



DELIVERING RIGHT FIRST TIME

PROJECT BRIEF FOR:

The Expansion of Darwin International Airport, including associated Services and Infrastructure

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Disclaimer:

This document shall be used as a guide only- and for information for TXP EOI bids to assist in understanding of the scope of the project. Information should not be relied upon for any other purpose.

INTRODUCTION

Since 2007 Darwin International Airport has achieved average annual growth of 8.5% for total passenger traffic. In 2011 Darwin International Airport experienced 19.4% growth in International passengers and 5.4% growth in Domestic passenger numbers. Going forwards, Darwin International Airport's strategy is to diversify and grow its passenger numbers through origin & destination (O & D) passenger traffic and increased hubbing operations, predominantly driven by the Low Cost Carrier Sector.

The existing terminal is constrained in key operational areas and is consequently nearing and in some cases exceeding capacity during peak periods. These key constraints put pressure on the ability for the business to meet growth objectives. To help achieve its goals the airport is proposing to develop a low cost extension to both the east and the west of the existing terminal footprint to support capacity growth through to 2017.

PROJECT VISION STATEMENT

Darwin International Airports vision is to redevelop the terminal, including an expansion that brings the unique character of the Top End to the travelling public, while providing an efficient, sustainable, safe and secure airport terminal, which is cost effective in terms of capital and life cycle cost.

The terminal development will allow Darwin International Airport to achieve profitable growth through additional flexibility and capacity, enabling our airline partners to grow their businesses and achieving a step change in our retail business.

PROJECT OBJECTIVES

- Deliver an expansion blueprint for capacity growth to 2017 planning horizon, in line with approved 2010 Airport Master Plan.
- Profitable Growth; achieve an IRR which exceeds the particular Hurdle Rate, i.e. 11% for general airport development projects, 15% for property & retail development projects
- Deliver the capacity and flexibility to enable airlines to grow their businesses and facilitate route development
- Demonstrate creative and commercially astute deployment of resources (people, money and space)
- Deliver improved passenger experience; and
- Contribute towards our safety and sustainability objectives; e.g. design out current safety issues/reduction in energy etc.

PROJECT BACKGROUND

The original Darwin International Airport Terminal Building was constructed and opened in 1991 under the control of the Federal Airports Corporation (FAC) and since that time, minor expansion and capacity increases have been undertaken. Historically, Darwin has been a point to point destination. Recently with the increased range of narrow bodied aircraft, the growth of low cost carriers in the Australian market and the emergence of the Asian market for tourism and an increasing resource industry requiring Fly In Fly Out (FIFO) operations there is opportunity for

significant passenger growth at Darwin International Airport. As an example, Jetstar currently operates a hubbing operation through to Asian ports and has indicated a desire to base between five to seven aircraft for their hubbing operations at Darwin. Other airlines have previously indicated an interest in a hubbing operation but none of these has reached a critical mass as of yet.

The planning figure for this proposed expansion is a terminal that can handle up to six simultaneous narrow body aircraft hubbing international operations, as well as catering for a number of existing domestic and regional services. The expanded terminal will need to provide flexibility, as it has to cater for both full service and low cost airlines.

Recent apron expansions have provided the capability for aircraft parking to support these projections, however processing facilities within the terminal are now required to be expanded to meet this capability.

PASSENGER FORECASTS

Passenger Forecast and Busy Hour rates and information for Darwin International Airport have been verified by TFI and Airbiz and the design life for the capacity of the terminal has been determined as a 2017 Busy Hour.

Passenger and busy hour rates (approx.)

<u>Domestic Peak Passenger</u>	<u>2006</u>	<u>2017</u>
Arrival	590	960
Departures	600	970

<u>International Peak Passenger</u>	<u>2011</u>	<u>2017</u>
Arrival	473	998
Departures	432	840

PROJECT DESCRIPTION

It is expected that the principal consultant will focus on delivering a value for money airport terminal. The building does not necessarily need to be architecturally ornate but operationally efficient. The extension should compliment the shape and form of the existing building while also allowing for future terminal expansions as and when required. As far as is practical the build and operational stage should apply low cost principles, and be environmentally sustainable.

Scope of Work

Darwin International Airport reached an in principle agreement for a Long Term Pricing Agreement in late 2010 to provide certainty through to 2017 for future capital expenditure and in particular providing funding certainty for a terminal expansion. Concept plans on the operational flows have been developed by Airbiz since late 2010 and these have been architecturally enhanced by JGA in the concept design consolidation phase (through to September 2011). This has resulted in a set of architecturally concept design sketches as at 22 September 2011, upon which this brief is based.

Darwin International Airport has since finalised the Long Term Pricing Agreements with its customer airlines in late 2011. The agreed capacity enhancements and scope outlined as part of the agreement for the Terminal Expansion is included at Appendix A.

The building design needs to be smart in how it achieves sustainability with the environment.

