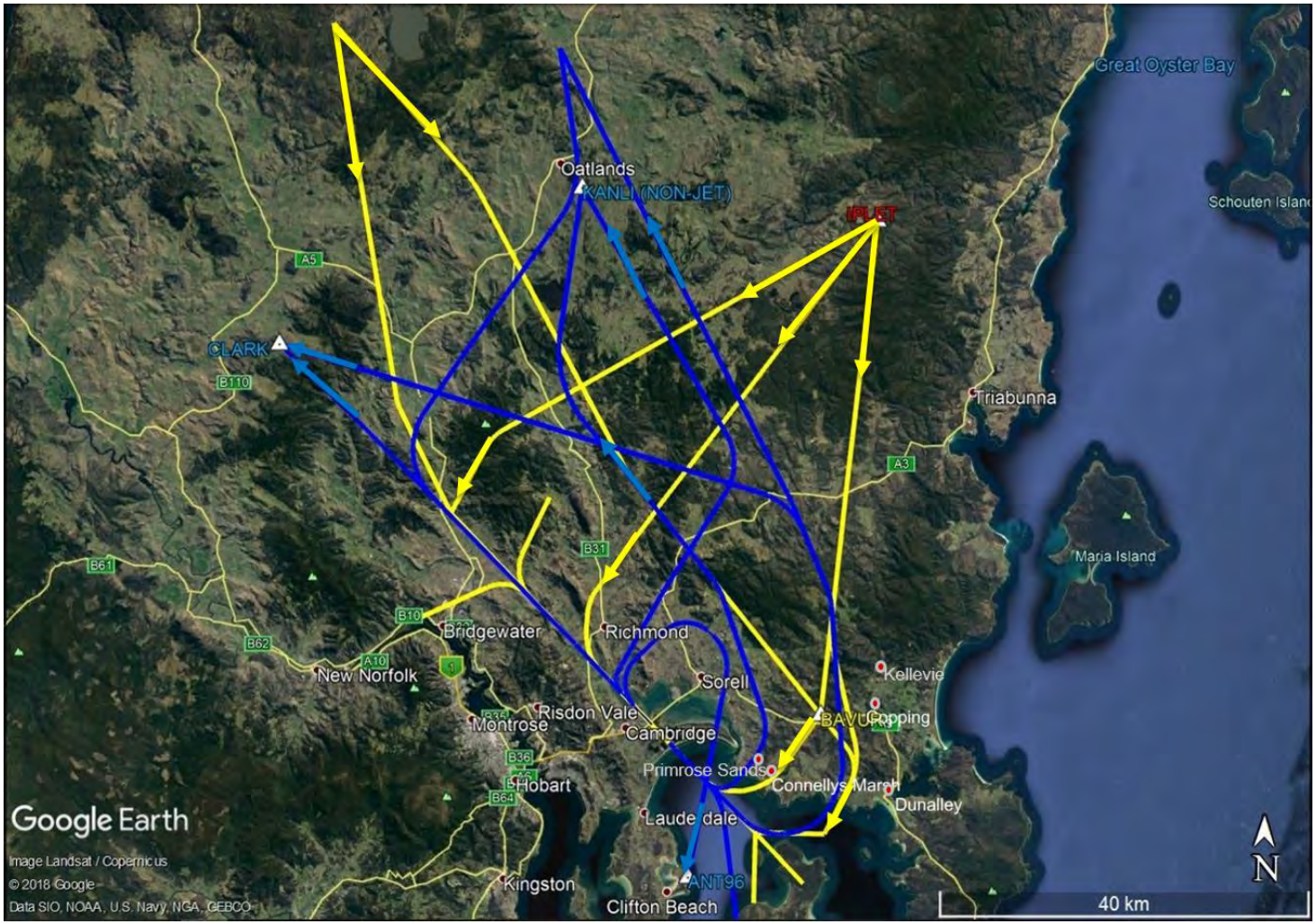


Figure 3 – Final Design (March 2019) - arrivals (yellow); departures (blue); waypoints (white triangles)

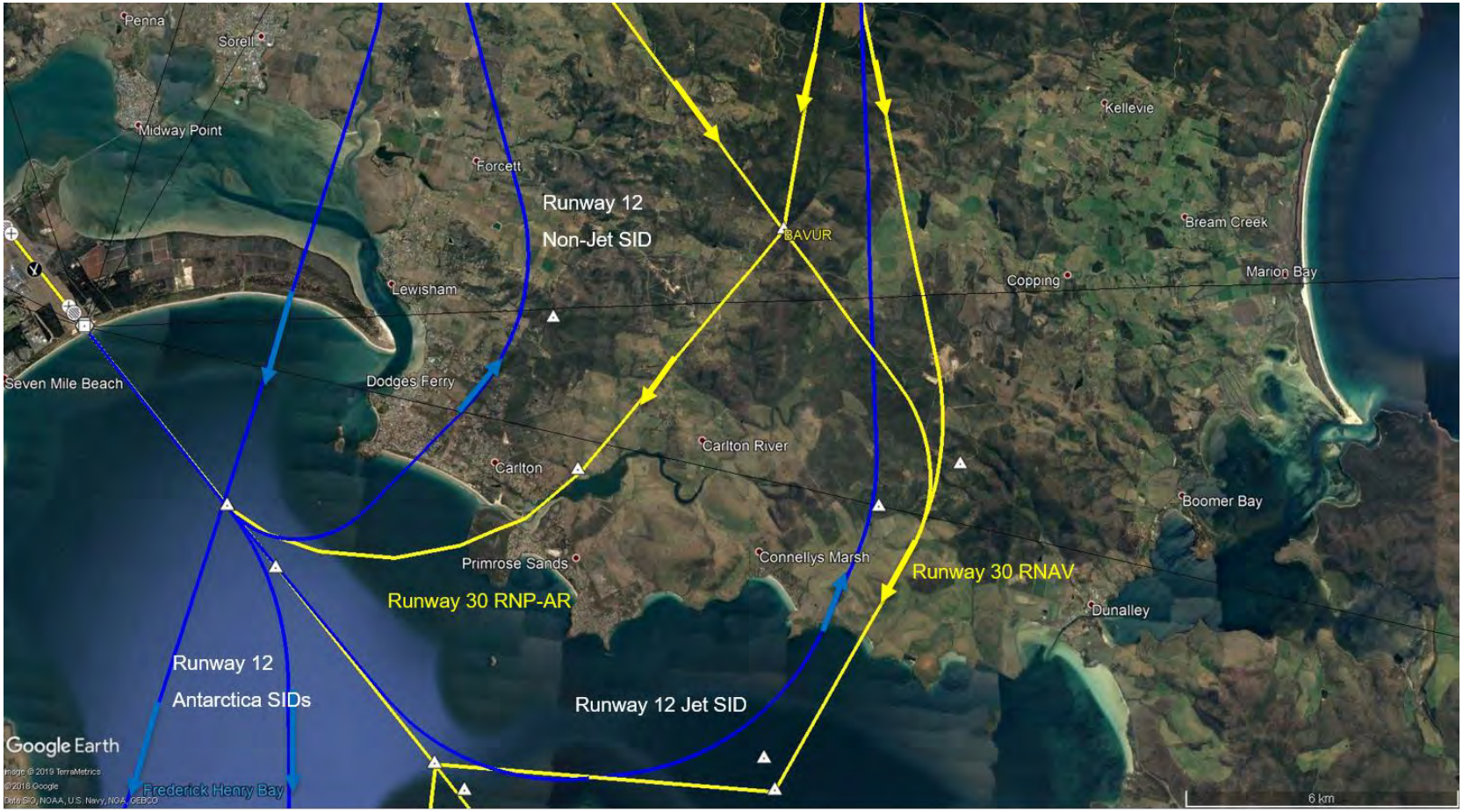


Figure 4 – Final Design (March 2019) - Zoomed in image showing Runway 12 departures and Runway 30 arrivals in the South East region; arrivals (yellow); departures (blue); waypoints (white triangles)

FOI 23-12
Document 2

s47F

From: s47F
Sent: Monday, 29 July 2019 11:50 AM
To: CASA OAR
Cc: Regulatory Engagement; Operational Change; s47F
Subject: ACP - Route amendments - Hobart [SEC=UNCLASSIFIED]
Attachments: form1284 (OAR ACP) V3.pdf; AIPSUP - H9219_DRAFT.pdf; SCARD - HB.pdf; CE_Tasmanian High Level Routes_signed.pdf; SEP - Tas routes.pdf; HB Route Amendments (CIRRIS-EA_1433 _signed).pdf; ACP DAH Routes V2.docx

Dear OAR

Please find attached ACP for amended ATS routes in Tasmania. Also attached are:

- Draft AIP SUP (aligned with eh Nov AIRAC)
- SCARD
- Community Engagement document
- Stakeholder Engagement document (the ACP cover form refers to two Stakeholder reports, but there is just the one)
- Environmental Assessment document
- DAH change summary

Lewt me know if you require further detail.

Kind regards

s47F

s47F
Aviation Regulatory Engagement Lead
Airservices Australia
t s47F

Australian Government
Civil Aviation Safety Authority

Form 1284
Airspace Change Proposal Form

Submission Procedure

Before completing this form: consult the Airspace Risk and Safety Management Manual on the CASA website: for the latest airspace change guidance material.

During Business Hours (9am-5pm EST):

1. Email: oar@casa.gov.au
2. Phone to confirm receipt: (02) 6217 1177

After Hours if Urgent:

1. Phone: (02) 6217 1177. This phone will divert to the OAR Delegate after hours.
2. Please do not email after hours unless you are specifically asked to do so.

Postal Address:

Attention: Airspace Operations
Office of Airspace Regulation
Airspace and Aerodrome Regulation Group
GPO Box 2005
CANBERRA ACT 2601

Proponent Details

Contact Name	s47F
Name of Organisation	Airservices
Nature of Organisation	ANSP
Phone (BH)	
Email	s47F
Address	212 Operations Rd. Tullamarine 3043
No. of Pages	4
No. of Attachments	TBA (Operational Change and Regulatory Performance to decide)
Date/s of the event/s	
AIRAC date for publication	07/11/2019
Date Submitted	
ACP No: (CASA use only)	

Airspace Change Proposal Details

Please describe the nature of the activity and the reason for the change and any relevant background information

To support the final SID and STAR design from the Hobart Airspace Design Review, several changes are required to the fixed ATS Route structure north of Hobart.

These changes include:
-Arrivals from Melbourne now track on the existing route (W282) from IRSOM to MORGO (W282 renamed V33 O/W).
-Arrivals from Adelaide and Perth will track on a new route (Y557 O/W) from SALEM to MORGO.
-Non-jet arrivals from King Island will track on a new route (V544 O/W) from WYY NDB to LIFFY.
-Departures to Perth and Adelaide will track on a new route (T234 T/W), that is a combination of existing routes J43 (being amended to T234 which is all high low and also low level between TASUM & DOTVU) and W519 (which is being shortened to consist of only DOTVU and everything currently north of that to Adelaide), via CLARK, SALEM thence DOTVU. Due to very low levels of traffic (the inbound flight is usually also the outbound flight), a two-way route is considered ideal for efficiency.

For further details refer to attached Stakeholder Engagement Plan (SEP), Stakeholder Engagement Report (SER), the DAH amendments document, the AIP Supplement and the CIRRIS-1433 Environmental Assessment.

Airspace description and Controlling Authority/Contact

Please attach a narrative and/or table which details the proposed change including:

- Location (suburb, town/ region and state)
- maximum vertical limit of the activity (not the proposed PRD)
- maximum lateral limit of the activity as of latitude and longitude. Developed from the addition of:
  - planned lateral limit; and
  - any additional allowance made for navigation or operational tolerances;
- for firing activities (including rockets) attach a copy of the firing template
- what are the proposed hours of activity of the PRD
- Identify and include the telephone contact details for:
  - Controlling Authority (Prohibited and Restricted Areas)
  - Contact (Danger Area)
- the Restricted Area status (definitions are available in Designated Airspace Handbook/AIP)
- For Airservices and Defence:
  - the calculation of airspace buffers using MATS 2.4.8
  - the Air Traffic Control services to be provided if any
- where the change is to existing Classified airspace (CTR/CTA) or PRD identify the lateral and vertical limit changes.
- for air route changes include:
  - Name and Route number
  - For each waypoint:
  - Latitude and Longitude,
  - Track in/out,
  - Distance NM,
  - LSALT in/back,
  - Chart display code [H/L/B], and
  - When implemented RNP value.

Please answer the following questions	
Question 1 Reason for requiring PRD	☐ Public safety including safety of aircraft in flight ☐ Protection of the environment ☐ Security
Question 2 Is this a Temporary or Permanent airspace change proposal?	☐ Temporary ☒ Permanent
Question 3 Is this a new ACP or a repeat of a previously submitted ACP?	☒ New ▶ Go to Q5 ☐ Repeat ▶ Complete details below
Question 4 If a repeat activity: a) The last ACP Number: b) Attach a post activity report that includes safety, environmental (if for the protection of the environment) and procedural feedback eg. accident/ incident reports, noise complaints, community comments, aviation stakeholder feedback etc.(as applicable).	Date of the activity:

Please answer the following questions	
Question 5 For new ACP is this a recurring activity?	☐ Yes ▶ Complete the details below ☒ No ▶ Go to Q.6
Recurring Activity: a) How often will this activity occur?	Frequency:
Question 6 If the activity is dependent on a permission, area approval or exemption from another Branch within CASA, has this been granted?	☐ Yes complete ▶ Attach Response ☐ Yes pending approval ▶ Attach details of CASA Officer ☒ No
Question 7 Has Airservices Australia been consulted about this ACP?	■ Yes ▶ Attach Response ☐ No
Question 8 If the ACP impacts Defence airspace have they been consulted about this ACP?	☐ Yes ▶ Attach Response ☐ No
Question 9 Will the ACP impact instrument flight procedures or their containment?	☐ Yes ▶ Attach Response ■ No
Question 10 What consultation has been undertaken with other airspace users and the public (for permanent changes) impacted by the proposal? (Please list with whom, when and outcomes.)	
Question 11 Following consultation will the ACP impact the access to the airspace or the efficiency (Aerodrome Operations or air routes, VFR routes or instrument flight procedures).	**Access** ☐ Yes ▶ Attach Response ☒ No **Efficiency** ☒ Yes ▶ Attach Response ☐ No
Question 12 A risk assessment is required with all ACP. Has this been completed? CASA Form 1589 – Airspace Risk Assessment Template	☒ Yes ▶ Please attach a signed copy ☐ No ▶ Please contact the OAR
Question 13 Are there any known matters of national environmental significance identified following a search which creates a report using the Protected Matters Search Tool	☐ Yes ▶ Please attach a copy of the report ☒ No or Not Sure
Matters of Environmental Significance:	
Question 14 Has an environmental assessment been carried out (ACP for the protection of the environment only)?	☒ Yes ▶ Please attach a signed copy ☐ No

Please answer the following questions	
Submitted by: Name: s47F	Signature: s47F s47F .....
Title:	Date: 17/07/2019
Please indicate your preferred method of communication: Telephone ☐ Fax ☐ Email ☒	

AUSTRALIA

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AIP SUPPLEMENT (SUP)

AIRAC

H92/19

Effective: 201911061600 UTC

AMENDED ATS ROUTES IN TASMANIA

1. INTRODUCTION

1.1 This AIP SUP introduces changes to the ATS Air Route structure in Tasmania, predominantly north of Hobart. The primary purpose for the amendments is to enable the safe and efficient flow of traffic around Hobart on the new SID and STAR structure. However, some of these route amendments will also affect aircraft transiting between other smaller ports in Tasmania.

1.2 The new ATS route structure provides the foundation for the amendment of RNP 1 SIDs and STARs while also providing an improved strategic route network for inbound and outbound aircraft.

1.3 This AIP SUP includes amendments to DAH (Air Routes and IFR Waypoints) and ERSA (IFR Waypoints and Flight Planning Requirements).

2. IMPLEMENTATION

2.1 The ATS Routes and associated waypoints and flight planning requirements described below will become effective 201911061600 UTC.

3. WAYPOINT AMENDMENTS

3.1 Delete waypoints:

TENIT	422208.1S	1471227.8E
BABEL	414238.2S	1464012.8E
BEGED	424131.7S	1471850.5E

3.2 Insert the following waypoints:

LATUM	421128.1S	1472202.1E
MORGO	421018.0S	1470439.9E

4. AIR ROUTE AMENDMENTS

4.1 **Delete ATS Routes:**

W233

4.2 **Amend ATS Routes:**

ATS ROUTE H169 O/W

3	ML VOR	373936.5S	1445031.2E	---/150			
3	SUNTI	383027.9S	1451248.7E	149/149	53.8	2400/0	B
2	BENZO	400000.7S	1455300.1E	148/148	94.8	1900/0	B
2	IRSOM	411012.0S	1462603.2E	146/~~148~~	74.5	2100/0	B
~~3~~	~~BABEL~~	~~414238.2S~~	~~1464012.8E~~	~~148/148~~	~~34.1~~	~~6500/0~~	~~B~~
~~1~~	~~SYNOT~~	~~421312.0S~~	~~1465348.0E~~	~~147/147~~	~~32.2~~	~~6300/0~~	~~B~~
~~1~~	~~CLARK~~	~~422824.0S~~	~~1470042.0E~~	~~147/---~~	~~16.0~~	~~5700/0~~	~~B~~

ATS ROUTE W519 T/W

3	AD VOR	345649.1S	1383128.3E	---/130			
1	ALBUT	354116.9S	1392052.6E	129/143	60.0	3800/3800	L
3	SWELL	360802.5S	1393904.1E	142/142	30.5	1700/1700	L
3	MTG VOR	374505.0S	1404707.0E	141/127	111.2	2500/2100	L
3	NOGIP	381851.6S	1412824.1E	126/121	46.9	2200/2200	L
4	KII NDB	395320.8S	1435231.2E	118/124	146.6	2200/2200	L
1	DOTVU	404959.4S	1450454.0E	123/~~126~~	79.2	2200/1900	L
~~2~~	~~SALEM~~	~~415236.0S~~	~~1461736.0E~~	~~125/125~~	~~83.1~~	~~6700/6700~~	~~L~~
~~1~~	~~CLARK~~	~~422824.0S~~	~~1470042.0E~~	~~123/120~~	~~48.0~~	~~6700/6700~~	~~L~~
~~1~~	~~BEGED~~	~~424131.7S~~	~~1471850.5E~~	~~120/120~~	~~18.8~~	~~5700/5700~~	~~L~~
~~2~~	~~TASUM~~	~~425049.6S~~	~~1473136.0E~~	~~120/---~~	~~13.2~~	~~4400/5200~~	~~L~~

ATS ROUTE W203 T/W

1	CLARK	422824.0S	1470042.0E	---/355			
1	MORGO	421018.0S	1470439.9E	355/355	38.1	5800/5800	L
3	LT VOR	413237.8S	1471247.7E	355/---	18.3	5800/5800	L

ATS ROUTE ~~J43~~ T234 T/W

3	BORTO	362334.0S	1404430.5E	---/136			
1	GRACY	372050.2S	1413443.3E	135/135	70.0	3100/5200	H
1	KAYTU	385404.1S	1430000.0E	133/126	114.9	4100/5200	H
1	DOTVU	404959.4S	1450454.0E	126/126	150.5	0/0	H
2	SALEM	415236.0S	1461736.0E	125/125	83.1	6700/6700	B
1	CLARK	422824.0S	1470042.0E	123/120	48.0	6700/6700	B
2	TASUM	425049.6S	1473136.0E	119/---	32.0	4000/4000	B

