



PERTH AIR TRAFFIC SERVICES CENTRE (ATSC) MODERNISATION WORKS

SUBMISSION 1.0

STATEMENT OF EVIDENCE
TO THE
PARLIAMENTARY STANDING COMMITTEE
ON PUBLIC WORKS

AIRSERVICES AUSTRALIA
CANBERRA ACT
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1. Project Title

Perth Air Traffic Services Centre (ATSC) Modernisation Works

2. Background

Airservices Australia (Airservices) is a Government-owned organisation responsible under *the Air Services Act 1995* (the Act) for the provision of air traffic management, air navigation support (communications infrastructure, radar and navigation aids) and aviation rescue firefighting (ARFF) services to the aviation industry. We endeavour to achieve this while balancing cost, efficiency, noise and aircraft environmental emissions. Our core business is the provision of air traffic control and flight decision support information and facilities for safe and efficient air traffic flow. In providing these services, the Act requires Airservices to regard the safety of air navigation as the most important consideration.

Airservices is responsible for the airspace stretching in latitude from two degrees to 90 degrees south; and in longitude from 75 degrees to 163 degrees east. This is an area of 19,995,070 square nautical miles (51,786,992 square km) - or some 11 percent of the world's total airspace. Airservices has jurisdiction for some of the busiest air routes in the world and manages air traffic operations for over 90 million passengers on more than four million flights every year.

Airservices revenue is derived from provision of services for air traffic control (ATC) and ARFF services. This revenue funds our operating expenses and our investment in capital works and other projects on behalf of the Australian Government and the aviation industry. We return a dividend to government each year.

We liaise directly with our airline customers to negotiate our Long Term Pricing Agreement (LTPA) which is endorsed by the Australian Competition and Consumer Commission (ACCC) and monitored by industry stakeholders through a Pricing Consultative Committee (PCC).

Capital expenditure is in alignment with the LTPA. The capital expenditure program remains balanced between rebuilding and maintaining core capabilities and the introduction of new services and initiatives to support forecast growth in the aviation industry.

The safety, efficiency, and overall performance of the Australian aviation industry is under-pinned by the nation's air traffic management system – a system which ensures a seamless flow of air traffic between Australia's airports and sequences traffic across our international boundaries.

2.1 Context

Aviation is of national strategic importance to Australia. A safe, secure and efficient civil aviation industry underpins a range of business, trade and tourism activities that contribute significantly to our economic prosperity.

Forecasts for aviation traffic growth indicate passenger numbers in our region will double by 2030. This growth, along with extra-long haul airline operations, new military aircraft capabilities, the increasing use of remotely-piloted aircraft, and the limitations of legacy infrastructure, presents a significant capability challenge for Australia in the medium term. New infrastructure projects such as new runways and terminals at existing airports, new airports to serve major cities, new aircraft fleets, and new technology in aircraft and ground systems are being rapidly introduced.

Military aviation is a key component of our national security and both civil and military aviation are critical enablers to advancing Australia's global and regional interests. Airservices current air traffic management system, The Australian Advanced Air Traffic System (TAAATS), has been operational since the late 1990s and is approaching end of life. Defence's air traffic management system, the Australian Defence Air Traffic System (ADATS), is also at end of life.

2.2 OneSKY Australia Program

Airservices and the Department of Defence (Defence) have partnered to develop the OneSKY Australia Program, the joint solution that will deliver the modernisation of air traffic management in Australia and take advantage of an opportunity for air traffic management alignment.

The threshold benefit of having a single harmonised Civil-Military Air Traffic Management System (CMATS) is the cost savings of purchasing one system rather than a separate civil and a separate military system. On acquisition alone, in buying one system, the combined savings for both Airservices and Defence is in the order of several hundred million dollars. There are also service delivery benefits of the new system.

Airservices is acting as lead agency for the procurement and implementation of the system to create a single project environment a clear decision-making structure.

Australian airspace is currently divided into a Northern Flight Information Region (FIR), controlled from Brisbane and a Southern FIR, controlled from Melbourne (Figure 1). This division of the flight regions is reflective of 1990s technology capability. Under the OneSKY program, Australian airspace becomes a single FIR which provides further ATC capability with flexibility and resilience.



Figure 1: Australia Airspace

Airservices and Defence are each responsible for readying their relevant infrastructure to accept the OneSKY joint acquisition over the next few years. For Airservices, this will include a number of construction projects which are at varying stages of planning and development. In 2015, the following projects will be brought to the Parliamentary Standing Committee on Public Works (PWC):

- OneSKY Equipment Rooms Project (Brisbane and Melbourne);
- Melbourne and Brisbane Air Traffic Services Centre (ATSC) Extensions; and
- Perth Air Traffic Services Centre (ATSC) Refurbishment.