It should be noted that the scope identified at Appendix A provides the required functionality, the development of design solutions to meet this requirement whilst achieving a low cost build and a reduced whole of life cost is paramount to the success of this project.

Terminal Design/Layout

Significant iterations have previously been undertaken regarding terminal layout, passenger processing and passenger facilitation requirements, which has resulted in the agreed concept sketches dated 22 Sep 2011.

The functional design needs to anticipate that the building does not necessarily need to be architecturally ornate, but cost effective and leading to low operating costs and simple construction. The design also needs to be undertaken with the understanding that the 2017 development is NOT the ultimate build for this area and that further development beyond 2017 is expected as per the current Airport Master Plan.

In order to pick up the unique character of the Top End, and in fitting with the existing fit out the design should pick up elements on the existing terminal design in terms of look and feel, whilst being cost effective in terms of capital cost and life cycle costs.

The Principal consultant shall work closely with Darwin International Airport to achieve its goal of providing a building that follows the low cost model, maintains operational efficiency, sustainability, yet contributes to the positive passenger experience. Hence the use of materials, finishes to walls, ceilings and floors should result in lower cleaning and maintenance costs over the life cycle. Low maintenance and safety features, e.g. such as access platforms/roof working systems should be considered and demonstrated throughout the design incorporating safety in design principles.

Consideration should be given during the design development as to how the project can be expedited to achieve a quicker construction period, if practicable.

The terminal development has been broadly divided into 2 stages (East and West) in line with capacity forecasts and critical constraints for the airport. The following outlines the broad stages (also refer to Appendix A).

Stage 1

- Eastern end expansion across two levels.
- Increased departure gate lounge areas (including minimum of two additional departure gates)
- Increased departures check-in concourse to suit kiosk/desk/bag drop operations (will include new build and possible alterations to existing)
- An increased centralised security screening zone & a separate Eastern end screening area predominantly for the provision of goods screening but also as an redundant screening point if required. An international departure lounge suitably sized to cater for the departures busy hour;
- Airline lounges including relocated and new facilities.
- Improved vertical circulation to meet relevant legislative requirements.

- Storage and accommodation for cleaning services, passenger trolleys, waste and ensuring sufficient toilet capacity is available.
- The provision of appropriate delivery and loading facilities for the loading and distribution of goods throughout the terminal.
- Define the required services and electrical/ mechanical infrastructure services to support the extension i.e. communications (including IT services), essential services, fire safety systems, air-conditioning, stormwater. Capacity for future extensions should be considered in the design.
- Provision of appropriate passenger way finding signage to DIA's specification.
- Allowance for future aerobridge connections to the terminal.
- The provision of commercial and retail space opportunities in the terminal (including the arrivals hall) for such things as car rental.

Stage 2

- Western end expansion across two levels
- Increased international departure lounge area
- Improved vertical circulation
- Relocation and consolidation (where possible) of the border agency processing facilities
- Increased duty free incorporating a walk through offering
- Provision of additional domestic reclaim belt facilities
- Increased passenger facilities.
- Consideration of relocation of the Customs "West Wing" and the QF Engineering Ramp Hangar.

Security

Since September 11 2001, a number of significant security measures have been introduced into the aviation community. The project must allow that all security relating to aircraft and passenger safety required by NT Airports continue to be met.

The aviation security environment is dynamic in nature, where additional demands can be introduced within a relatively short time frame. The screening for liquids, aerosols and gels (LAG's) on international flights was a prime example of this.

The design of the terminal must ensure that the airport is able to implement current security requirements, including enhanced inspections of airport staff (all persons going airside must be inspected), while working to minimize security operating costs. The design of the terminal should minimise the use of resources by the provisions of a central security precinct and the use of technology. The provisions for a separate screening process in the international departure lounge will be required. Space requirements will be inline with busy hour forecasts, anticipated growth rates and future adoption of technology and footprints required.

Objectives of the screening precinct include (but not limited to):

- Flexibility to implement future security requirements, including technology changes
- Flexibility to meet front of house security requirements
- Facilities where possible should reduce the level of anxiety for persons passing through screening points, by providing adequate space, appropriate facilities, a high level of customer service and clear unambiguous directions in regards to security requirements.
- Provide security screening staff with the best possible work area.

- IATA Design Service Level C

Retail Areas

Retail Areas

Retail areas to be re-defined in the new Domestic space with an emphasis on creating a retail environment that is immersive in nature and reflects the most current retail standards in regards to presentation, participation and functionality. Sympathy to the existing outlets is not to be a consideration unless development exposes natural synergies. These designs need to provide opportunity to execute minimal disturbance to ongoing trade through the redevelopment works. These works include but are not necessarily limited to:

- Relocation of both the Inbound and Outbound duty free stores to the redeveloped portion of the terminal.
- Both Duty Free offerings are required to be of a walk-through design
- Development of additional retail space with domestic access using best practice design standards in conjunction with industry standard tenant requirements.
- Develop additional retail space with International lounge access.
- Retail to be of design to accommodate adequate storage
- Loading/shipping dock located in Eastern end of terminal complete with storage for retail areas at a rate of 1 m² storage for every 10m² in retail outlet floor space (10%)
- Security point for retail delivery of goods (can also be used as staff entrance).
- Adequate seating where appropriate for the retail area specifically Food and Beverage.