ATS ROUTE ~~W282~~ V33 O/W

2	IRSOM	411012.0S	1462603.2E	---/141			
3	LIFFY	413900.0S	1464418.0E	140/140	31.9	6000/6000	B
1	MORGO	421018.0S	1470439.9E	140/140	34.8	6000/6000	B
~~1~~	~~TENIT~~	~~422208.1S~~	~~1471227.8E~~	~~139/139~~	~~48.0~~	~~6000/6000~~	~~L~~
2	TASUM	425049.6S	1473136.0E	139/---	45.1	6000/6000	L

ATS ROUTE ~~W295~~ H111 O/W

2	TASUM	425049.6S	1473136.0E	---/355			
1	KANLI	421920.8S	1472356.0E	335/335	32.0	5400/5400	B
1	LATUM	421128.1S	1472202.1E	335/335	8.0	5400/5400	B
3	LT VOR	413237.8S	1471247.7E	336/---	39.4	5400/5400	B

4.3 **NEW ATS Routes:**

ATS ROUTE Y557 O/W

2	SALEM	415236.0S	1461736.0E	---/103			
1	MORGO	421018.0S	1470439.9E	102/---	39.3	6100/6100	B

ATS ROUTE V544 O/W

2	WYY NDB	405952.7S	1454229.6E	---/117			
1	MORGO	421018.0S	1464418.0E	116/---	60.8	5500/5500	B

5. ERSA IFR GEN AMENDMENTS

5.1 **IFR WAYPOINTS**

New waypoints:

LATUM	421128S	1472202E
MORGO	421018S	1470440E

6. ERSA GEN FPR AMENDMENTS

6.1 **Section 5. TASMANIA**

5.1.Hobart INTL – IFR Departures

All:	Via TASUM H111 LT ~~W295 KANLI~~
Optional for aircraft departing to west and northwest of HB (i.e. YPAD/YPED/YPPH)	Via TASUM T234 CLARK

5.2. Hobart INTL – IFR Arrivals

From East:	Via IPLET
From West:	Via ~~CLARK~~ MORGO

6.2 **Section 9. FLIGHT PLANNING OPTIONS**

YMHB	YPAD			DCT TASUM T234 BORTO H345 AD DCT DCT TASUM H111 ~~W295~~ LT W105 WYY W564 KII KAYTU T234 ~~J43~~ BORTO H345 AD DCT
YPAD	YMHB			DCT AD V255 BENDO Y218 GRACY T234 SALEM Y557 MORGO ~~J43 CLARK W519~~ V33 TASUM DCT
YMML	YMHB			DCT ML H169 IRSOM V33 ~~CLARK W519~~ TASUM DCT

7. CANCELLATION

7.1 This AIP SUP will be cancelled when incorporated into AIP Documents, expected 27 February 2020 (ERSA) and 21 May 2020 (DAH and Charts).

8. DISTRIBUTION

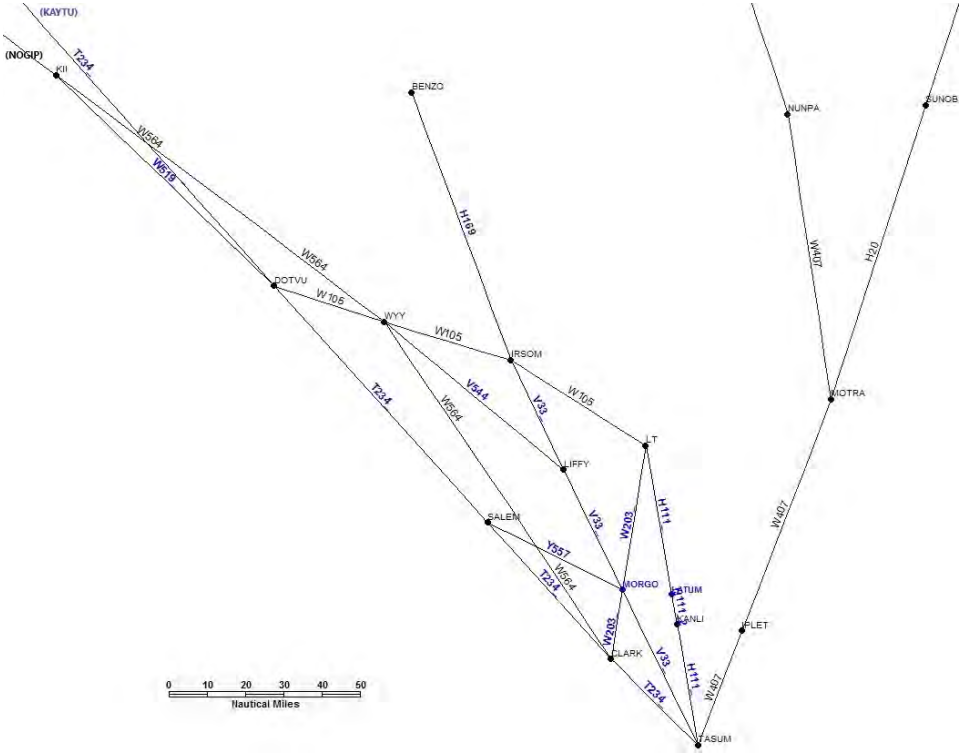
8.1 Airservices Australia website only.

Appendix

1. Diagram of New and Amended Routes in Tasmania

Appendix 1 TO
(SUP H92/19)

1. Diagram of New and Amended Routes in Tasmania



Hobart Airspace Design Review - CTA Changes (C, D and E) Safety Case Assessment and Reporting Determination (SCARD)

Issue <#>

NOTE: Due to compatibility issues with the new Standard Operating Environment (SOE), this version of the SCARD template will not automatically calculate the SCARD outcome, guidance has been included to allow the outcome to be manually determined.

Context

As specified by Operational Safety Change Management Requirements (AA-NOS-SAF-0104): A SCARD must be completed for changes to service levels, procedures or equipment that may affect the performance, functional or technical specification of a system or service; and organisational changes affecting safety accountabilities.

The SCARD template is designed to assist users to evaluate the change proposal, in order to determine what type of operational safety assessment and reporting is required.

Step 1: Change Details

Reference Number (Change Proposal/Project Proposal/ Project Number/NRFC/ASID)	TBA	**Services/Systems/ Assets under change**	

Change Description

Due to the new SID/STAR architecture at Hobart Airport being redesigned as part of the Hobart Airspace Review, Airservices are proposing to create additional controlled airspace.

One of the new STARs off the east coast of Tasmania remains east of the coastline to avoid environmentally sensitive areas. The airspace to the northeast is to be amended to reflect the adjacent airspace that is over mainland Tasmania to provide protection for RPT jets from Sydney and Brisbane.

To enhance the efficiency of operations at Hobart the air routes to the north of Hobart will be amended to link the new the new STAR structure to the existing infrastructure. there will also be a new air route established within the additional CTA to the north east.

Step 2: SCARD Participants

List the persons participating in the completion of this determination:

Adequate representation from all appropriate areas of the business involved in or potentially affected by the change must be present during completion of the SCARD, for example (but not limited to):

- ATC operational representatives, Line Managers, System Supervisors, etc
- ARFF operational representatives, Station Command representatives, etc
- Engineering planning, design and integration representatives, maintenance and system operations representatives, software/hardware/data/infrastructure specialists, System Technical Advisors, Service Advisors, etc
- Training design and delivery representatives,
- Other applicable system owners.

This representation should also include subject matter expertise from any specialist safety disciplines relevant to the change, for example (but not limited to):

- System Safety, Human Factors and regulatory compliance representatives.

Changes potentially impacting external stakeholders must also include representation from these stakeholders as appropriate, for example (but not limited to):

- Airline representatives
- Airport representatives
- Regulatory representatives
- Vendor/Contractor representatives

NOTE: The SCARD may be rejected by the signatories in Step 9 if adequate representation is not included. If guidance is required on appropriate attendees, contact a safety specialist within your group

Name	Position	Date
s47F	Southern Operations ATC Line Manager	13 Dec 2018
	Southern Operations ATC Line Manager	13 Dec 2018
	Airspace & Air Route Design Specialist	13 Dec 2018
	A/UTS Hobart Tower	13 Dec 2018
	ATC Bass Group	13 Dec 2018
	ATC Bass Group	13 Dec 2018

Step 3: Size of the Change

Complete the following questions to determine the size of the change. For each question, choose a rating from 1 (Low) to 7 (High); and provide justification. Then use the ratings to determine the overall size of the change

1	**Assess the significance of the change within Airservices.** *Consider the work areas affected. Consider the effects on engineering (disciplines, systems and locations), ATS (service environments, core services, service classes and locations) and ARFF (stations, equipment, services).*	**Initial Rating** **2**
Justification: This is a change to airoutes, data and charts only. Hobart Tower (and possibly Launceston Tower) and Bass group will need to become familiar with the new CTA boundaries and associated air routes.There will be changes to our internal data within Mercury. The ATMSA team will have to make data and airspace changes.		

2	**Assess the significance of the change outside Airservices.** *Consider the number and extent of service users and/or stakeholders affected, including the interfaces between these parties.*	**Initial Rating** **2**
Justification: This change may affect airspace users that would normally operate outside controlled airspace. Consultation undertaken to date indicates that there is very little aviation activity in the proposed CTA volume The air routes to the north of Hobart will alter but the change will not be significant for RPT operations.		

3	**Assess the operational impact of the change on the systems, service and users (i.e. operators, maintainers, etc).** *Does the change:* o *enhance existing system functionality, provide different/new/novel functionality, or remove functionality;* o *alter the services provided;* o *affect the users' roles including their required skills and abilities, HMI interaction, work environments, systems and procedures of work, responsibilities, organisation and staffing or teams and communication?*	**Initial Rating** 2	**Weighted Rating** = Initial Rating x 2 **4**
Justification: The change will enhance the efficiency of operations into Hobart and remove current airsapce conflictions. A new class of airspace service will be provided in what was previously Class G airspace. Operators will need to become familiar with new CTA and air routes as will ATC. No maintenance or HMI interactions are affected.			

4	**Assess the technical impact of the change on the operating system(s).** *Does the change:* o *affect single or multiple systems (e.g. NAIPS/Eurocat/AFTN/MEX/ORS etc.);* o *affect operational or non-operational systems* o *introduce new, or reconfigure, hardware or software affecting operational capability and/or performance* o *affect system interfaces* o *affect redundancy, maintainability, integrity, etc* o *affect operational or business data and/or databases?*	**Initial Rating** 1	**Weighted Rating** = Initial Rating x 2 **2**
Justification: The only operating system affected is Eurocat (including TSAD). It is only a data and map change. This is a BAU activity for the ATMSA team to rollout on a standard DAH/MAP AIRAC date. Redundancies and integrity are not affected.			

5	**How complex is the implementation of and transition to the new or changed system or service?** *Consider:* o *temporary removal of a system, ghosting/mimicking, operational test and evaluation, control and monitoring, rollback/fallback required, etc* o *resources available, training, documentation, procedures, communication, time lines, approvals, etc*	**Initial Rating** 2	**Weighted Rating** = Initial Rating x 2 **4**
Justification: The implementation and transition are BAU activities similar to any airspace change. New documentation and procedures will be required such as the LoA between Bass and Hobart Tower.			

6	**How substantial is the education and training associated with the change?** *Consider type of training required and for whom, none, classroom, online or simulation, time line for*	**Initial Rating**

	design/development and roll-out, duration, resources for design/development and delivery, impact on operational resources, currency, recency and licensing requirements, ongoing/refresher requirements, etc.	**3**
Justification: Hobart Tower and Bass ATC will need to become familiar with new CTA and air routes and develop new techniques in airspace they have not had to manage previously. Some classroom and simulator training will be required for this change and the larger change to the SID/STAR infrastructure that this change supports.		

Total	**17**

Resultant size of the change (Small* - 9 to 25, Medium - 26 to 44, Large - 45 to 63) *** If any single initial rating is greater than 4, a result of Small must be increased to a result of Medium**	**Small**

Step 4: Operational Safety Impact of the Change

To assess the operational safety impact of the change, conduct an initial hazard identification to determine the potential operational safety hazards that may result from the change and complete the table below. Giving consideration to the number and severity of the potential hazards as well as the criticality of the impacted systems where listed on the System to Service List, complete the safety impact estimations shown below. For assistance completing this identification, refer to AA-GUIDE-SAF-0105C, or contact a safety specialist within your group.

Note: *This process must only be used for the determination of the Operational Safety Impact. All Hazards identified through this process that require control and ongoing management, or further assessment must be recorded in HAZLOG and managed in accordance with AA-PROC-SAF-0105.*

Service/System	System Critic -ality	Potential Hazards	Controls		Effect on	
			Existing	Proposed	Airservices' Operations	Aircraft / Aircrew / 3rd Parties
ANS		Violation of CTA (VCA) in new Class C and D airspace.	AIRAC Distribution ATC Surveillance	Pilot Info sessions/consultation AIC promulgation	Increased workload Possible Amended CLRs to prevent LOS Instruction to vacate	Amended CLR Increased workload Possible resequencing
ANS		Pilots are unfamiliar with air route changes	AIRAC Distribution ATC Surveillance Change management process	Pilot Info sessions/consultation AIC promulgation	Increased workload Possible Amended CLRs to prevent LOS Instruction to vacate	Amended CLR Increased workload Possible Missed APP

NOTES: 1) For newly developed systems, a System Criticality will need to be determined. The SCARD process will help inform this determination.
2) If any significant effect on external parties are identified, this assessment must be confirmed by the affected parties and must trigger their involvement in the ongoing management and control of the risk.
3) If any aspects of the change uncovered in this step were not considered in Step 3, the step should be re-validated.

1. Based on the identified Operational Safety hazards; Enter the estimated Operational Safety Impact of the change.	**Minimal**	If unsure, the higher of the considered options should be chosen
2a. Are any of the identified Hazards Human Factors related or do they impact human performance?	**No**	If yes, please contact a Human Factors specialist within your group
2b. Are any of the identified Hazards Software related?	**No**	If yes, please seek software assurance support via Engineering Services

Step 5: Regulatory Impact

If unsure in the completion of this step, contact Regulatory Performance for assistance.

5.1 - Does the proposed change require an amendment to a Provider Certificate schedule (including exemptions and instruments)?

e.g. Introduce a new service, or change to an existing service under:

- CASR Part 139H (Aerodrome Rescue and Fire-Fighting Services)
- CASR Part 143 (Air Traffic Services Training)
- CASR Part 171 (Aeronautical Telecommunication and Radionavigation Services)
- CASR Part 172 (Air Traffic Services Provider)
- CASR Part 173 (Instrument Flight Procedure Design), or
- CASR Part 175 (Aeronautical Information Management)

NOTE: This includes 171 Operations Manual defined Level 1 Changes (i.e. a new ICAO defined service or a new type of airways system, or the removal of an ICAO defined service or a type of airways system.)

Yes ☐	A Safety Case is required. Use the link below to notify Regulatory Performance of the requirement to prepare a Safety Case. **Continue onto Step 6**
No ☒	**Continue onto Question 5.2**

5.2 - Does the proposed change otherwise require approval from CASA?

e.g. Commissioning of new ATS facilities pursuant to CASR Part 172; changes to Airservices' Operations Manuals related to changes to the services under the CASR Parts listed above; or commissioning of new ARFFS vehicles or facilities pursuant to CASR Part 139H.

Yes ☒	A Safety Case or Safety Assessment Report may be required. Use the link below to contact Regulatory Performance to discuss the change's safety reporting requirements. **Continue onto Step 6**
No ☐	**Continue onto Question 5.3**

To notify Regulatory Performance of the requirement for a Safety Case, or to discuss the change's safety reporting requirements, contact RegulatoryPerformance@AirservicesAustralia.com.

5.3 - Does the proposed change require notification to CASA prior to commissioning / notification to industry?

NOTE: This includes 171 Operations Manual defined Level 2 Changes (i.e. where a facility noticeable to the user is being decommissioned or where there is a significant reduction to the level of service). Refer to paragraph 3.2.1.4 of the CASR Part 171 MOS and paragraph 6.1.2.4 of the CASR Part 172 MOS regarding the regulatory requirements for a safety case.

Yes ☒	A Safety Case or Safety Assessment Report may be required. Use the link below to contact Regulatory Performance to discuss the change's safety reporting requirements. **Continue onto Step 6**
No ☐	**Continue onto Step 6**

To contact Regulatory Performance to discuss the change's safety reporting requirements contact RegulatoryPerformance@AirservicesAustralia.com.

Step 6: Overall Operational Safety Magnitude

The Overall Operational Safety Magnitude is determined through a combination of the size of the change **and** its operational safety impact. Apply the results obtained from Steps 3 and 4 to the matrix below to determine the Overall Operational Safety Magnitude.

Overall Operational Safety Magnitude	Operational Safety Impact		
Size of the change	**Substantial**	**Reasonable**	**Minimal**
Large	☐ **Major**	☐ **Major**	☐ **Moderate**
Medium	☐ **Major**	☐ **Moderate**	☐ **Minor**
Small	☐ **Moderate**	☐ **Minor**	☒ **Minor**

Step 7: Operational Safety Reporting Requirements

Apply the results from Step 5 **or** Step 6 to the matrix below to determine the Operational Safety Reporting Requirements.

Note that a Step 5 requirement for a Safety Case or Safety Assessment Report overrides any lesser outcome from Step 6.

Outcome[1]	To be reported as …	Required Actions
☐ **5.1 Response YES**	**Safety Case**	1. Establish Safety Program Working Group 2. Prepare Safety Plan 3. Execute Safety Program 4. Prepare Safety Case(s) (Indicate phasing below) ☐ Concept/Design & Impl. Phases ☐ All Phases
☒ **5.2 Response YES** ☒ **5.3 Response YES** ☐ **Major**	**Contact Regulatory Performance to determine safety reporting and CASA notification or approval requirement.** **Discussion Outcome:** Discussion with Regulatory Performance resulted in an agreement that a SCARD only is sufficient safety evidence of this change. Regulatory Performance were advised that discussions had already taken place with CASA OAR regarding required action and documentation to support the change.	
☐ **Moderate**	**Safety Assessment Report**	1. Establish Safety Program Working Group 2. Prepare Safety Plan 3. Execute Safety Program 4. Prepare Safety Assessment Report(s) (Indicate phasing below) ☐ Concept/Design & Impl. Phases ☐ All Phases
☒ **Minor**	**Safety Statement**	1. Determine whether this SCARD is sufficient to constitute the Safety Statement and indicate below (see AA-NOS-SAF-0104 Section 4.3) 2. Execute Safety Program, as required 3. Prepare Safety Statement, if required 4. Attach SCARD or Safety Statement to RFC or change process ☒ SCARD Only ☐ Additional Safety Statement

[1] The Sponsor of the change, a manager with accountability for the change, or the EGM, S&A, may impose a higher operational safety reporting requirement.

Step 8: Additional Information

An ACP will be submitted to CASA OAR for their approval of the proposed changes

Step 9: Approval

Note that a completed SCARD, once approved below, remains valid unless there is a variation to safety-related context of the assessed change scope.