3. Need for the Works

3.1 Project Description

The ATSC building complex is situated within the Airservices compound at Perth Airport providing control services to RAAF restricted airspace up to 200 nautical miles from Pearce Airbase and civilian control services within, 36 nautical miles of Perth Airport.

The current air traffic services centre supports the delivery of Air Traffic Management (ATM) services by air traffic controllers from both Airservices and the Royal Australian Air Force (RAAF), as well as office administration space and facilities for RAAF and Airservices functions including Air Traffic Controllers, technical services, ARFF, Learning Academy, Environment, Safety and Assurance and project delivery.

To support the successful deployment of CMATS, Airservices proposes to modernise the current ATSC facilities in Perth. The refurbishment will extend the life of the ATSC building for a further 20 years and upgrade the existing supporting infrastructure to enable delivery of the CMATS solution.

The project will include:

- provision of a new plant room complete with required power and cooling infrastructure;
- upgrade and reconfiguration of the existing ATSC building and infrastructure; and
- upgrades to the existing site security systems.



Figure 2: Existing Facility within Airservices Compound at Perth Airport

3.2 Identified Need

The Perth ATSC buildings were constructed in 1982 with a design life of 40 years. The existing mechanical and electrical infrastructure is at end of life and does not meet the capacity or reliability, maintainability and availability requirements for the provision of air traffic services into the future. The

power and cooling infrastructure for the building is provided by a single plant room which also services the Technical Maintenance Centre (TMC) building.

The administrative areas are of varying condition and do not comply with Airservices current office standards and does not make efficient use of available space.

3.3 Options Considered to Fulfil the Identified Need

The project considered two options:

3.3.1 Construction of a New Facility

This option was not pursued due to the higher cost. The main factors that influenced discounting this options were:

- Airservices enjoys peppercorn rent on the Perth site. A new facility would require lease or purchase of a new site; and
- Airservices houses Perth maintenance staff and facilities in an adjacent building. The maintenance staff service the on-airfield equipment as well as maintaining the air traffic management system. Acquisition of a new site away from the airport would have affected the ability of our maintenance staff to react to breakdown issues.

3.3.2 Refurbishment of Existing Facility

The existing facility was constructed in 1982 and is structurally sound. Refurbishing the building to meet the business resumption requirements of OneSKY and upgrade the facility for Building Code compliance ensures a further 20 years of service from the building.

The refurbishment will allow operation of both the existing TAAATS and the OneSKY system in parallel over a four year period to allow for the design, testing and implementation of OneSKY, and to ensure a continuance of service whilst transitioning to OneSKY. Therefore completion of the Perth modernisation works is required by 2016 to allow for the testing and compliance of the OneSKY equipment before the start of the OneSKY rollout in 2018.

Airservices current ATSC building has the capacity to house the additional equipment required to run both the new CMATS system, and the existing TAAATS and ADATS. Airservices and Defence will run both current and new systems in parallel as part of the OneSKY systems development, testing and implementation of CMATS.

It is for these reasons of capital and ongoing costs as well as maintaining a critical mass of maintenance technicians that refurbishment was considered the best option.

3.4 Related Works

Extensive preparation for the transition to a new air traffic management system will take place over the coming years. Two related submissions for construction and refurbishment of facilities will be made to the PWC during 2015:

- Two specialised equipment rooms to house the new OneSKY technical equipment and the future airways system operated by Airservices are proposed for construction at our two major air traffic facilities in Brisbane and Melbourne. This project was submitted to the PWC in June 2015.
- The construction of new air traffic services centres is planned for Melbourne and Brisbane. The design of the new OneSKY equipment rooms will take into account the location of the ATSC to allow for the integration of data, voice, power and cooling between facilities. This project will be submitted to PWC in late 2015.

3.5 Heritage considerations

The ATSC building is situated within the Airservices compound at Perth Airport and the new power house will replace existing facilities such as mowed grassed areas. No heritage considerations are anticipated.

No areas of Aboriginal cultural significance were identified during the study of the site or during the site investigation.

3.6 Environmental impact assessments

Airservices on-ground developments and operations that occur on federally-leased airports are required to comply with the *Airports Act 1996*. The Airports Act sets out the environmental direction and targets for activities that include: reducing energy and water consumption, reducing waste generation, minimising land contamination, conservation of heritage and biodiversity, ensuring good air quality, and ecologically sustainable design of buildings.

The contractor will be required to demonstrate compliance with the above environmental, legal and policy requirements and also prepare environmental assessment reports that describe environmental hazards and values that occur on site and within vicinity of the selected construction site.

An environmental impact assessment will be conducted and finalised during the Planning Phase of this project.

