



D1

VOLUME D: AIRSPACE
Volume Overview



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1.1 Overview of Volume D Contents

The preceding Volumes A, B and C have addressed the ground based issues relating to the construction and operation of the New Parallel Runway (NPR). Volume D focuses on the implications to airspace once the NPR is operational and includes the following chapters:

- D2: Background to Airspace Architecture
- D3: Airspace Architecture
- D4: Aircraft Noise Modelling Methodology
- D5: Aircraft Noise Assessment
- D6: Aircraft Air Emissions
- D7: Health Impact Assessment
- D8: Hazards and Risks of Airport Operations
- D9: Social Impact Assessment
- D10: Draft Parallel Runway Operating Plan

Chapter D2 provides background information on the issues and concepts that relate to airspace operations to assist in understanding the noise impacts associated with the NPR. Outlining an explanation of these factors at the outset provides the basis for the discussions regarding flight paths and noise implications that follow in Chapters D3, D4 and D5.

Airspace operations refer to aircraft operations in any specific three-dimensional portion of the atmosphere but more specifically includes:

- Operation of aircraft in the air:
 - En-route to joining their final alignment for landing;
 - En-route to joining their required alignment for their destination; and
 - Landing or taking off.
- Operation of aircraft when performing manoeuvring operations on the runway and taxiway system (holding points, docking at aerobridges or pushing back) on their way to or from their parking positions at the terminals.

There are a range of factors which govern why an aircraft will be positioned at a particular spatial location in the sky and a number of additional factors which influence the consequent noise level it creates on the ground below. The factors discussed in Chapter D2 include weather, runway direction, flight paths, air traffic management rules, traffic forecasts and noise descriptors.

Chapter D3 examines in detail the current and the proposed flight paths for a new parallel runway system for Brisbane Airport including the procedures that govern how aircraft arrive and depart from the airport and flight path development.

Chapter D4 then discusses the methodology used to undertake the assessment of aircraft noise for existing and future operations and describes all the assumptions upon which the modelling is based.

Chapter D5 looks at the predicted noise impacts associated with the NPR for the day, evening and night periods. The Chapter includes a number of assessments with respect to flight path options, operating modes and air traffic management procedures that may be used for noise abatement.

The night period is discussed separately given the increased sensitivity of night time noise. The low number of movements at night with the NPR offers opportunities for noise abatement not offered by the existing runway layout and operations.

In describing what is forecast for the future it is necessary to understand that air traffic will continue to grow irrespective of whether the NPR is built or not. Much of the discussion centres on a comparison of the noise implications at 2015 (the proposed opening year) if the NPR is in place or is not built. A similar comparison is discussed for 2035 (20 years after opening).

This Chapter also provides an assessment of the changes in aircraft noise exposure during the proposed construction period in 2008/2009 with the temporary closure of the cross runway. A discussion on potential improvements in aircraft and navigation technology, which have the potential to provide improvements in noise exposure, is also provided.

Chapter D6 is concerned with the aircraft air emissions that will occur as a result of the operation of the NPR. Similar to the discussion of noise impacts in Chapter D5, the resultant air emissions are discussed in terms of the increase the additional air traffic would contribute at 2035 compared to the emissions that would occur if the NPR was not built and air traffic growth was constrained to the capacity of the current system.

Chapter D7 discusses the potential health impacts resulting from the changed aircraft noise and air emissions that are forecast to occur as a consequence of aircraft operations with the NPR.

Chapter D8 provides an assessment of hazards and risks associated with the revised operational arrangements with the NPR. This particularly looks at the potential for aircraft crash incidents, bird strikes, hazards posed to surrounding areas and general operational and construction hazards.

Chapter D9 provides an assessment of the social impacts resulting from the changes in aircraft operation as a result of the NPR.

Chapter D10 details the Draft Parallel Runway Operating Plan and discusses a combination of preferred operations based on a transparent assessment process, which has taken into consideration the findings of the preceding Chapters.