PREPARED BY	PROPOSED BY
s47F SOUTHERN OPERATIONS ATC LINE MANAGER	s47F SOUTHERN OPERATIONS ATC LINE MANAGER

The level at which this SCARD can be approved is determined by its Overall Operational Safety Magnitude from Step 6 as shown in the table below, however a higher level of approval can be sought if deemed appropriate. Where the change impacts multiple systems, services or business areas, approval from all relevant authorities, or a higher authority, must be sought.

Major	ANS North and South Operations Managers, ANS Operations Standards and Assurance Manager ARFFS Regional Operations Managers, Chief Fire Officer Other Direct Reports to the Executive
Moderate	Business Managers – Asset Strategy ATC Line Managers ARFFS Local Operations Managers Other Leadership Roles
Minor	Business Managers – Lifecycle Planning or Lifecycle Delivery ATC Line Managers ARFFS Local Operations Managers Other Leadership Roles

APPROVED BY	SIGNATURE	DATE
s47F SERVICE MANAGER SOUTH EAST OPERATIONS	s47F	s47F

By approving this SCARD you acknowledge that:

- You are satisfied that the SCARD process has been completed correctly
- Regarding your area of authority or accountability, appropriately experienced and/or qualified staff participated in the process
- Sufficient and valid information has been included to justify the outcome

Step 10: SCARD Record Management

A copy of the approved SCARD must be sent to Regulatory Performance at RegulatoryPerformance@AirservicesAustralia.com. Regulatory Performance will contact the proponent of the change if there are any outstanding regulatory issues with the completion of the SCARD.
The original signed copy of the approved SCARD must be stored in an organisationally approved document repository by the proponent of the change.

FOI 23-12
Document 2d

Community Engagement Report

Tasmanian High Level Routes Changes

Version 1

Effective 26 June 2019

Endorsed:	Group and Community Engagement Manager	s47F
Approved:	Southern Operations Manager	s47F s47F

Change summary

Version	Date	Change description
1	26 June 2019	Document created

This document was created using Generic Document Template C-TEMP0047 Version 8.

Table of contents

1 Purpose

The purpose of this document is to provide a summary of community engagement activities completed in accordance with the approved Community Engagement Plan – Tasmanian High Level Route Changes.

This Community Engagement Report (CER) provides the required evidence to progress a flight path and/or airspace change in accordance with Environmental Management of Changes to Aircraft Operations (AA-NOS-ENV-2.100) and National ATS Administration Manual (NAAM)

2 Reference Documents

Title	Version and Date
Community Engagement Plan – Tasmanian High Level Route Changes NRFC 39711	V1, 24 May 2019
CIRRIS Change Record – EA - 0001433	
Environmental Impact Assessment of the Proposed New Route Structure for Hobart Airport	V1, 10 April 2019

3 Change Implementation

The implementation date for the proposed change is 7 November 2019 via

November 2019 AIRAC chart update.

4 Engagement Activities Completed

Engagement commenced on 30 May 2019 and concluded on 25 June 2019. The following summarises the activities completed during the engagement period.

Table 1 Engagement Activities Completed

Engagement Activity	Due Date	Completed Date
Airservices Website Update - Publication of High Level Routes information	24 May 2019	30 May 2019
Advice to community members registered with NCIS	17 June 2019	Not completed
Correspondence to Local Councils in affected areas	17 June 2019	25 June 2019
Launceston CACG – Out of Session Update Hobart CACG – Update, as required	17 June 2019	25 June 2019

These activities were completed later than the scheduled completion date due to additional reviews completed by Airservices operational personnel.

5 Engagement Outcomes and Effectiveness

Engagement on this proposal was limited to 'inform' only due to the limited scope and noticeability of the change. Information about the proposal will remain on Airservices community engagement hub, Engage Airservices, until the change is implemented.

5.1 Communication activities

- The fact sheet about the proposal was uploaded to Engage Airservices on 30 May 2019.
- To date the fact sheet has not been downloaded.
- No community letter about the changes was sent as there are currently no community members in the affected areas registered with NCIS.
- Correspondence advising of the changes were sent to the General Managers of six (6) local councils on 25 June 2019.
- NCIS provided an update advising of the changes, including the fact sheet, to the Chair of the Launceston and Hobart CACG respectively on 25 June 2019 (with a clarification provided on 26 June 2019).
- Information about the change was provided to industry stakeholders at the Operations Service Enhancement Forum on 8 May 2019.

5.2 Feedback

- No community feedback was received on the proposal.
- No feedback was received from the General Managers of local councils.
- No feedback was received on the proposal from the Launceston CACG or Hobart CACG.
- No industry feedback was received on the proposal.

6 Review of Risk Classification

Launceston Airport is currently classified as a **Medium** risk under RSK-000494 – *Failure to meet obligations with respect to managing aviation noise and its effects on communities and the environment.*

The changes to high level routes have been assessed as a **Low** reputational risk and it is recommended that classification remains.

The justification for this assessment recognises that, while the routes are at high levels some sections within the Hobart community continue to hold negative perceptions of Airservices consultation and flight path change decision making processes, and this may translate into some negative media articles if they seek to engage with journalists.

No change to the existing Launceston Airport risk classification is proposed.

Stakeholder Engagement Plan

Tasmanian High Level Route Changes

Version 1

Effective 24 May 2019

Endorsed:	Group and Community Engagement Manager (a/g)	s47F	s47F
Authorised:	Southern Operations Manager	s47F	

Table of contents

1 Purpose

The purpose of this document is to describe Airservices plan for stakeholder and community engagement activities to support the implementation of a new high level route structure (above 12,000 feet) to support the SID and STAR design of the Hobart Airspace Design Review.

2 Scope

In 2017 Airservices implemented Standard Instrument Departures (SIDs) and Standard Instrument Arrivals (STARs) which replaced the flight paths previously used.

Following community sensitivity to the changes, Airservices undertook the Hobart Airspace Design Review which concluded in March 2019. Airservices has developed final SIDs and STARs and associated airspace for the Hobart area.

To support the final SID and STAR design changes are required to the high level route structure across Tasmania. While the high level routes are linked to the Hobart Airspace changes they will be treated as a separate work package as the communities potentially affected are not in the Hobart area.

For the purposes of informing the community, the changes will be known as the 'Tasmanian High Level Route Changes.'

3 Reference Documents

The Stakeholder Engagement Plan is prepared with reference to the following:

- NRFC – 39711
- AA NOS ENV 2.100 version 14, 27 February 2019
- CIRRIS EA-0001433
- Targeted Environmental Impact Assessment Version 1, 10 April 2019 Environmental Assessment of the Proposed New Route Structure for Hobart Airport (TEIA).

4 Implementation

- Implementation Date: 7 November 2019 via AIRAC chart update

5 Objectives

The table below provides a summary of the stakeholder engagement objectives for the Tasmanian High Level Route Changes.

Airspace Change Objective
To design and implement high level routes that support the final SID and STAR design for the Hobart Airspace Design Review that considers, as far as practicable, all stakeholder requirements while meeting regulatory and operational requirements and the key areas of safety, efficiency and environment (including social impact).
Engagement Plan Objectives
• Demonstrating high quality community and stakeholder engagement using best practice principles.
• Engaging and informing community and stakeholders so that they are informed about upcoming changes.

6 New route structure

To support the final SID and STAR design from the Hobart Airspace Design Review several changes are required to the high level (above 12,000 feet) route structure across Tasmania.

The changes include:

- Arrivals from Melbourne will be moved to track on the existing route from IRSOM to HR037
- Arrivals from Adelaide and Perth will track on a new route from waypoint SALEM to HR037
- Non-jet arrivals from King Island will track on a new route from WYY NBD to waypoint LIFFY
- Departures to Perth and Adelaide will track on an existing route via waypoint CLARK to waypoint SALEM

An overview of the waypoints and routes is shown in Figure 1. More detailed maps and potential impacts can be found in section 7.1.1.

Figure 1: High Level Route Structure across Tasmania, new routes (green), existing routes (orange), removed routes (pink), STARs (yellow), SIDs (blue)

6.1 Relevant Considerations

Airservices addresses a range of 'relevant considerations' when considering a change to flight paths or aircraft management operations including:

- safety (always the primary consideration)
- efficiency (air traffic control, airlines and airports)
- environment (noise, emissions and the natural environment)
- engagement (industry and community).

After safety has first been assured, judgement about the impact on efficiency and the environment is informed through technical analysis and stakeholder engagement and as a result an 'on balance' decision can then be made as to whether a change should proceed to implementation.

Safety

The changes to high level routes support the new SID/STAR design for the Hobart Airspace Design Review, and ensure that aircraft are seamlessly connecting to the appropriate high level routes, reducing cross over and route complexity.

Operational Efficiency

The change results in a decrease in distance flown.

Environment

There is no material difference in CO^2 emissions anticipated as a result of the proposed route changes (due to minimal change in track miles).

Engagement

As this change will result in changes at high levels engagement will be limited to information provision only.

7 Impacts of the Proposed Change

According to the Targeted Environmental Impact Assessment - The Environmental Assessment of the Proposed New Route Structure for Hobart Airport CIRRIS 1433, Version 1, 10 April 2019:

> *"This EA finds that the proposed changes are not likely to result in any significant environmental impact within the meaning of the Commonwealth Environmental Protection and Biodiversity Conservation Act, 1999.*
>
> *The proposed changes will result in some changes to the pattern of how aircraft overfly areas of Tasmania, on approach to or departure from Hobart Airport. These may be visually noticeable to some individuals in communities below the proposed changes.*
>
> *There are no impacts expected on Matters of National Environmental Significance (MNES), or on sites of cultural and heritage value as a direct result of implementing the proposed changes.*
>
> *This assessment has not identified newly overflown locations as a result of the proposed changes."*

The Environmental Assessment of the Proposed New Route Structure for Hobart Airport CIRRIS 1433, Version 1, 10 April 2019 was assessed as a **Medium Environmental risk** in accordance with the Risk Management Standard AA-NOS-RISK-0001.

7.1 Noise and Visual Impacts

7.1.1 Areas affected

- With reference to Figure 2, residents near Wesley Vale, Deloraine, Quamby Brook and Golden Valley may notice an increase in arrivals on the existing route (orange). This is a result of Melbourne arrivals being moved from their current route (pink). There will be approximately 18 to 24 aircraft per day using this route. These aircraft will be above 13,000 feet. Residents may be able to hear aircraft at times, but the noise from these aircraft will be less than 46 decibels (dB(A)).
- Residents near Sassafras, Elizabeth Town and Red Hills will notice a decrease in arrivals as the route in this area will be removed (pink).

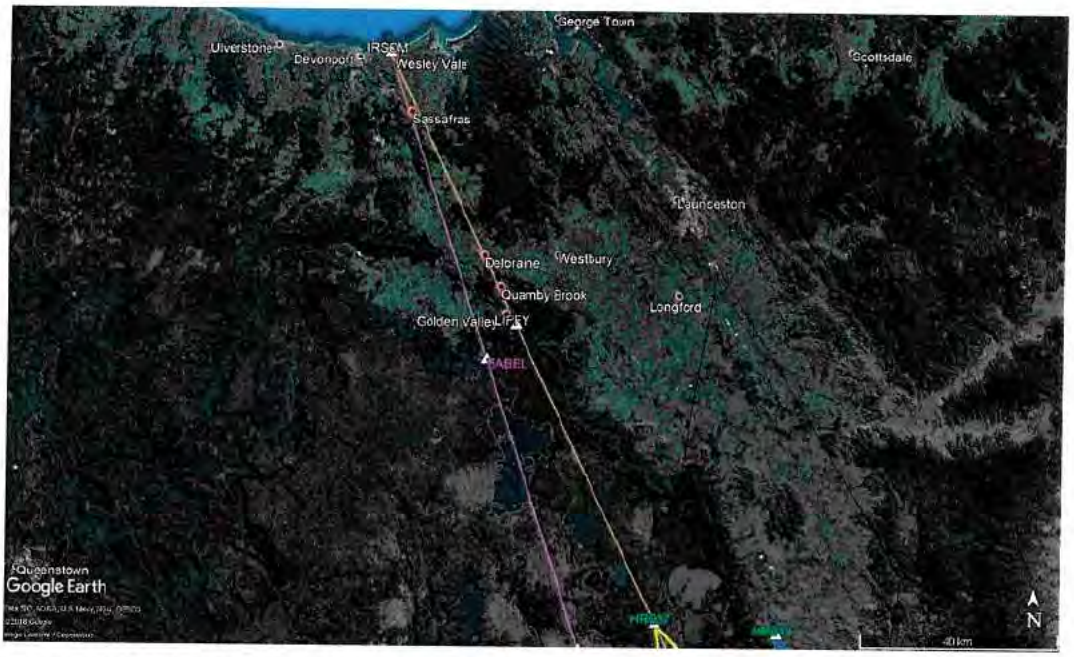


Figure 2: High Level Routes from Melbourne, existing route (orange), removed route (pink), STARs (yellow)

- Residents near Natone, Riana, Sheffield, Red Hills and Golden Valley will notice non-jet arrivals from north-western Tasmania on a new route (green). There will be approximately 2 to 4 non-jet aircraft per week using this route. These aircraft will be above 12,000 feet. The noise from these aircraft will be below 55 decibels (dB(A)). These aircraft will join with aircraft arriving from Melbourne (orange) near Golden Valley.

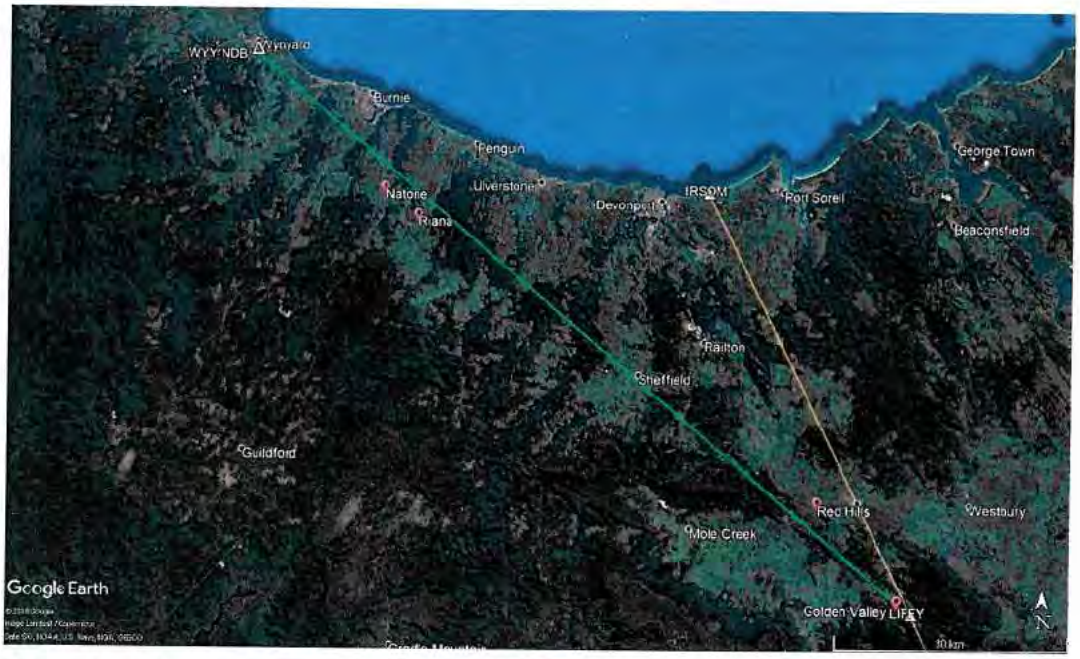


Figure 3: High Level Non-Jet Routes from North Western Tasmania, existing route (orange), new route (orange)

- Residents near Little Pine Lagoon, Shannon and Steppes will notice aircraft arriving on a new route (green). This will be as a result of Adelaide and Perth arrivals being moved from their current route (pink). There will be approximately 1 aircraft per day using this route from Adelaide and approximately 4 aircraft per week using this route

from Perth. These aircraft will be above 13,000 feet. Residents may be able to hear aircraft at times, but the noise from these aircraft will be less than 55 decibels (dB(A)).

- Residents near Bronte Park and Red Hills will notice a decrease in arrivals as the route in this area will be removed (pink).

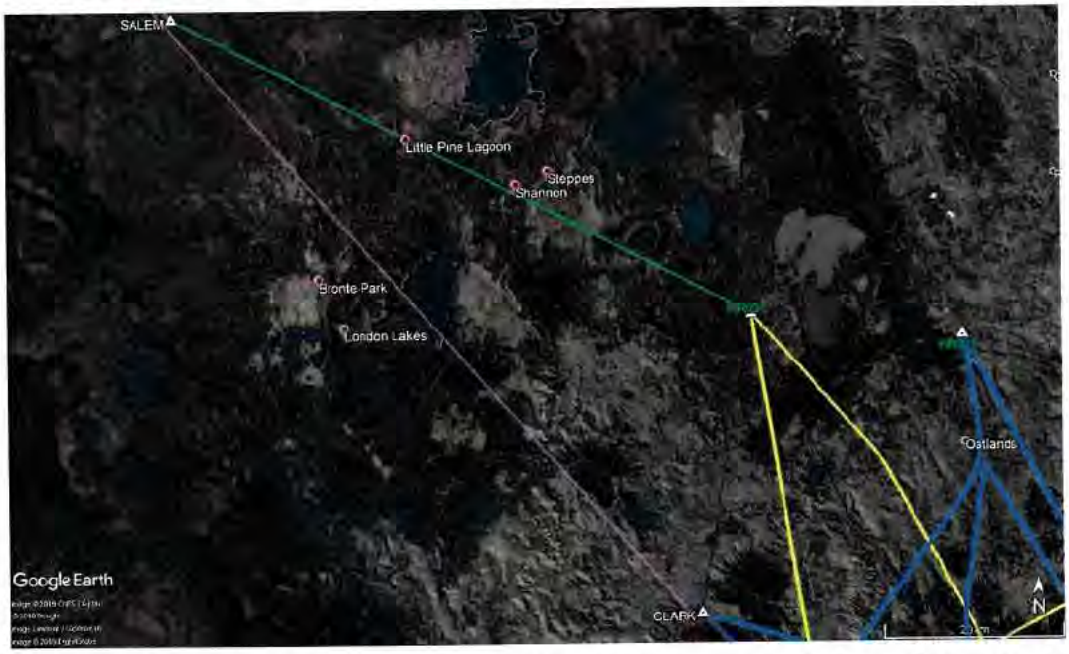


Figure 4: High Level Routes from Adelaide and Perth, new route (green), removed route (pink), STARs (yellow), SIDs (blue)

- Residents near Bronte Park and Red Hills will notice an increase in aircraft departing on a current route (orange). This will be as a result of Adelaide and Perth departures being moved from their current route north (orange). There will be approximately 1 aircraft per day using this route to Adelaide and approximately 4 aircraft per week using this route to Perth. These aircraft will be above 13,000 feet. Residents may be able to hear aircraft at times, but the noise from these aircraft will be less than 46 decibels (dB(A)).
- Residents near Longford will notice a decrease in departures as the Adelaide and Perth departures will no longer use the current route north (orange).