Apron Design/Layouts

Apron expansion will be required in the future. Although not part of this terminal redevelopment and expansion, cognisance of the constraints that future Apron expansion needs to be taken into account along with allowing for connection of future aero bridges.

CRITICAL SUCCESS FACTORS

Ultimate Design (Terminal)

The design year to be adopted for the design is 2017. In terms of space planning it is to be assumed that the terminal development will satisfy the facilitation requirements of IATA Level of Service C/D while taking into account low cost carrier passenger processing service levels and be based on the Annual Passenger and Busy Hour Rates outlined under passenger forecasts.

The design must be cost effective and leading to low operating costs and simple construction.

The use of materials, finishes to walls, ceilings and floors should result in lower cleaning and maintenance costs over the life cycle. The design must broadly fit with the existing fit out in terms of look and feel, whilst being cost effective in terms of capital cost and life cycle costs.

The design must also meet the requirements of the current Airport Master Plan and allow for future terminal expansion as and when required out to 2030.

Passenger Flow (Terminal)

Passenger flows in all functional and operating areas must be flexible in layout to help deliver efficient hubbing of domestic to international Pax and vice versa. Irrespective of IATA Design Level of service the functional layouts should aim to make hubbing operations as efficient as possible (aiming for a turnaround time of 45 mins with through checked baggage), this should be achieved through smart use of space, not necessarily greater.

The flow diagrams should show how passengers will undertake the departure and arrivals journey from check-in to gate or aircraft to gate, and gate to baggage claim.

Ideally the passenger flow will be as direct as possible, while still meeting the developments required commercial objectives (including DDA and special needs passengers)

Terminal Interface

The design needs to accommodate passenger segregation from arrival and departing passengers, screened and unscreened passengers as well as domestic and international passengers.

Sustainability

The airport is committed to incorporating Ecologically Sustainable Design (ESD) principles into all new developments. The concept design should take a whole-of-building approach in incorporating design elements that achieve energy efficiencies, water conservation, waste minimisation, greenhouse emission abatement and flexible use of space. Whole of life costs will be taken into account for all building elements.

COMPLETION DATE (design)

It is expected that the detailed design aspect of the project will be completed by the first quarter of 2012.

REFERENCE DOCUMENTS

- DIA Master Plan

APPENDIX A – LONG TERM PRICING AGREEMENT SCOPE OF WORKS

DIA Expansion - Scope Extent

This document outlines the agreed scope and extent of works under the LTPA.

Stage 1 East (Domestic related works)	
Area	Description
Check in	Net addition of 6 conventional check in counters with collector belt extension only
Departures lounge	Domestic lounge capacity increased to cater for 2017 busy hour
Boarding gates	Provide 2 (two) additional domestic first floor boarding gates.
Passenger segregation	Improvement to passenger flow options to and from Bays 5 to 8 as a result of relocating QF club.
Vertical transportation	Provide suitable egress to facilitate assisted domestic passengers for transfers to Bays 5 to 12
Security	Provide sufficient security space to cater for 2017 busy hour.
Toilets	Provision of additional toilets to cater for expected passenger numbers in line with required standards
Baggage system	Existing international baggage belt considered as a swing capability - being reviewed by BCS
	Relocate over gauge baggage drop off closer to check-in
	Consider future capacity to add new 4 th baggage make up belt
Goods delivery	Inclusion of loading dock, available for use by airlines and tenants
Stage 2 West (international)	
	detail
Departures lounge	Expand international departure lounge capacity for 900 passengers – ie 6 x A320 @ 80% LF
Boarding gates	Improved international boarding flows to facilitate two simultaneous departures (and four in 60 min window)
Outbound processing	Expanded LAGS screening / preparation area and expand/relocate emigration primary line processing
Inbound processing	All international arrival processing to be established at ground level with enlarged footprint
Border Agencies	Relocation and Expansion of Border Agency Operational and Administrative Requirements
Baggage system	Provision of 1 (one) new international baggage reclaim belt.
	Provision of seamless bag drop for international to domestic transfers
	Future capacity to add 4 th baggage make up belt - additional belt excluded from current scope.

Terminal Expansion Exclusions	
	Detail
Aerobridges	NO further investment in aerobridges.
Baggage system	NO dedicated 3 rd domestic baggage reclaim belt before 2017
Covered walkway (W bays)	NO allowance for covered walkways to bays 21, 22 (and 23)
Office accommodation	NO change to existing airline offices within the scope of terminal works