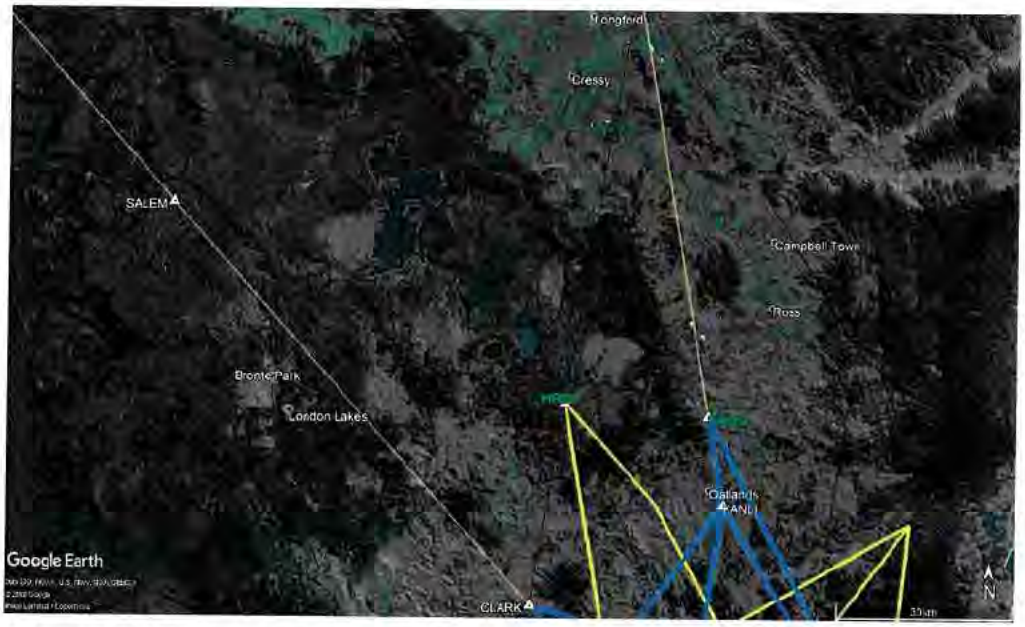


Figure 4: High Level Routes to Adelaide and Perth, existing routes (orange), STARs (yellow), SIDs (blue)

7.1.2 Ambient noise

The areas overflown are classified as predominately rural residential. Therefore they may be more sensitive to noise. The areas currently experience overflights however may notice a difference as a result of the changes.

7.2 Geographical and Heritage Impacts

The TEIA notes:

- **Natural Environment:** Given the proposed changes are at or above 13,000 feet, it highly unlikely that they will have any potential impacts on Matters of National Environmental Significance (NES).
- **Cultural and Heritage**: The Tasmanian Aboriginal people are acknowledged as the traditional owners of the areas of the proposed changes. Due to the minimum level of operations on the proposed route changes being above 13,000 feet, it is considered highly unlikely that matters of indigenous heritage or cultural significance will be impacted by the proposed changes.
- **Terrain**: There were no terrain impacts discussed in the TEIA.

7.3 Social Context

The proposed route changes are all at least 12,000 feet above ground level and, as such, no population analysis is required, as the potential noise impacts associated with the change are considered minimal.

7.3.1 Known community issues

Some community members maintain an active interest in the effects of Hobart operations, predominantly associated with the introduction of proposed airspace changes as a result of the Hobart Airspace Design Review. These community

members are located around the Hobart area and not in the area of the high level route changes.

There are no known issues in the communities underneath the changes.

7.4 Economic Context

7.4.1 State Growth

Region/Project	Project Detail	Potential Impact
Castle Hill Windfarm Central Plateau	The project will consist of 48 turbines, producing up to 150 MW of clean renewable electricity. Construction of the project is underway and the wind farm is aimed to become fully operational in 2019.	Not expected to impact on high level routes
Ashley Youth Detention Centre Deloraine	$7.3 million for a major redesign and upgrade of the Ashley Youth Detention Centre on its current site. Aiming for completion in 2021.	May lead to an increase in population under the Melbourne arrival route, however this is an existing arrival route and already subject to air traffic

7.4.2 Tourism

Tourism is the second largest economic contributor in Tasmania (behind processed metals) bringing around $1.3 billion to the local economy. Fresh produce, including seafood, meat and dairy, are also a significant contributors to the local economy[1].

The tourism sector is becoming a major contributor to Tasmania's economy. There is not expected to be any impact on tourism in Tasmania as a result of this change.

8 Stakeholder and Community Engagement

8.1 Overview

Airservices will be informing the community during this engagement, in accordance with the definition of informing used by the International Association of Public Participation (IAP2)[2].

8.2 Community

Members of the public who live in areas potentially affected by the change and who are registered with the Noise Complaints and Information Service will receive correspondence about the change.

[1] http://www.tasmaniatopten.com/lists/economic_contributors.php

[2] https://www.iap2.org.au/Tenant/C0000004/00000001/files/IAP2_Public_Participation_Spectrum.pdf

Due to the high level of interest in the Hobart Airspace Design Review there is likely to be interest in this change from residents who have had ongoing involvement (but do not live in the areas where the routes are changing). These residents will be able to access the overview poster which demonstrates how the routes fit with the SIDs and STARs design. However, as the changes do not affect them, they will not receive correspondence about the changes.

8.3 Elected representatives

For the affected communities it is more likely that concern will be raised with local than federal representatives (given the nature of the change and that they have not been involved in the ongoing review). Information on the routes will be provided via correspondence to local council general managers:

- Burnie City Council – Mr Andrew Wardlaw
- Central Coast Council – Ms Sandra Ayton
- Kentish Council and Latrobe Council – Mr Gerald Monson
- Meander Valley Council – Mr Martin Gill
- Northern Midlands Council – Mr Des Jennings
- Central Highlands Council – Ms Lyn Eyles

Snr Duniam, Mitchell etc – we did send them a note in the letter on HADR?

8.4 Aircraft Noise Ombudsman

Briefings for the "Tasmanian High Level Route Changes" will be conducted by Airservices Government Relations team, if requested.

8.5 CACG

The Launceston CACG Chair will be notified of the changes in an out of session update.

Due to the level of community interest as a result of the Hobart Airspace Design Review the Hobart CACG will also be notified.

8.6 Sensitive sites

There were no sensitive sites included (above 60dB(A)) in the TEIA.

8.7 Key messages

- In March, Airservices released the Hobart Airspace Final Design for aircraft arriving and departing at Hobart Airport.
- The final design includes Standard Instrument Departures (SIDs) and Standard Instrument Arrivals (STARs) to allow aircraft to land and depart at Hobart Airport.
- SIDs and STARs require high level routes (above 12,000 feet) to connect aircraft with their destinations.
- To support the final SID and STAR design several changes are required to the high level routes (above 12,000 feet) across Tasmania.

- The changes include:
    - Arrivals from Melbourne will be moved to join an existing route
    - Arrivals from Adelaide and Perth will track on a new route
    - Non-jet arrivals from the northwest will track on a new route
    - Departures to Perth and Adelaide will be moved to use an existing route
- Communities in these areas may notice aircraft flying on different high level routes.
- These changes will create predictable traffic flow for aircraft using these routes and lead to increased safety by reducing the workload for pilots and air traffic controllers.
- The routes will be integrated with the Hobart Airspace Final Design, to ensure separation of air traffic.
- Residents near Wesley Vale, Deloraine, Quamby Brook and Golden Valley may notice and increase in arrivals on the existing route. This will be as a result of Melbourne arrivals being moved from their current route. There will be approximately 18 to 24 aircraft per day using this route. These aircraft will be above 13,000 feet. Residents may be able to hear aircraft at times, but the noise from these aircraft will be less than 46 decibels (dB(A)).
- Residents near Sassafras, Elizabeth Town and Red Hills will notice a decrease in arrivals as the route in this area will be removed.
- Residents near Natone, Riana, Sheffield, Red Hills and Golden Valley will notice non-jet arrivals from north-western Tasmania on a new route. There will be approximately 2 to 4 non-jet aircraft per week using this route. These aircraft will be above 12,000 feet. The noise from these aircraft will be below 55 decibels (dB(A)). These aircraft will join with aircraft arriving from Melbourne near Golden Valley.
- Residents near Little Pine Lagoon, Shannon and Steppes will notice aircraft arriving on a new route. This will be as a result of Adelaide and Perth arrivals being moved from their current route. There will be approximately 1 aircraft per day using this route from Adelaide and approximately 4 aircraft per week using this route from Perth. These aircraft will be above 13,000 feet. Residents may be able to hear aircraft at times, but the noise from these aircraft will be less than 55 decibels (dB(A)).
- Residents near Bronte Park and Red Hills will notice a decrease in arrivals as the route in this area will be removed.
- Residents near Bronte Park and Red Hills will notice an increase in aircraft departing on a current route. This will be as a result of Adelaide and Perth departures being moved from their current route north. There will be approximately 1 aircraft per day using this route to Adelaide and approximately 4 aircraft per week using this route to Perth. These aircraft will be above 13,000 feet. Residents may be able to hear aircraft at times, but the noise from these aircraft will be less than 46 decibels (dB(A)).
- Residents near Longford will notice a decrease in departures as the Adelaide and Perth departures will no longer use the current route north.
- These high level routes will be implemented from November 2019.

8.8 Industry Stakeholders

The following Industry stakeholders were informed of the changes through the Airservices National Operations Service Enhancement Forum on 8 May 2019:

- Cobham
- Jetstar
- Qantas
- Qantaslink
- Skytraders
- Sharp
- Tigerair
- Virgin
- Airlines of Tasmania
- Cambridge Airport Flying Training Organisations
- General Aviation
- Royal Flying Doctors Service
- Express Freighters Australia
- Australian Business Aviation Association

8.9 Planned Engagement Activities

A summary of the engagement activities **planned** are outlined below

Engagement Activity	Attendees/Recipients	Method/Responsible	Date
Airservices Website Update - Publication of High Level Routes information	Various	Airservices Website GCE	24 May 2019
Advice to community members registered with NCIS	Community in affected areas (registered complainants on NCIS database)	By email GCE to prepare letter NCIS to send letter	17 June 2019
Correspondence to Local Councils in affected areas	• Burnie City Council – Mr Andrew Wardlaw • Central Coast Council – Ms Sandra Ayton • Kentish Council and Latrobe Council – Mr Gerald Monson • Meander Valley Council – Mr Martin Gill • Northern Midlands Council – Mr Des Jennings • Central Highlands Council – Ms Lyn Eyles	By email GCE to prepare and send letter. GR to review and approve	17 June 2019
Launceston CACG – Out of Session Update Hobart CACG – Update, as required	CACG Chair and CACG Members	GCE to prepare update NCIS to send email	17 June 2019

9 Risk Classification

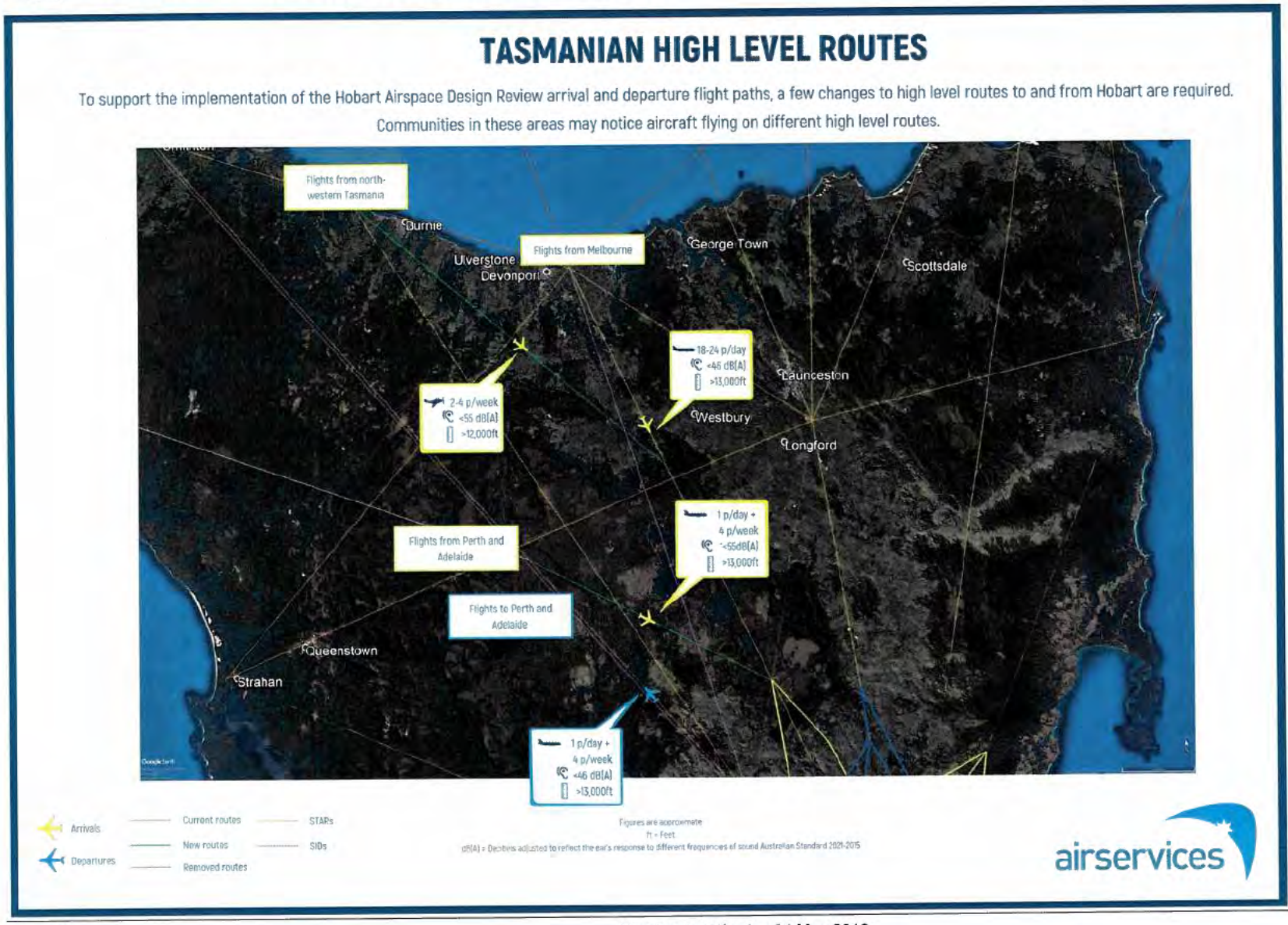
Hobart Airport is currently classified as a **Medium** (consequence: moderate, likelihood: possible) risk under RSK-0000494 - *Failure to meet obligations with respect to managing aviation noise and its effects on communities and the environment.*

Within the Airservices Risk Classification Matrix, AA-NOS-RISK-0001, the risk associated with implementing this proposal has been determined as a **Low** (Consequence: minor, likelihood: possible).

The justification for this assessment recognises that, while the routes are at high levels some sections within the Hobart community continue to hold negative perceptions of Airservices consultation and flight path change decision making processes, and this may translate into some negative media articles if they seek to engage with journalists.

		CONSEQUENCE				
		Insignificant	Minor	Moderate	Major	Catastrophic
LIKELIHOOD	Expected	Medium	Medium	High	Extreme	Extreme
	Likely	Low	Medium	Medium	High	Extreme
	Possible	Low	Low	Medium	Medium	High
	Unlikely	Negligible	Low	Low	Medium	Medium / High*
	Rare	Negligible	Negligible	Negligible	Low	Medium / High

Appendix A – Community Information



Appendix B – Letters

Council Letter

29 May 2019

BY EMAIL

Dear

Tasmanian High Level Route Changes

You may be aware that Airservices Australia recently undertook the Hobart Airspace Design Review and released the *Hobart Airspace Design Review Final Report* on 29 March 2019.

The final design includes Standard Instrument Departures (SIDs) and Standard Instrument Arrivals (STARs) to allow aircraft to land and depart at Hobart Airport. SIDs and STARs require high altitude routes (above 12,000 feet) to connect aircraft with their destinations.

To support the final SID and STAR design a few changes are required to the high level routes (above 12,000 feet) across Tasmania.

Communities in these areas may notice aircraft flying on different high level routes.

More detail can be found in the attached fact sheet. This fact sheet can also be accessed on our website at engage.airservicesaustralia.com

These changes will create predictable traffic flow for aircraft using these routes and lead to increased safety by reducing the workload for pilots and air traffic controllers.

The routes will be integrated with the Hobart Airspace Final Design, to ensure separation of air traffic.

We will be corresponding directly with community members in these areas who have registered their interest on receiving updates to flight path and airspace changes. We will also be providing information to the Launceston Airport Community Aviation Consultation Group (CACG).

The implementation of the final Hobart airspace and flight path design is planned for 7 November 2019. The Civil Aviation Safety Authority (CASA) Office of airspace Regulation (OAR) approved the Airspace Change Proposal on 8 May 2019.

I trust that this information is useful to you.

Yours sincerely

s47F
Group and Community Engagement Manager
Air Navigation Services
Airservices Australia

Community Letter

30 May 2019

BY EMAIL

www.airservicesaustralia.com

Tasmanian High Level Route Changes

I would like to provide you with information on changes to high Level routes within Tasmania.

You may be aware that Airservices Australia recently undertook the Hobart Airspace Design Review and released the *Hobart Airspace Design Review Final Report* on 29 March 2019.

The final design includes Standard Instrument Departures (SIDs) and Standard Instrument Arrivals (STARs) to allow aircraft to land and depart at Hobart Airport. SIDs and STARs require high level routes (above 12,000 feet) to connect aircraft with their destinations.

To support the final SID and STAR design several changes are required to the high level routes (above 12,000 feet) across Tasmania.

These changes will create predictable traffic flow for aircraft using these routes and lead to increased safety by reducing the workload for pilots and air traffic controllers.

The routes will be integrated with the Hobart Airspace Final Design, to ensure separation of air traffic.

Please find attached a fact sheet which describes the changes in more detail. This fact sheet can also be accessed on our website at engage.airservicesaustralia.com

The implementation of the final Hobart airspace and flight path design is planned for 7 November 2019. The Civil Aviation Safety Authority (CASA) Office of airspace Regulation (OAR) approved the Airspace Change Proposal on 8 May 2019.

I trust this information is of assistance.

Yours sincerely

s47F

Group and Community Engagement Manager
Air Navigation Services
Airservices Australia

Environmental Assessment of the Proposed New Route Structure for Hobart Airport

CIRRIS EA-0001433

Version 1.0

Effective 10 April 2019

Prepared: s47F
Senior Environment and Noise Specialist

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Senior Environment and Noise Specialist
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Reviewed: s47F
Airport and Environmental Assurance Team Leader
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Reviewed: s47F
Acting ANS Service Manager
s47F s47F

Change summary

Version	Date	Change description
0.1 - 0.2	1 April 2019	Initial drafts
0.3 - 0.4	3 April 2019	Initial drafts for review
0.4 - 0.7	4 April 2019	Updated drafts following internal review
1.0	10 April 2019	Final draft reviewed and approved for internal release

This document was created using Generic Document Template C-TEMP0047 Version 8.

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1 Purpose

The purpose of this document is to conduct an environmental assessment (EA) of a proposal by Airservices to amend the route structure to and from Hobart Airport to support new Standard Instrument Departure (SID) and Standard Instrument Arrival (STAR) changes. The corresponding EA for the SIDS and STARS is EA-0001407 (dated 8 November 2018) and Addendum to EA-0001407 (dated 28 March 2019).

This EA includes analysis and assessment of the significance of any potential environmental impacts of the proposed route structure change, including noise and visual impacts on communities, ecological and heritage impacts, and effects on aircraft emissions.

The assessment is required to meet Airservices obligations under sections 28 and 160 of the Commonwealth *Environmental Protection and Biodiversity Conservation (EPBC) Act, 1999*. As a Commonwealth agency, Airservices is required (by the EPBC Act) to assess the potential environmental significance of any 'actions' it takes, including changes to on-ground operations and changes to air traffic management (ATM) practices.

This EA also includes a summary of social analysis data from the area of the proposed change, to provide Airservices Group and Community Engagement (G&CE) Team with information to prepare a social impact assessment as part of their Stakeholder Engagement Plan (SEP).

2 Airport description

Hobart International Airport (ICAO code: YMHB) is located at Cambridge, 17 km east of Hobart, Tasmania. It is the major passenger airport in Tasmania. Information from the Hobart Airport Master Plan (2015) shows that the airport is served by Australia's four main passenger airlines: Qantas, Jetstar, Virgin Australia and Tiger Airways. These airlines carried 2.1 million passengers in the 2014 calendar year to and from Hobart Airport (Hobart Airport Master Plan, 2015). Qantas Freight and Toll operate dedicated freight operations from the airport, and it also serves as a port for the Royal Flying Doctor Service (RFDS), with more than 365 flights a year.

Hobart Airport is situated on a narrow peninsula with take-offs and landings directed over bodies of water, regardless of approach or departure direction.

The airport has one runway, RWY 12/30, which is 2,251 metres long and 45 metres wide. Hobart Airport is equipped with approach, runway and taxiway lighting for day and night time operations. The airport is able to cater for aircraft types up to Boeing 767 size, with capability for handling weight-restricted Boeing 747 operations. The Hobart Air Traffic Control Tower's opening hours are between 6am and 10:30pm local time.

Hobart Airport's published instrument flight procedures include an instrument landing system (ILS) for RWY 12, VHF Omni-Directional Radio Range (VOR) for RWY 12/30 and Distance Measuring Equipment (DME) or Global Navigation Satellite System (GNSS) arrival instrument procedures for RWY 12/30. Figure 1 below shows a satellite image of Hobart Airport.

Figure 1: Satellite image of Hobart Airport (showing Runway 12 and Runway 30).

3 Background

This document relates to EA-0001407, *Environmental Assessment of Proposed Changes to SIDs and STARs at Hobart Airport*, *version 1.3 (dated 8 November 2018)* and *Environmental Assessment of Proposed Changes to SIDS and STARS at Hobart Airport – Addendum, version 2.3 (dated 28 March 2019)* which assess the potential environmental impacts associated with proposed changes to the existing Hobart SIDs and STARs. The analysis formed within this document (EA-0001433) relates to areas prior to the commencement of the SID/STAR design. The area of analysis can be seen below in **Figure 2**.

Note that EA-0001407 contains relevant background for the changes to the SIDs and STARs in the Hobart area. This information has not been reproduced here.

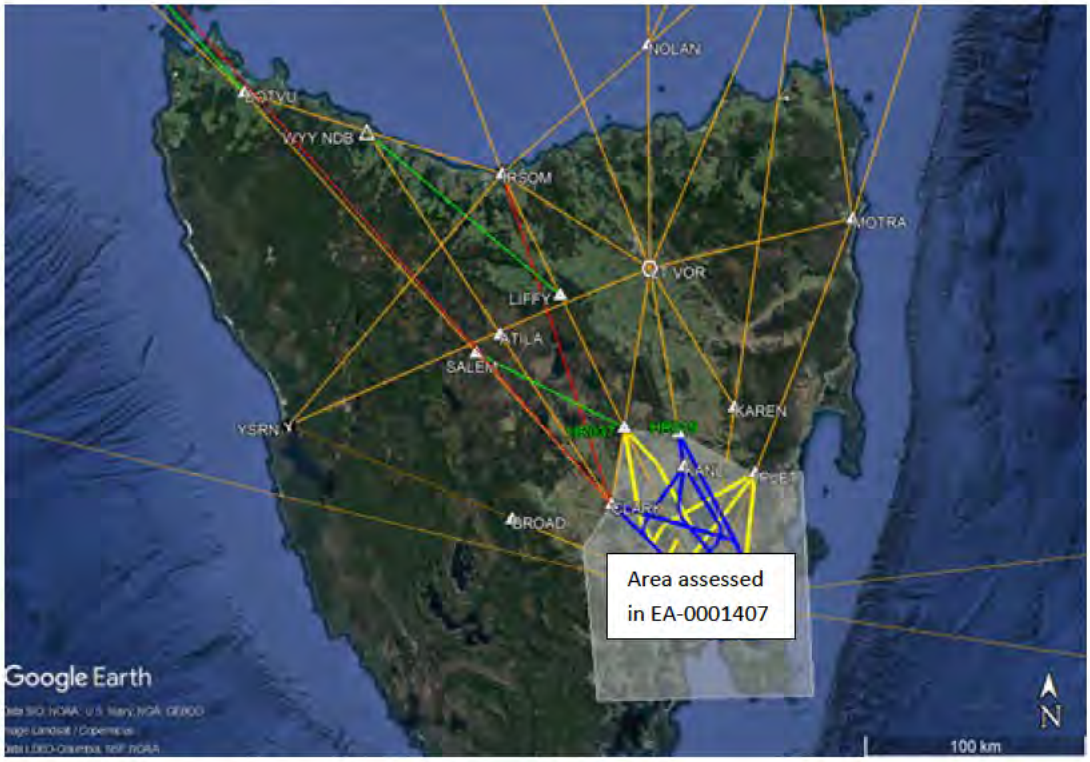


Figure 2: Area of analysis, showing existing routes (orange), proposed new routes (green) and proposed deleted routes (red). SIDs (blue), STARs and associated approaches (yellow), assessed under EA-0001407, are also shown.

In **Figure 2** above, the proposed new routes are shown in green, proposed deleted routes are shown in red and routes to remain are shown in orange. The area previously assessed in EA-0001407 is shaded in white, including SIDs (blue), STARs and associated approaches (yellow).

4 Proposed change

Airservices ANS Group is proposing to amend the route structure to and from Hobart Airport to support new Standard Instrument Departure (SID) and Standard Instrument Arrival (STAR) changes. The changes are described in detail below. Imagery relating to each change is provided in Section 5 below.

Arrivals from Melbourne

Current	Proposed
All Hobart inbound traffic from Melbourne (55% of inbound movements) currently track via route H169.	Hobart arrivals from Melbourne (and Essendon) will track via the existing route W282 south of waypoint IRSOM (Devonport) to connect with the STAR HR037.

Arrivals from Adelaide and Perth

Current	Proposed
Adelaide traffic arriving to Hobart currently track via route J43 to waypoint CLARK and then on to the CLARK STAR. Perth traffic currently arrives via routes across the Southern Ocean, then direct segments to S40 E140 and waypoint SALEM thence route W519 to waypoint CLARK for the CLARK STAR. There is currently no requirement for a fixed ATS route between S40 E140 and SALEM.	A new route from waypoint SALEM to HR037 will allow arrivals from Adelaide and Perth to connect with the HR037 STAR.
Arrivals from Adelaide on route J43 track via waypoints GRACY to KAYTU, then to CLARK. Tracking via route J43 (between KAYTU and CLARK) results in aircraft passing approximately 1km to the northeast of waypoint DOTVU (on route W519). The route J43 tracks continue converging with route W519 until they meet at waypoint CLARK. Note: ATS route W519 tracks as follows: waypoints NOGIP, King Island NDB, DOTVU, SALEM, CLARK.	Arrivals from Adelaide will track as follows: waypoints BORTO, GRACY KAYTU, DOTVU, SALEM thence to HR037 to track via the HR037 STAR (on to RWY 30 or RWY 12).

Departures from Hobart

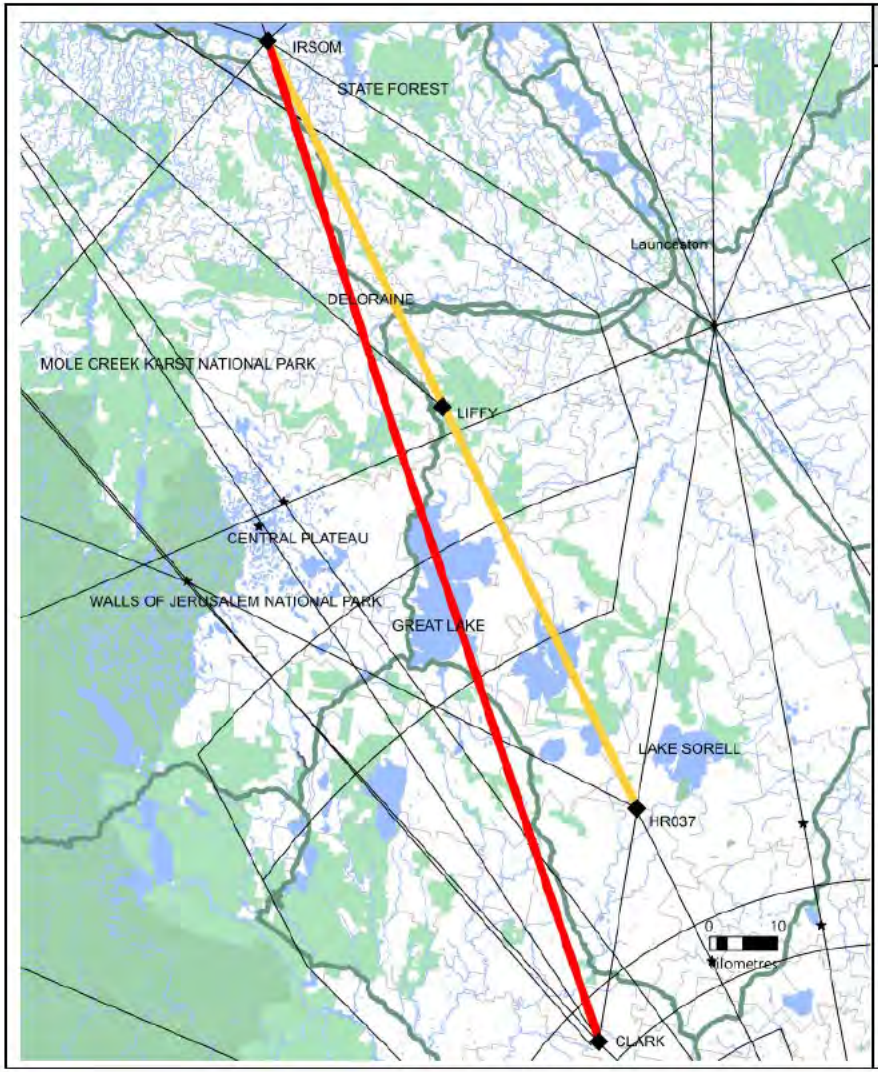
Current	Proposed
All outbound traffic currently tracks via waypoint KANLI thence on to route W295 (and overhead Launceston), then onwards to the destination.	All traffic to Melbourne (and Essendon), Sydney, Brisbane, Gold Coast and east coast Australia will continue to track via route W295, thence Launceston. Traffic to Perth, Adelaide and other western airports will track outbound via waypoint CLARK, thence via the new route (as per current route W519 south of waypoint DOTVU). Note: Jet aircraft will be above 20,000ft by SALEM waypoint. There are currently no non-jet Regular Public Transport (RPT) services between Hobart and north-western Tasmania (or mainland Australia, west of Melbourne). Note: Due to high level winds (and other aircraft operator reasons), traffic to Adelaide may sometimes also track/flight plan via route W295.

5 Environmental Assessment

The following table describes in detail each proposed route change and the assessment of its environmental impact. For each proposed change, an analysis of the proposed routes, amount and type of flight traffic and overflown communities is shown.

Table 1: Environmental analysis of proposed new route structure for Hobart Airport.

Route segment/ Operations	*Current*	*Proposed*	*Usage*	*Aircraft altitude*	*Communities and areas overflown (that may notice the change)*
Arrivals from Melbourne	All Hobart inbound traffic from Melbourne (55% of inbound aircraft) currently track via route H169, to waypoint CLARK.	Hobart arrivals from Melbourne (and Essendon) will track via existing route W282, south of IRSOM (Devonport), to connect with the STAR HR037, via waypoint LIFFY.	Currently ~18 to 24 aircraft per day, including B738, A320 and other aircraft types.	Just prior to HR037, aircraft will be descending through 13,000ft for RWY12 and descending through 15,000ft for RWY30.	<u>IRSOM to LIFFY on existing W282:</u> Central Plateau Liffey Falls State Reserve Quamby Brook Deloraine (major town) Sassafras Moriarty Wesley Vale <u>HR037 to LIFFY on existing W282:</u> Alma Tier Nature Reserve Steppes The Steppes Conservation Area The Steppes State Reserve Shannon Five Mile Pinnacles Conservation Area Remarkable Rock Forest Reserve Little Pine Lagoon



Discussion of potential impacts

The image shows the existing Melbourne arrival route (red) that will be removed under this proposal. The proposed change will put additional traffic on the existing route W282 (waypoints IRSOM to HR037), shown in orange. The architecture of the existing airspace and air route structure is shown as black lines for context.

The distance between the two routes, ranges between 0km at IRSOM and 15km at waypoint HR037.

There are many central Tasmanian areas stated in the table above that may notice the change, both audibly and visually. The main populated town that will be overflown by the proposed change is Deloraine, located between IRSOM and LIFFY. Deloraine is approximately 5.5km laterally from the current arrival route from Melbourne, compared to being directly beneath W282 (the proposed arrival route from Melbourne).

Waypoint HR037 is approximately 80km form the nearest runway end. At 40km from the runway threshold, INM modelled noise levels for a B738 arrival are 46dB(A), therefore predicted noise levels at HR037 would be lower.

As a result of the proposed change, there will be an increase in overflights, due to arrivals from Melbourne now tracking via route W282 instead of H169 south of IRSOM. Aircraft may be audible at times, however noise levels do not trigger Airservices thresholds for potential significant environmental impact, as shown in Appendix A.

Route segment/ Operations	*Current*	*Proposed*	*Usage*	*Aircraft altitude*	*Communities and areas overflown (that may notice the change)*
North Western Tasmania Wynyard NDB (WYY NDB) to waypoint LIFFY		New route from WYY NDB to waypoint LIFFY to join route W282 (then HR037 STAR).	Currently ~2-4 movements per week, by twin engine propeller aircraft (BE20 - Beechcraft Super King Air 200) per week	Likely 12,000ft	Fairly Glade State Reserve Quamby Bluff Golden Vally Long Ridge Forest Reserve Needles Red Hills Dunorlan Weegena Lower Beulah Beulah Sheffield Nowhere Else Barrington Lower Wilmot Sprent Camena West Pine Cuprona Stowport Havenview Mooreville West Mooreville Somerset Doctors Rocks

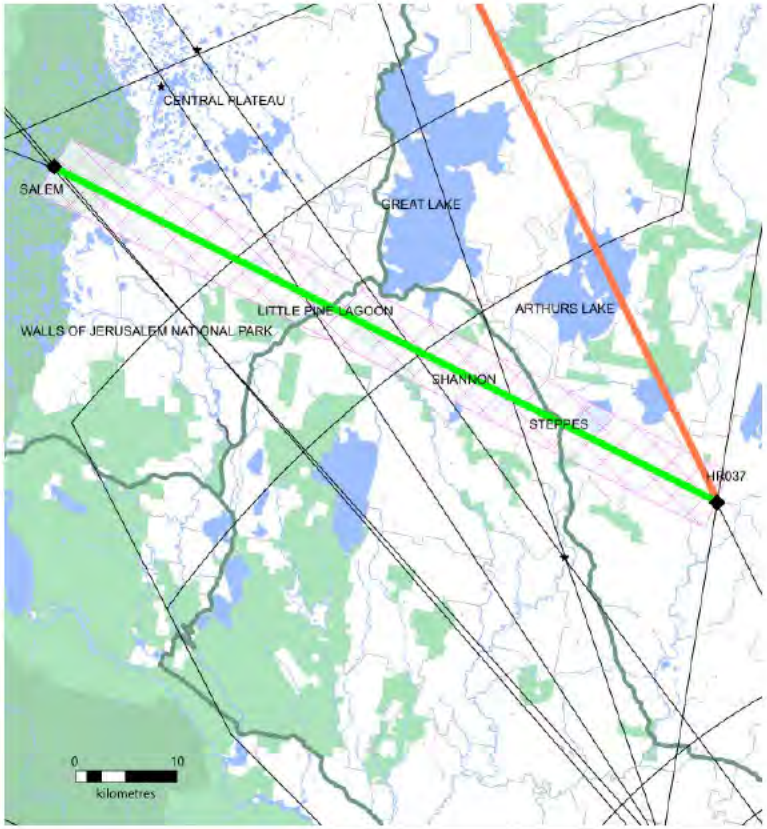
Discussion of potential impacts

The proposed route (green line in the image) connects propeller/turboprop aircraft from Wynyard NDB (including traffic from King Island overflying Wynyard NDB) to waypoint LIFFY (on route W282), to join arrival traffic from Melbourne (orange line) via the HR037 STAR. The architecture of the existing airspace and air route structure is shown as black lines for context.

A number of communities in this area of north west Tasmania will be overflown by the proposed change, as shown in the table above.

At 20km from the runway threshold, a Cessna Conquest on arrival, which is the identified substitution for a BE20 in *AS2021:2015 Acoustics—Aircraft noise intrusion—Building siting and construction (AS2021:2015)*, has modelled noise levels of 55dB(A). Waypoint LIFFY is over 145km from the Runway 12 threshold and therefore noise levels from these aircraft will be below 55dB(A), based on AS2021:2015. The proposed changes do not trigger Airservices thresholds for potential significant environmental impact but may be visually noticeable.

Route segment/ Operations	*Current*	*Proposed*	*Usage*	*Aircraft altitude*	*Communities and areas overflown (that may notice the change)*
Arrivals from Adelaide and Perth	Arrivals from Adelaide currently track via route J43 to waypoint CLARK thence the CLARK STAR. Arrivals from Perth currently track on routes via the Southern Ocean thence S40 E140, waypoints SALEM and CLARK, then on to the CLARK STAR.	Arrivals from Adelaide will track via J43 (this route will have a new name) to waypoint KAYTU, then via a new segment from KAYTU to DOTVU, then via (what is currently) route W519 to waypoint SALEM (joining the Perth traffic), then via the new route between SALEM and HR037 for the HR037 STAR. Arrivals from Perth will continue current tracking to waypoint SALEM (joining the Adelaide arrivals) via the new route between SALEM and HR037 for the HR037 STAR.	There is currently one flight per day from Adelaide to Hobart (A320) and four flights per week from Perth to Hobart (B738).	Just prior to waypoint HR037, aircraft will be descending through 13,000ft for arrivals to RWY12 and descending through 15,000ft for arrivals to RWY30.	Steppes Shannon Little Pine Lagoon



Discussion of potential impacts

The proposed route (green line in the image) will connect arrivals from Perth and Adelaide to waypoint LIFFY, merging with arrivals from Melbourne (orange line) at waypoint HR037 for the commencement of the HR037 STAR. The architecture of the existing airspace and air route structure is shown as black lines for context.

The area between waypoints SALEM and HR037 has existing routes generally travelling in a north to south direction. The proposed change in traffic direction (in a more east-west direction) may be visually noticeable.

A number of community areas are overflown as shown in the table above.

At 5,400ft, INM modelling for a B737-800 and A320-232 shows the expected noise levels to be approximately 55dB(A) and 53 dB(A), respectively. Noise levels at 13,000ft in the area of the proposed change are expected to be lower. Therefore, noise levels at locations that will be overflown by the proposed change will not trigger Airservices thresholds for potential significant environmental impact. However, individuals in the communities listed above may find the proposed change noticeable.

Route segment/ Operations	*Current*	*Proposed*	*Usage*	*Aircraft altitude*	*Communities and areas overflown (that may notice the change)*
Arrivals from Adelaide	Arrivals from Adelaide currently track via route J43 to waypoint CLARK, passing waypoints GRACY and KAYTU. Aircraft on J43 currently pass approximately 1km northeast of waypoint DOTVU (on route W519). Route J43 continues converging with W519 until they meet at waypoint CLARK.	Arrivals from Adelaide will continue to track to waypoint KAYTU, as currently. From KAYTU, aircraft will now track to waypoint DOTVU and then to SALEM (then to HR037 for the STAR), effectively tracking as per the current route W519, south of DOTVU. The slight change in tracking from waypoint KAYTU to DOTVU (instead of KAYTU direct to CLARK), will result in aircraft passing approximately 1km further southwest from Smithton, compared to current operations (at cruise altitudes).	There is currently one A320 per day operating from Adelaide to Hobart.	There will only be high level jets on the new KAYTU to DOTVU segment (similar to J43 north of Tasmania). However, the existing portion of route W519 (will have a new route name), between waypoints DOTVU and SALEM, will now have high level jets in addition to current low level traffic (see image below).	Smithton

Discussion of potential impacts

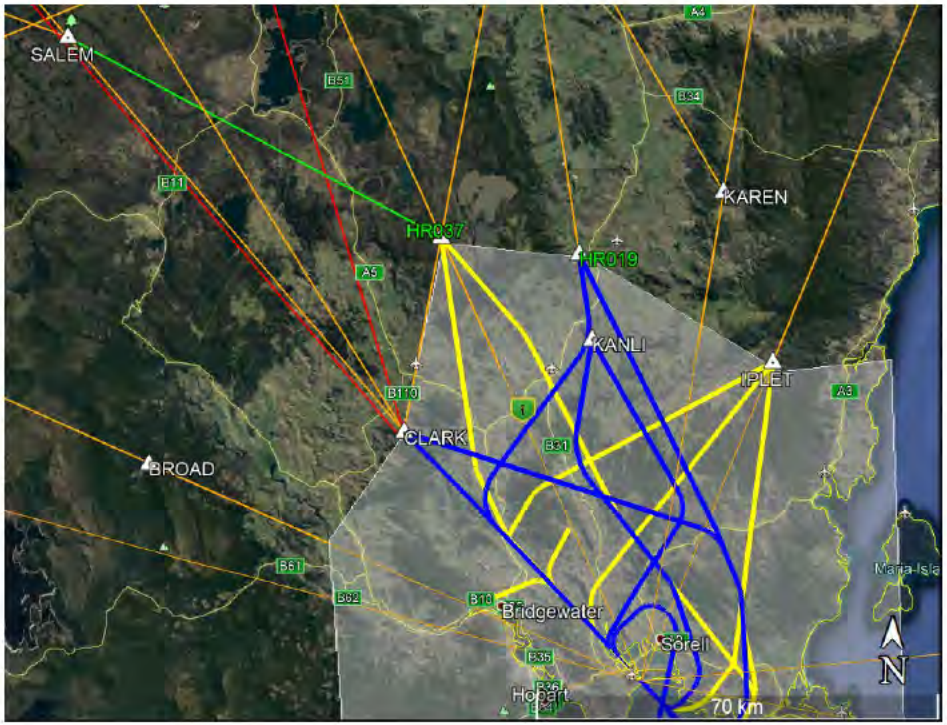
This proposal will result in current traffic (on route J43) moving approximately 1km southeast of Smithton (J43 is currently over the top of Smithton). In the image on the left:

- the red line represents route J43 (which is being deleted),
- the orange line represents route W519, which will remain as is (except for a name change south of waypoint DOTVU, which will be the same name as the route with the KAYTU DOTVU segment), and
- the green line represents the new route segment between waypoints KAYTU and DOTVU, that will effectively link the northern portion of route J43 (BORTO GRACY KAYTU) with the southern portion of route W519 (DOTVU SALEM CLARK).

Based on current movements, the proposed change will result in an increase of one movement per day on the track between waypoints DOTVU and SALEM. This will also result in current high level traffic on J43 operating slightly away from Smithton. As the additional traffic movement is only once per week and operates at or above 20,000ft, the proposed change does not trigger Airservices threshold for potential significance.

Note: the proposed new route will not be restricted to operations above 20,000ft. However, due to the new segment of the route commencing at waypoint KAYTU (i.e. the aircraft will be departing Adelaide), there is very unlikely to be operators/aircraft operating this new segment below 20,000ft (due to the flight distance from Adelaide to Hobart).

Route segment/ Operations	*Current*	*Proposed*	*Usage*	*Aircraft altitude*	*Communities and areas overflown (that may notice the change)*
Departures from Hobart to Perth, Adelaide and other western airports	All outbound traffic currently tracks via waypoint KANLI thence on to route W295 (and overhead Launceston), then onwards to the destination.	All traffic to Melbourne (and Essendon), Sydney, Brisbane, Gold Coast and east coast Australia will continue to track via route W295, thence Launceston. Traffic to Perth, Adelaide and other western airports will track outbound via waypoint CLARK, thence via the new route (as per current route W519 south of waypoint DOTVU). Note: Jet aircraft will be above 20,000ft by SALEM waypoint. The following analysis only considers the change between waypoint CLARK and waypoint SALEM. There are currently no non-jet Regular Public Transport (RPT) services between Hobart and north-western Tasmania (or mainland Australia, west of Melbourne).	There is currently one flight per day to Adelaide from Hobart (A320) and four flights per week to Perth from Hobart (B738).	At waypoint CLARK, jet aircraft are anticipated to be above 13,000ft, and will be above 20,000ft by SALEM waypoint.	No identifiable communities underneath or within close proximity of the route between waypoints CLARK and SALEM. There are a small number of individual residences visible through satellite imagery.



Discussion of potential impacts

The proposed change for departures from Hobart to Perth, Adelaide and other western airports will occur predominantly above 20,000ft. Between waypoints CLARK and SALEM, jet aircraft are anticipated to be below 20,000ft.

No communities were identified underneath or within close proximity of the route between waypoints CLARK and SALEM, however there are a small number of individual residences visible within the vicinity of the proposed change.

Waypoint CLARK is over 50km from RWY30. At 40km from the start of take-off, INM modelled noise levels for a B738 are 46dB(A), with modelled noise levels for the A320 at the same distance being 43dB(A). Altitude levels for both aircraft at this distance using a standard altitude profile are above 10,000ft.

Individuals underneath the proposed route may observe a noticeable visual change, however as associated noise levels are well below 60dB(A), this change will not trigger Airservices thresholds for potential significant environmental impact.

Note: There are currently no non-jet Regular Public Transport (RPT) services between Hobart and north-western Tasmania (or mainland Australia, west of Melbourne).

6 Further environmental assessment

6.1 Matters of National Environmental Significance (MNES)

Given that the proposed changes in this environmental assessment are at or above 13,000ft, it is highly unlikely that they will have any potential impacts on MNES which may occur underneath the proposed routes.

As a result, further MNES searches were not conducted for the areas of the proposed route changes, as part of this assessment.

6.2 Matters of indigenous heritage and cultural significance

The Tasmanian aboriginal people are acknowledged as the traditional owners of the areas of the proposed changes.

Due to the minimum altitude of operations on the proposed route changes being above 13,000ft, it is considered highly unlikely that matters of indigenous heritage or cultural significance will be impacted by the proposed changes.

6.3 Aircraft emissions

A detailed analysis of aircraft emissions has not been undertaken as part of this assessment because there is no material difference in CO_2 emissions anticipated as a result of the proposed route changes. This is due to analysis undertaken which has identified minimal changes in aircraft tracking.

7 Social data analysis

The proposed route changes are all at least 13,000ft above ground level and, as such, no population analysis is required, as the potential noise impacts associated with the change are considered minimal. Any potential visual impacts have been identified in Section 5.

8 Findings

8.1 Visual and noise impacts

This assessment includes an analysis of the potential visual and noise impacts associated with four of the changes related to the proposed new route structure for Hobart Airport.

A component of this proposal is to move the Hobart arrivals from Melbourne further east, when aircraft are south of IRSOM/Devonport. Under this proposal, the arrivals from Melbourne will track via route W282 from waypoint IRSOM to HR037 (waypoint at intersection of W282 and W203), instead of the current tracking (via route H169 and waypoints IRSOM to CLARK). The proposed change will result in an increase in overflights of aircraft on route W282. Aircraft may be audible at times to communities below the proposed change (as listed in Section 5), however these noise levels will be below 60 dB(A), and therefore do not trigger Airservices thresholds for potential significant environmental impact. This amendment may be noticeable to overflown communities, however these aircraft will still be at altitudes of approximately 15,000ft for RWY 30 arrivals, and 12,000ft for RWY 12 arrivals (upon reaching waypoint HR037 for commencement of the STAR). The main town that will be overflown with increased frequency (as a result of the proposed change) is Deloraine, which is currently displaced by approximately 5.5km from the existing arrival route for Hobart arrivals from Melbourne (and Essendon). Given the arrival route (W282) will now directly overfly Deloraine, overflights may be noticeable to individuals in this community, as a result of the proposed change.

The proposed new route between the Wynyard NDB and waypoint LIFFY will connect non-jet aircraft to the HR037 STAR. A number of community areas in north-west Tasmania will be overflown by the proposed change, as described in Table 1. The proposed new route segment may result in aircraft being visually and audibly noticeable, however the predicted usage is anticipated to be infrequent and (based on current data) will not have any regular passenger transport services operating on it. As the proposed change is over 145km from the nearest runway threshold, noise levels are predicted to be significantly below 55dB(A) and therefore do not trigger Airservices thresholds for potential significance.

The proposed new route between waypoints SALEM and HR037 will connect traffic from Perth and Adelaide (and other ports north-west of Tasmania) to the HR037 STAR. Based on current aircraft movement data, the new proposed route will have approximately 10-15 jets per week (and a few itinerant turboprop aircraft) tracking in an easterly direction. The change may be noticeable to communities below the proposed change, particularly in relation to the change in track direction (more east-west), compared to the current track direction (more north-south). The communities overflown by the proposed change have been identified in Table 1. While noise associated with these overflights may be noticeable some individuals in these communities, these noise levels do not trigger Airservices thresholds for potentially significant environmental impact.

The amendments to both route J43 and route W519, have no identified impacts on the communities beneath the route, this is due to it relating to high altitude, once per day flights only (arrivals from Adelaide). There is a very small likelihood there will ever be low level traffic on the new segment (KAYTU to DOTVU) of the amended route.

Changes associated with the departures to Perth, Adelaide and other western airports may result in visual changes but do not trigger Airservices thresholds for potentially significant environmental impact.

Based on this assessment, Airservices' thresholds for potentially significant environmental impact have not been triggered. It should be noted that the composition of traffic may possibly change over time and there is the potential for operators to commence RPT services that will result in variances to the figures analysed in this document.

8.2 Natural environment impacts

This assessment has found that there are no likely impacts on the natural environment, due to implementing the proposed amended route structure north of Hobart, as the proposed changes are all at a minimum of 13,000ft altitude.

8.3 Cultural and heritage value impacts

The Tasmanian aboriginal people are acknowledged as the traditional owners of the areas of the proposed change.

This assessment has found that there are no likely impacts on areas of indigenous heritage and cultural significance, due to implementing the amended route structure north of Hobart, as the proposed changes are all at a minimum of 13,000ft altitude.

8.4 Emissions impacts

There is no material difference anticipated in aircraft emissions produced as a result of the proposed route changes. This is due to minimal changes in track miles.

9 Risk classification

The environmental impacts of the proposed route changes, based on the analysis and findings in this report, have been assessed utilising Airservices Risk Management Framework (ARMF), as defined in Airservices *Risk Management Standard (AA-NOS-RISK-0001)*.

The proposed change has been determined to be a **medium environmental risk** (as shown in large font in Table 2, below).

Table 2: Airservices Risk Classification Table (*AA-NOS-RISK-0001* - Table 1, p12).

		CONSEQUENCE				
		Insignificant	Minor	Moderate	Major	Catastrophic
LIKELIHOOD	Expected	Medium	Medium	High	Extreme	Extreme
	Likely	Low	**Medium**	Medium	High	Extreme
	Possible	Low	Low	Medium	Medium	High
	Unlikely	Negligible	Low	Low	Medium	Medium / High*
	Rare	Negligible	Negligible	Negligible	Low	Medium / High*

10 Conclusion

This EA finds that the proposed changes are not likely to result in any significant environmental impact within the meaning of the Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999*.

The proposed changes will result in some changes to the pattern of how aircraft overfly areas of Tasmania, on approach to or departure from Hobart Airport. These may be visually notice to some individuals in communities below the proposed changes.

There are no impacts expected on Matters of National Environmental Significance (MNES), or on sites of cultural and heritage value as a direct result of implementing the proposed changes.

This assessment has not identified newly overflown locations as a result of the proposed changes. It is recommended that a Stakeholder Engagement Plan (SEP) is prepared by Airservices G&CE Team to identify and mitigate any potential reputational risks associated with the proposed changes.

The proposed changes have been assessed as a medium environmental risk.

11 Appendices

Appendix A – Airservices aircraft noise significance criteria

Appendix B – Methodology

Appendix A Airservices aircraft noise significance criteria

Appendix B Airservices Aviation Noise EPBC Act Referral Criteria for Environmental Assessment of Changes to Aircraft operations

Table 1: Determining high or low number of existing flights[1]

	N70		N65		N60	
Receptor	High	Low	High	Low	High	Low
Urban residential: day (6am to 11pm)	≥10	<10	≥25	<25	≥50	<50
Rural Residential: day (6am to 11pm)	≥7	<7	≥16	<16	≥35	<35
Urban or Rural Residential: night (11pm to 6am)	≥6	<6	≥6	<6	≥6	<6

1. Refer to Referral Criteria Definitions and Explanatory Notes (below) for clarification of what constitutes 'existing flights'
2. Flight numbers in Tables 1-4 are considered to be 'busy day' (90th percentile) movements. Note that, on occasion, when the number of existing flights are low and not well distributed throughout the year, it may be appropriate to use an average number, rather than the 'busy day' 90th percentile number.

Table 2: Aviation noise EPBC Act referral thresholds for locations which already experience a high number of existing flights

Location type	Noise Metric	Day (6am-11pm)[1]	Night (11pm – 6am)[1]
Residential (urban and rural)	N70; N65; N60	>25% increase	>10% increase

1. The usage of the terms 'day' (6:00am to 11:00pm) and 'night' (11:00pm to 6:00am) is as per the definition of night (11:00pm to 6:00am) used at Australian curfew airports (see Commonwealth Sydney Airport Curfew Act 1995). This definition is applied consistently for all Airservices environmental assessments, whether or not a curfew is in place at the specific airport.

Table 3: Aviation noise EPBC Act referral thresholds for locations which experience a low number of existing flights or are newly overflown

Location type	Noise Metric	Day (6am-11pm)	Night (11pm – 6am)
Urban residential	N70	> 10 flights	> 1 flight
	N65	> 25 flights	> 2 flights
	N60	> 50 flights	> 3 flights
Rural residential	N70	> 7 flights	> 1 flight
	N65	> 17 flights	
	N60	> 33 flights	> 2 flights
Newly overflown	N70	> 0 flights	
	N65		
	N60	> 10 flights	> 0 flights

Table 4: Aviation noise EPBC Act referral thresholds for specific noise receptor categories

Noise Receptor	Noise Metric	Day (6am-11pm)	Night (11pm – 6am)
Hospitals	N70; N65; N60	Apply values from Tables 2 or 3 as applicable	Apply values from Tables 2 or 3 as applicable
Schools	N70	> 10 flights	NA
	N65	> 25 flights	
	N60	> 50 flights	
NES sites	N70; N65; N60	Assessed on a case by case basis based on identified receptors and associated sensitivities	
Industrial /open spaces/parks	N70	> 20 flights	NA
	N65	> 50 flights	
	N60	> 100 flights	

1. Newly overflown hospitals and schools are assessed at Table 3.

Applying the EPBC Act Referral Criteria for Environmental Assessment of Changes to Aircraft Operations

1. Tables 1 - 4:

   a. Tables 1 - 4 above are used to determine whether a proposed new or amended flight path should be referred to the Commonwealth Environment Minister for advice regarding whether it constitutes 'significant impact', within the meaning of the *Environmental Protection and Biodiversity Conservation Act 1999* (f the EPBC Act). Note, however, that the EPBC Act has no guidance on aviation noise significance criteria for environmental assessment of changes to aircraft operations.

   b. Table 1 is used initially to determine whether there are a high or low number of existing flights in the area of the proposed change, and therefore whether Table 2 or Table 3 is then used to assess aviation noise impacts.

   c. Table 2 shows Airservices aviation noise referral thresholds for locations which experience a high number of existing flights prior to the change. If Table 2 is used, impact is measured as a percentage increase in flight numbers over a particular 'noise above' metric (N70, N65 and N60).

   d. Table 3 shows Airservices aviation noise referral thresholds for locations which experience a low number of existing flights prior to the change. It lists thresholds in number of flights, per noise contour band, per day or night, for urban or rural locations and receptors. If Table 3 is used, impact is measured in total number of flight events over a particular 'noise above' metric (N70, N65 and N60), such that the level of flights is still low.

   e. Table 4 defines aviation noise referral thresholds for specific receptor categories (hospitals, schools etc).

2. Steps in Applying Tables 1 - 4:

   - Step 1 Using Table 1, identify whether the existing number of flights is "high" or "low". For a high number of existing flights (day or night criteria), Table 2 must be used to determine the potential significance of any aviation noise impacts, while a low number of existing flights must use Table 3.
   - Step 2 Identify the relevant aviation noise receptors for the proposed change (urban residential, sensitive – school, etc).
   - Step 3 From available data, identify the number of flights currently using the existing flight path for the applicable noise metric (N70 and/or N65 and/or N60), for day and/or night times, as per the operating times of the existing flights.
   - Step 4 Identify how many flights will use the flight path as a result of the proposed change for the applicable noise metric (N70 and/or N65 and/or N60) for day and/or night, as per the operating times of the flights associated with the proposed change.
   - Step 5 Using either Table 2 or Table 3, as determined at Step 1, read across to determine whether the increased number or noise metric of flights in the change proposal, in any contour, triggers stated thresholds for the relevant receptor.

- Step 6 Consider the additional criteria in Table 4 to determine if noise thresholds for noise receptor categories are triggered.
- Step 7 If any criteria are triggered, and the change is planned to proceed in its current form, then the change should be referred to the Commonwealth Environment Minister for advice and a determination of whether it constitutes 'significant impact' (as per the requirements of the EPBC Act).

Context and Considerations

1. The Airservices Aviation Noise EPBC Act Referral Criteria for Environmental Assessment of Changes to Aircraft Operations (the Referral Criteria) establish a range of threshold levels for key noise metrics, below which aircraft noise arising from a proposed change is considered highly unlikely to represent 'significant impact', as defined under the EPBC Act.
2. Where assessments indicate that a proposed change may result in noise levels exceeding these thresholds, and the change is planned to proceed in its current form, the proposal shall be referred to the Commonwealth Environment Minister for advice (known as an 'EPBC Act Referral') and a determination on whether it constitutes significant impact.
3. The Referral Criteria were developed giving consideration to relevant published literature including AS2021:2015 (Acoustics – Aircraft noise intrusion – Building siting and construction), the National Safeguarding Airports Guidelines (NASAG), and the (then) Commonwealth Department of Transport and Regional Services (DOTARS) discussion paper entitled 'Expanding ways to describe and assess aircraft noise' (March 2000).
4. The rationale behind Airservices key noise metrics and the Referral Criteria thresholds is provided below:

   a. Noise Metrics

      i. 'Number Above' metrics (N70, N65 and N60).

      - 'Number Above' metrics (also known as 'N Contours') are an aircraft noise characterisation mechanism used to map noise 'zones' around an aerodrome. Number above metrics show the number of noise events above a given noise level (for example, N70 contours would show the number of aircraft noise events greater than 70dB(A)).
      - Application of the Referral Criteria to a particular change, entails a comparison of existing N contour events around a given airport, with those represented by the change. The change in events can either be expressed as a percentage increase over the current state, or up to a total numbers of flights (refer to 'b' below for further details).

        Why N70, N65 and N60?

        In March 2000, the (then) Commonwealth Department of Transport and Regional Services (DOTARS) released a discussion paper entitled 'Expanding ways to describe and assess aircraft noise'.

        70 dB (A) and N60 dB(A) were identified as suitable levels for describing noise impacts given that:

        - 70dB (A) is considered to be the external sound level below which no difficulty with reliable communication from radio, television or conversational speech is expected in a typical room with windows open.

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- 60 dB(A) equates to the indoor design guide level of 50 dB(A) specified in AS2021:2015 Acoustics – Aircraft noise intrusion – Building siting and construction.

In addition to N70 and N60, Airservices uses N65 when required to improve granularity of change characterisation (as an intermediate threshold between N70 and N60).

ii. LAmax.

- In addition to N contours, LAmax is used on occasion to further characterise the potential noise increase (expressed in dB(A)) represented by the proposed change.

LAmax increases may be considered in the evaluation of potential significant impact for areas where a proposed change represents a likely increase of +5 LAmax dBA during the day and +3 LAmax dBA during the night.

b. Referral thresholds (percentage noise increase, total flight numbers, and noise levels in dB(A))

i. Percentage noise increase, and increase in total flight numbers.

- These thresholds were devised by Airservices aviation noise and environmental specialists and acoustics engineers, based on qualitative estimates of levels of noise below which there is minimal risk of a change resulting in significant impact under the EPBC Act (in the absence of published, defined criteria for these metrics). The thresholds are above what would be expected to be experienced through normal growth in aviation traffic in Australia.

ii. LAmax.

- Thresholds for these metrics are based on published literature[1] regarding how perceptible noise changes (expressed in dB(A)) are to the human ear, as follows:
  - Changes of up to 3dB(A) – not likely to be perceptible.
  - Changes between 3dB(A) and 5dB(A) – may be perceptible.
  - Changes between 5dB(A) and 10dB(A) – likely to be perceptible.

1. Transport Noise Management Code of Practice – Volume 1 Road Traffic Noise, Queensland Department of Transport and Main Roads 2013.

5. Validation of the Referral Criteria

The noise metrics and thresholds described in the Referral Criteria have been used by Airservices in aviation noise impact assessments from 2013 to the present, over which time their appropriateness for identifying potential 'significant impact' has been validated through:

a. Discussion of changes being implemented at Community Aviation Consultation Group (CACG) meetings at airports around Australia;

b. Ongoing analysis of aviation noise complaint data, and associated flight path changes, from Airservices' Noise Complaints Information Service (NCIS);

c. Consultation with stakeholders (including the Aviation Noise Ombudsman and the Commonwealth Department of Infrastructure and Regional Development) regarding noise complaints and noise impact assessments;

d. A referral to the Commonwealth Department of Environment, under the EPBC Act, for Airservices Gold Coast Airport Instrument Landing System (ILS) Project (which included discussion of the Referral Criteria and associated methodology to assess potential significance of aviation noise impacts).

Over 200 airspace changes have been successfully assessed for potential aviation noise impacts and implemented by Airservices since inception of the Referral Criteria in 2013, without later being found to represent 'significant impact' under the EPBC Act. Given this result, and the significant traffic growth experienced in Australia since 2013, the current Referral Criteria threshold levels are considered by Airservices to be appropriate and relatively conservative.

6. Continuous Improvement of the Referral Criteria

Notwithstanding the above, as part of Airservices continuous improvement efforts, the referral criteria will undergo external review and revision in 2018, to ensure they provide improved clarity and reflect industry best practice. As part of this process Airservices will seek review and feedback from the Department of Environment and Energy; and Department of Infrastructure, and Regional Development and Cities, regarding the appropriateness and rigor of the Referral Criteria.

Referral Criteria Definitions and Explanatory Notes

- Existing Flights refers to any flight path which is either formalised or regularly used.
  - Formalised paths could include:
    - Noise Abatement Procedures, or flight paths prescribed in LoAs with locals operators
    - Terminal Instrument Flight Procedures (SID, STAR and approach procedures) published in AIP Departure and Approach Procedures (DAP)
    - Regional Routes and Domestic Routes published in Designated Airspace Handbook (DAH)
  - Non-formalised paths could include a regularly used vectoring path or track shortening. Regular usage is subjective to each individual airport and can include seasonal variations, for example a path which is only used during certain meteorological conditions but used consistently in those situations, would be considered an existing track.
- LAmax: A maximum A-weighted sound pressure level in a given stated interval (see AS2021:2015). LAmax represents the loudest noise level of a single flight by a specific type of aircraft.
- 'Number Above' metrics (i.e. N70, N65 and N60) – Noise characterisation mechanisms used to map noise 'zones' around an aerodrome, showing the number of noise events above a given noise level (i.e. 70dB(A), 65dB(A) and 60dB(A)). For example, N70 contours would show the number of aircraft noise events greater than 70dB(A).

(For further information refer to:
https://infrastructure.gov.au/aviation/environmental/transparent_noise/expanding/4.aspx)

- Commonwealth Matters of National Environmental Significance (MNES) sites: sites which represent Matters of National Environmental Significance – as listed in the EPBC Protected Matters Search Tool.
- Sensitive sites are considered by Airservices to be schools, hospitals and churches, due to increased vulnerability of occupants to the negative effects of aviation noise.
- Urban residential and rural residential areas are determined based on searches of relevant State or Territory Land-Use and Planning Tools.

Appendix B Methodology

This EA examines the potential environmental impact of Airservices proposed Hobart Airport route structure changes through examination of air traffic movements on the existing and proposed routes. It includes an assessment of potential environmental impacts such as increased aircraft noise on communities, visual changes in aircraft movements, increased aircraft emissions, heritage sites and potential impacts on Commonwealth Matters of National Environmental Significance (MNES) and heritage sites.

This EA also includes a summary of social data from the area of the proposed change to provide Airservices N&CE Team with information to prepare a social impact assessment as part of their SEP.

Information sources

This assessment is based on the following sources of information:

- *AS2021:2015 Acoustics—Aircraft noise intrusion—Building siting and construction*
- Integrated Noise Model (INM) modelling
- Satellite images (and associated information) from Google Earth Pro, MapInfo and NearMaps
- *Expanding ways to describe and assess aircraft noise*, March 2000, former Commonwealth Department of Transport and Regional Services (DOTARS)
- *Transport Noise Management Code of Practice – Volume 1 Road Traffic Noise,* Queensland Department of Transport and Main Roads 2013.

Aircraft noise modelling

The INM (version 7d) was used to model noise impacts of the proposed change. The INM is a software tool developed by the United States of America Federal Aviation Administration (FAA) for the purpose of modelling aircraft noise. The INM is an average noise model, designed to determine aircraft noise based upon an entire airport's operations, with movement information averaged over time. INM modelling only considers noise from aircraft movements. Noise modelling requires input of assumptions in order to reflect the variability in conditions. These assumptions include:

- Weather conditions – a single set of standard weather conditions based on Australian Bureau of Meteorology (BoM) average data have been modelled. In reality, weather conditions will vary throughout the year.
- Standard aircraft operations – an assumption has been made that each aircraft type will be operated according to a standard Noise, Power, Distance (NPD) curve. In reality, each airline and pilot may operate the aircraft differently, such as using different engine power settings, or retracting landing gear at different times.
- Standard arrival and departure profile – an assumption is made that every aircraft will operate according to a standard approach and departure profile; essentially operating at the same rate of climb or descent. In reality, arrival and departure profiles may vary on an individual basis for a number of reasons, including:
    - Traffic
    - Weather and cloud conditions

- Pilot requirements
- Separation and sequencing requirements for Air Traffic Control (ATC).

Environmental assessment criteria

A number of criteria were considered as part of this environmental assessment, including:

- potential aircraft noise and visual impacts on communities, including any newly overflown communities
- potential impact on MNES
- potential impact on heritage and cultural matters, including indigenous heritage
- potential impacts on aircraft emissions.

The assessment criteria adopted by Airservices to determine potential environmental impacts of proposed flight path changes with respect to aircraft noise can be found in Appendix A. These aircraft noise assessment criteria were developed giving consideration to *AS2021:2015 Acoustics—Aircraft noise intrusion—Building siting and construction*, World Health Organisation (WHO) guidance, and the *National Safeguarding Airports Guidelines (NASAG),* 2016.

The below section describes the metrics that have been applied in this environmental assessment, focusing on those metrics that provide analytical insight to best represent the potential impacts of the proposed flight path changes.

Note: Although this assessment does include a summary of social analysis data collected for the areas potentially affected by the proposed ATM changes (see Section 7), it does not include a social impact assessment. The social impact assessment is prepared by Airservices N&CE Team as part of their SEP, as described above.

Noise metrics

The following noise metrics were used in this assessment.

LAmax – indicative noise levels

LAmax is a noise metric that shows the maximum noise level of a single noise event associated with a particular flight path. The LAmax noise metric is useful for determining the potential noise change associated with geographical movement of a flight path.

‘Number Above’ metrics (N70, N65 and N60)

‘Number Above’ metrics (also known as ‘N Contours’) are an aircraft noise characterisation mechanism used to map noise ‘zones’ around an airport. Number above metrics show the number of noise events above a given noise level. For example, N70 contours would show the number of aircraft noise events greater than 70dB(A).

The former Commonwealth Department of Transport (DOTARS) identified 70dB (A) and 60dB(A) as suitable levels for describing noise impacts given that:

- 70dB (A) is considered to be the external sound level below which no difficulty with reliable communication from radio, television or conversational speech is expected in a typical room with windows open.
- 60dB(A) equates to the indoor design guide level of 50 dB(A) specified in *AS2021:2015 Acoustics – Aircraft noise intrusion – Building siting and construction*, when building attenuation is taken into consideration.

In addition to N70 and N60, Airservices uses N65 when required to improve granularity of change characterisation (as an intermediate threshold between N70 and N60).

Night and day criteria

The usage of the terms ‘day’ (6:00am to 11:00pm) and ‘night’ (11:00pm to 6:00am) is as per the definition of ‘night’ (11:00pm to 6:00am) used by Australian curfew airports, as defined in the relevant Commonwealth curfew legislation (*Commonwealth Sydney Airport Curfew Act 1995*). This definition is applied consistently for all Airservices environmental assessments, whether or not a curfew is in place at the specific airport, and applies to the Airservices aircraft noise significance criteria provided in Appendix A.

Matters of National Environmental Significance (MNES)

The Commonwealth Department of Environment and Energy (DoEE) Protected Matters Search Tool was used to determine the presence of MNES in the areas below the proposed change. Where MNES were identified using the search tool, the potential impact of aircraft overflights was assessed on an individual basis (for each MNES).

FOI 23-12
Document 2g

ATS Route Changes – Hobart Airspace Design Review

New Waypoints

LATUM	S 42 11 28.14	E 147 22 02.13	(Jet SID termination)
MORGO	S 42 10 18.01	E 147 04 39.88	(STAR commencement for ACFT from ML/LT/AD)

Deleted Waypoints

TENIT	(not required anymore)
BABEL	(was on H169 which now terminates at IRSOM, hence not required)

New		**ATS ROUTE Y557 O/W** 2 SALEM S41 52.6 E146 17.6 ---/103 1 **MORGO** S42 10.3 E147 04.7 101/--- 39 TBA B
New		**ATS ROUTE V544 O/W** 2 WYY NDB S40 59.9 E145 42.5 ---/117 3 LIFFY S41 39.0 E146 44.3 117/--- 60 TBA L
Modify	**ATS ROUTE H169 O/W** 3 ML VOR S37 39.6 E144 50.5 ---/150 3 SUNTI S38 30.5 E145 12.8 149/149 54 2400/0 B 2 BENZO S40 00.0 E145 53.0 148/148 95 1900/0 B 2 IRSOM S41 10.2 E146 26.1 146/148 75 2100/0 B 3 BABEL S41 42.6 E146 40.2 148/148 34 6500/0 B 1 SYNOT S42 13.2 E146 53.8 147/147 32 6300/0 B 1 CLARK S42 28.4 E147 00.7 147/--- 16 5700/0 B	**ATS ROUTE H169 O/W** 3 ML VOR S37 39.6 E144 50.5 ---/150 3 SUNTI S38 30.5 E145 12.8 149/149 54 2400/0 B 2 BENZO S40 00.0 E145 53.0 148/148 95 1900/0 B 2 IRSOM S41 10.2 E146 26.1 146/~~148~~ 75 2100/0 B ~~3 BABEL S41 42.6 E146 40.2 148/148 34 6500/0 B~~ ~~1 SYNOT S42 13.2 E146 53.8 147/147 32 6300/0 B~~ ~~1 CLARK S42 28.4 E147 00.7 147/ 16 5700/0 B~~
Modify	**ATS ROUTE W519 T/W** 3 AD VOR S34 56.8 E138 31.5 ---/130 1 ALBUT S35 41.3 E139 20.9 129/143 60 3800/3800 L 3 SWELL S36 08.0 E139 39.1 142/142 31 1700/1700 L 3 MTG VOR S37 45.1 E140 47.1 141/127 111 2500/2100 L 3 NOGIP S38 18.9 E141 28.4 126/121 47 2200/2200 L 4 KII NDB S39 53.3 E143 52.5 118/124 147 2200/2200 L 1 DOTVU S40 50.0 E145 04.9 123/126 79 2200/1900 L 2 SALEM S41 52.6 E146 17.6 125/125 83 6700/6700 L 1 CLARK S42 28.4 E147 00.7 123/120 48 6700/6700 L 1 BEGED S42 41.5 E147 18.8 120/120 19 5700/5700 L 2 TASUM S42 50.8 E147 31.6 120/--- 13 4400/5200 L	**ATS ROUTE W519 T/W** 3 AD VOR S34 56.8 E138 31.5 ---/130 1 ALBUT S35 41.3 E139 20.9 129/143 60 3800/3800 L 3 SWELL S36 08.0 E139 39.1 142/142 31 1700/1700 L 3 MTG VOR S37 45.1 E140 47.1 141/127 111 2500/2100 L 3 NOGIP S38 18.9 E141 28.4 126/121 47 2200/2200 L 4 KII NDB S39 53.3 E143 52.5 118/124 147 2200/2200 L 1 DOTVU S40 50.0 E145 04.9 123/~~---~~ 79 2200/1900 L ~~2 SALEM S41 52.6 E146 17.6 125/125 83 6700/6700 L~~ ~~1 CLARK S42 28.4 E147 00.7 123/120 48 6700/6700 L~~ ~~1 BEGED S42 41.5 E147 18.8 120/120 19 5700/5700 L~~ ~~2 TASUM S42 50.8 E147 31.6 120/ 13 4400/5200 L~~
Modify	**ATS ROUTE J43 T/W** 3 BORTO S36 23.6 E140 44.5 ---/136 1 GRACY S37 20.8 E141 34.7 135/135 70 3100/5200 H 1 KAYTU S38 54.1 E143 00.0 133/130 115 4100/5200 H 1 CLARK S42 28.4 E147 00.7 124/--- 282 6700/6700 H	**ATS ROUTE ~~J43~~ T234 T/W** 3 BORTO S36 23.6 E140 44.5 ---/136 1 GRACY S37 20.8 E141 34.7 135/135 70 3100/5200 H 1 KAYTU S38 54.1 E143 00.0 133/**126** 115 4100/5200 H **1 DOTVU S40 50.0 E145 04.9 126/126 151 TBA/TBA H** **2 SALEM S41 52.6 E146 17.6 125/125 83 6700/6700 B** 1 CLARK S42 28.4 E147 00.7 **123/120 48 6700/6700 B** **2 TASUM S42 50.8 E147 31.6 120/--- 32 TBA/TBA B**
Modify	**ATS ROUTE W203 T/W** 1 CLARK S42 28.4 E147 00.7 ---/355 3 LT VOR S41 32.6 E147 12.8 355/--- 56 5800/5800 L	**ATS ROUTE W203 T/W** 1 CLARK S42 28.4 E147 00.7 ---/355 **1 MORGO S42 10.3 E147 04.7 355/355 18 5800/5800 L** 3 LT VOR S41 32.6 E147 12.8 355/--- **34** 5800/5800 L
Modify	**ATS ROUTE W282 T/W** 2 IRSOM S41 10.2 E146 26.1 ---/141 3 LIFFY S41 39.0 E146 44.3 140/140 32 6000/6000 L 1 TENIT S42 22.1 E147 12.5 139/139 48 6000/6000 L 2 TASUM S42 50.8 E147 31.6 139/--- 32 6000/6000 L	**ATS ROUTE ~~W282~~ V33 O/W** 2 IRSOM S41 10.2 E146 26.1 ---/141 3 LIFFY S41 39.0 E146 44.3 140/140 32 6000/6000 **B** **1 MORGO S42 10.3 E147 04.7 139/139 35 6000/6000 B** ~~1 TENIT S42 22.1 E147 12.5 139/139 48 6000/6000 L~~ 2 TASUM S42 50.8 E147 31.6 139/--- **45** 6000/6000 L
Modify	**ATS ROUTE W295 T/W** 2 TASUM S42 50.8 E147 31.6 ---/335 1 KANLI S42 19.3 E147 23.9 335/335 32 5400/5400 B 3 LT VOR S41 32.6 E147 12.8 336/--- 47 5400/5400 B	**ATS ROUTE ~~W295~~ H111 O/W** 2 TASUM S42 50.8 E147 31.6 ---/335 1 KANLI S42 19.3 E147 23.9 335/335 32 5400/5400 B **1 LATUM S42 11.5 E147 22.0 335/335 8 5400/5400 B** 3 LT VOR S41 32.6 E147 12.8 336/--- **39** 5400/5400 B
Delete	**ATS ROUTE W233 T/W** 2 WYY NDB S40 59.9 E145 42.5 ---/131 2 IRONS S41 46.4 E146 27.7 130/130 58 6300/6300 L 1 SYNOT S42 13.2 E146 53.8 130/129 33 6300/6300 L 2 TASUM S42 50.8 E147 31.6 128/--- 47 5300/5300 L	

proposed must be promulgated 56 days before they take effect. As such, if the changes are approved, this will precede the AIP SUP's promulgation.

As the proposal has been fully consulted with and supported by the appropriate aviation stakeholders, the OAR also supports the changes.

OAR Safety Specialist supported the proposal.

OAR Environment Specialist supported the proposal.

Stakeholder consultation

Airservices consulted the proposed changes with the following stakeholders at the Airservices National Operations Service Enhancement Forum on 8 May 2019:

- Cobham
- Jetstar
- Qantas
- Qantaslink
- Skytraders
- Sharp
- Tigerair
- Virgin
- Airlines of Tasmania
- Cambridge Airport Flying Training Organisations
- General Aviation
- Royal Flying Doctors Service
- Express Freighters Australia
- Australian Business Aviation Association

No objections were noted.

The OAR also conducted RAPAC consultation on behalf of Airservices via an out of sessions paper on 30 August 2019. The draft AIP SUP was distributed as part of this consultation. To date, no responses have been received.

Legislative summary

Air routes are not legislated at this time but published in the DAH. No exercise of delegation is required, only approval to amend the DAH, an element of the integrated AIP.

The delegate has the power in accordance with CASA 15/19 to approve this ACP.

Implications of not taking the recommended action

The implication of not taking the recommended action is that Airservices will not be able to implement the proposed route structure.

Proposed change details

Refer to attached draft AIP SUP H92/19.

Proposed implementation/activation

The proposed changes will become effective by AIP SUP on 7 November 2019. The AIP SUP will be cancelled when the changes are incorporated into AIP documents, expected 27 February 2020 in ERSA and 21 May 2020 in DAH and charts.

As noted above, if this ACP is approved it will precede the promulgation of the AIP SUP. As such, the OAR reserves the right to withdraw the approval if adverse feedback about the proposal is received at a later date.

Recommendation

That you approve the changes to ATS Routes proposed above and the method of implementation and activation proposed above.

Signed: s47F

Name:
Title: Airspace Operations Coordinator
Branch: OAR
Date: 5 September 2019

TL/Manager Recommendation [only required for changes over 14 days duration]

1.0. Recommended / ~~Not Recommended~~

Signed: s47F

Name:
Title: Acting Airspace Operations Team Leader
Branch: OAR
Date: 5 September 2019

Delegate Approval ACP 042-19 OP19/240

2.0. Approved / ~~Not Approved~~

Signed: s47F

Name:
Title: Acting Office of Airspace Regulation Manager
Branch/Division: ANAA
Date: 5 September 2019

Annex A to
SFR for ACP 042-19

AUSTRALIA

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AIP SUPPLEMENT (SUP)

AIRAC

H92/19

Effective: 201911061600 UTC

AMENDED ATS ROUTES IN TASMANIA

1. INTRODUCTION

1.1 This AIP SUP introduces changes to the ATS Air Route structure in Tasmania, predominantly north of Hobart. The primary purpose for the amendments is to enable the safe and efficient flow of traffic around Hobart on the new SID and STAR structure. However, some of these route amendments will also affect aircraft transiting between other smaller ports in Tasmania.

1.2 The new ATS route structure provides the foundation for the amendment of RNP 1 SIDs and STARs while also providing an improved strategic route network for inbound and outbound aircraft.

1.3 This AIP SUP includes amendments to DAH (Air Routes and IFR Waypoints) and ERSA (IFR Waypoints and Flight Planning Requirements).

2. IMPLEMENTATION

2.1 The ATS Routes and associated waypoints and flight planning requirements described below will become effective 201911061600 UTC.

3. WAYPOINT AMENDMENTS

3.1 Delete waypoints:

TENIT	422208.1S	1471227.8E
BABEL	414238.2S	1464012.8E
BEGED	424131.7S	1471850.5E

3.2 Insert the following waypoints:

LATUM	421128.1S	1472202.1E
MORGO	421018.0S	1470439.9E

4. AIR ROUTE AMENDMENTS

4.1 **Delete ATS Routes:**

W233

4.2 **Amend ATS Routes:**

ATS ROUTE H169 O/W

3	ML VOR	373936.5S	1445031.2E	---/150			
3	SUNTI	383027.9S	1451248.7E	149/149	53.8	2400/0	B
2	BENZO	400000.7S	1455300.1E	148/148	94.8	1900/0	B
2	IRSOM	411012.0S	1462603.2E	146/~~148~~	74.5	2100/0	B
~~3~~	~~BABEL~~	~~414238.2S~~	~~1464012.8E~~	~~148/148~~	~~34.1~~	~~6500/0~~	~~B~~
~~1~~	~~SYNOT~~	~~421312.0S~~	~~1465348.0E~~	~~147/147~~	~~32.2~~	~~6300/0~~	~~B~~
~~1~~	~~CLARK~~	~~422824.0S~~	~~1470042.0E~~	~~147/---~~	~~16.0~~	~~5700/0~~	~~B~~

ATS ROUTE W519 T/W

3	AD VOR	345649.1S	1383128.3E	---/130			
1	ALBUT	354116.9S	1392052.6E	129/143	60.0	3800/3800	L
3	SWELL	360802.5S	1393904.1E	142/142	30.5	1700/1700	L
3	MTG VOR	374505.0S	1404707.0E	141/127	111.2	2500/2100	L
3	NOGIP	381851.6S	1412824.1E	126/121	46.9	2200/2200	L
4	KII NDB	395320.8S	1435231.2E	118/124	146.6	2200/2200	L
1	DOTVU	404959.4S	1450454.0E	123/~~126~~	79.2	2200/1900	L
~~2~~	~~SALEM~~	~~415236.0S~~	~~1461736.0E~~	~~125/125~~	~~83.1~~	~~6700/6700~~	~~L~~
~~1~~	~~CLARK~~	~~422824.0S~~	~~1470042.0E~~	~~123/120~~	~~48.0~~	~~6700/6700~~	~~L~~
~~1~~	~~BEGED~~	~~424131.7S~~	~~1471850.5E~~	~~120/120~~	~~18.8~~	~~5700/5700~~	~~L~~
~~2~~	~~TASUM~~	~~425049.6S~~	~~1473136.0E~~	~~120/---~~	~~13.2~~	~~4400/5200~~	~~L~~

ATS ROUTE W203 T/W

1	CLARK	422824.0S	1470042.0E	---/355			
1	MORGO	421018.0S	1470439.9E	355/355	38.1	5800/5800	L
3	LT VOR	413237.8S	1471247.7E	355/---	18.3	5800/5800	L

ATS ROUTE ~~J43~~ T234 T/W

3	BORTO	362334.0S	1404430.5E	---/136			
1	GRACY	372050.2S	1413443.3E	135/135	70.0	3100/5200	H
1	KAYTU	385404.1S	1430000.0E	133/126	114.9	4100/5200	H
1	DOTVU	404959.4S	1450454.0E	126/126	150.5	1800/1800	H
2	SALEM	415236.0S	1461736.0E	125/125	83.1	6700/6700	B
1	CLARK	422824.0S	1470042.0E	123/120	48.0	6700/6700	B
2	TASUM	425049.6S	1473136.0E	119/---	32.0	4000/4000	B

ATS ROUTE ~~W282~~ V33 O/W

2	IRSOM	411012.0S	1462603.2E	---/141			
3	LIFFY	413900.0S	1464418.0E	140/140	31.9	6000/6000	B
1	MORGO	421018.0S	1470439.9E	140/140	34.8	6000/6000	B
~~1~~	~~TENIT~~	~~422208.1S~~	~~1471227.8E~~	~~139/139~~	~~48.0~~	~~6000/6000~~	~~L~~
2	TASUM	425049.6S	1473136.0E	139/---	45.1	6000/6000	L

ATS ROUTE ~~W295~~ H111 O/W

2	TASUM	425049.6S	1473136.0E	---/355			
1	KANLI	421920.8S	1472356.0E	335/335	32.0	5400/5400	B
1	LATUM	421128.1S	1472202.1E	335/335	8.0	5400/5400	B
3	LT VOR	413237.8S	1471247.7E	336/---	39.4	5400/5400	B

4.3 **NEW ATS Routes:**

ATS ROUTE Y557 O/W

2	SALEM	415236.0S	1461736.0E	---/103			
1	MORGO	421018.0S	1470439.9E	102/---	39.3	6100/6100	B

ATS ROUTE V544 O/W

2	WYY NDB	405952.7S	1454229.6E	---/117			
3	LIFFY	413900.0S	1464418.0E	116/---	60.8	5500/5500	B

5. ERSA IFR GEN AMENDMENTS

5.1 IFR WAYPOINTS

New waypoints:

LATUM	421128S	1472202E
MORGO	421018S	1470440E

6. ERSA GEN FPR AMENDMENTS

6.1 Section 5. TASMANIA

5.1.Hobart INTL – IFR Departures

All:	Via TASUM H111 LT ~~W295 KANLI~~
Optional for aircraft departing to west and northwest of HB (i.e. YPAD/YPED/YPPH)	Via TASUM T234 CLARK

5.2. Hobart INTL – IFR Arrivals

From East:	Via IPLET
From West:	Via ~~CLARK~~ MORGO

6.2 Section 9. FLIGHT PLANNING OPTIONS

YMHB	YPAD			DCT TASUM T234 BORTO H345 AD DCT DCT TASUM H111 ~~W295~~ LT W105 WYY W564 KII KAYTU T234 ~~J43~~ BORTO H345 AD DCT
YPAD	YMHB			DCT AD V255 BENDO Y218 GRACY T234 SALEM Y557 MORGO ~~J43 CLARK W519~~ V33 TASUM DCT
YMML	YMHB			DCT ML H169 IRSOM V33 ~~CLARK W519~~ TASUM DCT

7. CANCELLATION

7.1 This AIP SUP will be cancelled when incorporated into AIP Documents, expected 27 February 2020 (ERSA) and 21 May 2020 (DAH and Charts).

8. DISTRIBUTION

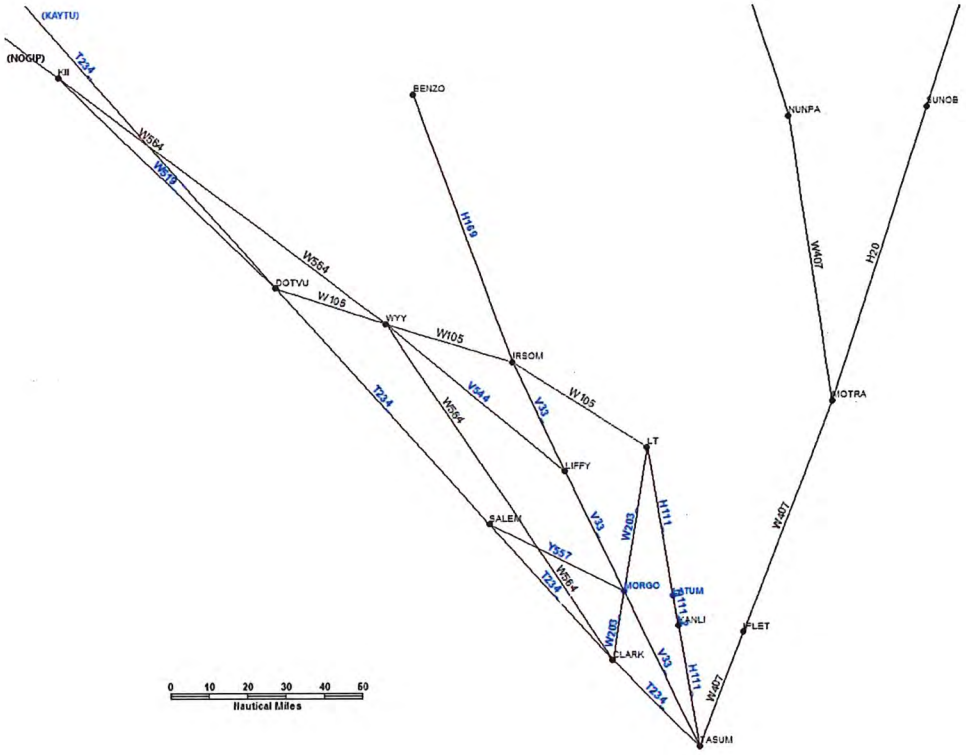
8.1 Airservices Australia website only.

Appendix

1. Diagram of New and Amended Routes in Tasmania

Appendix 1 TO
(SUP H92/19)

1. Diagram of New and Amended Routes in Tasmania



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AIP SUPPLEMENT (SUP)

AIRAC

H92/19

Effective: 201911061600 UTC

AMENDED ATS ROUTES IN TASMANIA

1. INTRODUCTION

1.1 This AIP SUP introduces changes to the ATS Air Route structure in Tasmania, predominantly north of Hobart. The primary purpose for the amendments is to enable the safe and efficient flow of traffic around Hobart on the new SID and STAR structure. However, some of these route amendments will also affect aircraft transiting between other smaller ports in Tasmania.

1.2 The new ATS route structure provides the foundation for the amendment of RNP 1 SIDs and STARs while also providing an improved strategic route network for inbound and outbound aircraft.

1.3 This AIP SUP includes amendments to DAH (Air Routes and IFR Waypoints) and ERSA (IFR Waypoints and Flight Planning Requirements).

2. IMPLEMENTATION

2.1 The ATS Routes and associated waypoints and flight planning requirements described below will become effective 201911061600 UTC.

3. WAYPOINT AMENDMENTS

3.1 Delete waypoints:

TENIT	422208.1S	1471227.8E
BABEL	414238.2S	1464012.8E
BEGED	424131.7S	1471850.5E

3.2 Insert the following waypoints:

LATUM	421128.1S	1472202.1E
MORGO	421018.0S	1470439.9E

4. AIR ROUTE AMENDMENTS

4.1 **Delete ATS Routes:**

W233

4.2 **Amend ATS Routes:**

ATS ROUTE H169 O/W

3	ML VOR	373936.5S	1445031.2E	---/150			
3	SUNTI	383027.9S	1451248.7E	149/149	53.8	2400/0	B
2	BENZO	400000.7S	1455300.1E	148/148	94.8	1900/0	B
2	IRSOM	411012.0S	1462603.2E	146/~~148~~	74.5	2100/0	B
~~3~~	~~BABEL~~	~~414238.2S~~	~~1464012.8E~~	~~148/148~~	~~34.1~~	~~6500/0~~	~~B~~
~~1~~	~~SYNOT~~	~~421312.0S~~	~~1465348.0E~~	~~147/147~~	~~32.2~~	~~6300/0~~	~~B~~
~~1~~	~~CLARK~~	~~422824.0S~~	~~1470042.0E~~	~~147/---~~	~~16.0~~	~~5700/0~~	~~B~~

ATS ROUTE W519 T/W

3	AD VOR	345649.1S	1383128.3E	---/130			
1	ALBUT	354116.9S	1392052.6E	129/143	60.0	3800/3800	L
3	SWELL	360802.5S	1393904.1E	142/142	30.5	1700/1700	L
3	MTG VOR	374505.0S	1404707.0E	141/127	111.2	2500/2100	L
3	NOGIP	381851.6S	1412824.1E	126/121	46.9	2200/2200	L
4	KII NDB	395320.8S	1435231.2E	118/124	146.6	2200/2200	L
1	DOTVU	404959.4S	1450454.0E	123/~~126~~	79.2	2200/1900	L
~~2~~	~~SALEM~~	~~415236.0S~~	~~1461736.0E~~	~~125/125~~	~~83.1~~	~~6700/6700~~	~~L~~
~~1~~	~~CLARK~~	~~422824.0S~~	~~1470042.0E~~	~~123/120~~	~~48.0~~	~~6700/6700~~	~~L~~
~~1~~	~~BEGED~~	~~424131.7S~~	~~1471850.5E~~	~~120/120~~	~~18.8~~	~~5700/5700~~	~~L~~
~~2~~	~~TASUM~~	~~425049.6S~~	~~1473136.0E~~	~~120/---~~	~~13.2~~	~~4400/5200~~	~~L~~

ATS ROUTE W203 T/W

1	CLARK	422824.0S	1470042.0E	---/355			
1	MORGO	421018.0S	1470439.9E	355/355	38.1	5800/5800	L
3	LT VOR	413237.8S	1471247.7E	355/---	18.3	5800/5800	L

ATS ROUTE ~~J43~~ T234 T/W

3	BORTO	362334.0S	1404430.5E	---/136			
1	GRACY	372050.2S	1413443.3E	135/135	70.0	3100/5200	H
1	KAYTU	385404.1S	1430000.0E	133/126	114.9	4100/5200	H
1	DOTVU	404959.4S	1450454.0E	126/126	150.5	1800/1800	H
2	SALEM	415236.0S	1461736.0E	125/125	83.1	6700/6700	B
1	CLARK	422824.0S	1470042.0E	123/120	48.0	6700/6700	B
2	TASUM	425049.6S	1473136.0E	119/---	32.0	4000/4000	B

ATS ROUTE ~~W282~~ V33 O/W

2	IRSOM	411012.0S	1462603.2E	---/141			
3	LIFFY	413900.0S	1464418.0E	140/140	31.9	6000/6000	B
1	MORGO	421018.0S	1470439.9E	140/140	34.8	6000/6000	B
~~1~~	~~TENIT~~	~~422208.1S~~	~~1471227.8E~~	~~139/139~~	~~48.0~~	~~6000/6000~~	~~L~~
2	TASUM	425049.6S	1473136.0E	139/---	45.1	6000/6000	L

ATS ROUTE ~~W295~~ H111 O/W

2	TASUM	425049.6S	1473136.0E	---/355			
1	KANLI	421920.8S	1472356.0E	335/335	32.0	5400/5400	B
1	LATUM	421128.1S	1472202.1E	335/335	8.0	5400/5400	B
3	LT VOR	413237.8S	1471247.7E	336/---	39.4	5400/5400	B

4.3 **NEW ATS Routes:**

ATS ROUTE Y557 O/W

2	SALEM	415236.0S	1461736.0E	---/103			
1	MORGO	421018.0S	1470439.9E	102/---	39.3	6100/6100	B

ATS ROUTE V544 O/W

2	WYY NDB	405952.7S	1454229.6E	---/117			
3	LIFFY	413900.0S	1464418.0E	116/---	60.8	5500/5500	B

5. ERSA IFR GEN AMENDMENTS

5.1 **IFR WAYPOINTS**

New waypoints:

LATUM	421128S	1472202E
MORGO	421018S	1470440E

6. ERSA GEN FPR AMENDMENTS

6.1 **Section 5. TASMANIA**

5.1.Hobart INTL – IFR Departures

All:	Via TASUM H111 LT ~~W295 KANLI~~
Optional for aircraft departing to west and northwest of HB (i.e. YPAD/YPED/YPPH)	Via TASUM T234 CLARK

5.2. Hobart INTL – IFR Arrivals

From East:	Via IPLET
From West:	Via ~~CLARK~~ MORGO

6.2 **Section 9. FLIGHT PLANNING OPTIONS**

YMHB	YPAD			DCT TASUM T234 BORTO H345 AD DCT DCT TASUM H111 ~~W295~~ LT W105 WYY W564 KII KAYTU T234 ~~J43~~ BORTO H345 AD DCT
YPAD	YMHB			DCT AD V255 BENDO Y218 GRACY T234 SALEM Y557 MORGO ~~J43 CLARK W519~~ V33 TASUM DCT
YMML	YMHB			DCT ML H169 IRSOM V33 ~~CLARK W519~~ TASUM DCT

7. CANCELLATION

7.1 This AIP SUP will be cancelled when incorporated into AIP Documents, expected 27 February 2020 (ERSA) and 21 May 2020 (DAH and Charts).

8. DISTRIBUTION

8.1 Airservices Australia website only.

Appendix

1. Diagram of New and Amended Routes in Tasmania

Appendix 1 TO
(SUP H92/19)

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