3.7 Impact on local community

The proposed project is not expected to have any impacts on the local community or general public as construction and siting are located within the current Airservices compound at Perth Airport.

3.8 Stakeholder Consultation

The facilities are located within an area of land leased by Airservices from Perth Airport Pty Ltd, and extensive consultation has been undertaken with the airport about the proposed project.

4. Purpose of Works

4.1 Project Objective

The main objective of the ATSC refurbishment is to extend the life of the building and upgrade the existing supporting infrastructure to enable installation and operation of the new CMATS solution.

The secondary objective of the project is to upgrade and reconfigure the existing ATSC building for office space for functions including Air Traffic Controllers, Technical Services, ARFF, Learning Academy, Environment, Safety and Assurance, RAAF and Project Delivery.

The refurbishment will allow operation of both the existing TAAATS and the OneSKY system in parallel over a four year period to allow for the design, testing and implementation of OneSKY, and to ensure a continuance of service whilst transitioning to OneSKY. Therefore completion of the Perth modernisation works is scheduled for 2016 to allow for the testing and compliance of the OneSKY equipment before the start of the OneSKY rollout in 2018.

4.2 Site Selection

The current air traffic service centre supports the delivery of air traffic management services by air traffic controllers from both Airservices and the RAAF. The land is leased by Airservices from Perth

Airport Pty Ltd on a “peppercorn” basis. There will be no requirement to extend the current leased area to accommodate the proposed changes to the ATSC building and infrastructure facilities required to achieve these project goals.

Perth terminal control unit operations are housed and supported by facilities provided by the ATSC building and a separate plant room. These buildings are located within an area of land leased by Airservices from Perth Airport Pty Ltd. The power and chilled water facilities also support the Technical Maintenance Centre (TMC) building located within the same lease boundary. These buildings were constructed in 1982.



Figure 3: Existing Facility within Airservices Compound located at Perth Airport

4.3 Project scope

The scope of the proposed project is to extend the life of the ATSC building at Perth Airport and upgrade the existing supporting infrastructure to enable installation and operation of the new CMATS solution. The scope of proposed works includes:

- Refurbishment of the ATSC building to provide the following areas:
 - ATC and RAAF operational areas;
 - Equipment room to accommodate the CMATS equipment;
 - ATC and RAAF administrative areas;
 - Transition facilities required to support the OneSKY implementation;
 - ARFF administrative areas;
 - Shared facilities;
 - Provision of a new plant room including generators, fuel storage, airconditioning plant and mains switchboards;
 - Provision of new chilled water piping and air conditioning cooling towers;
 - Provision of a new building control and management system, power control management system and integration of infrastructure monitoring with the National Technical Monitoring System; and
 - Upgrades to the existing site security systems.

4.3.1 Zoning and local approvals

The locations of the proposed equipment rooms are within an area of land leased by Airservices from Perth Airport. The site is located in accordance with the relevant approved Airport Master Plans for the airport. Perth Airport will be consulted in relation to the required zoning and development planning procedures.

The proposed works do not require acquisition of additional land or involve land disposal aspects.

4.3.2 Applicable Codes and Standards

The design of the new facilities will conform to the relevant sections of the Building Code of Australia (BCA) and relevant current Australian Standards and Codes.

4.3.3 Planning and design concepts

The proposed project incorporates the following considerations:

- design life of 20 years;
- consideration and implementation of best available and appropriate Work Health and Safety design features;
- consideration and implementation of best available and appropriate workplace design and amenity;
- consideration and implementation of concepts for the long term maintenance and upgrade of plant and major building components;
- durability and maintainability in terms of low life cycle costing; and
- environmentally sustainable design.

4.3.4 Electrical services

Electrical services will include an Emergency Warning Instruction System (EWIS) to the requirements of the BCA, applicable Australian standards and requirements of local authorities.

4.3.5 Fire protection and security measures

The upgrades to the ATSC buildings fire detection and extinguishing systems will include:

- upgrades to existing fire detection systems to meet fire engineering strategy requirements;
- provision of appropriate portable firefighting equipment to support the new building layout; and
- provision of fire suppression systems in the plant room and the CMATS equipment room to meet the fire engineering strategy requirements.

The fire protection will be designed in accordance with BCA requirements.

The *Aviation Security Act 2004* provides a framework for security of airport facilities. The facilities will be designed to comply with these requirements.

4.3.6 Acoustics

The facilities will include an appropriate level of acoustic treatment consistent with the provision of a suitable working environment on an operational airfield.

4.3.7 Landscaping

Minimal landscaping will be required as the facilities will be sited within and adjacent to existing Airservices infrastructure. Any required landscaping will be designed to be low maintenance and low water use.

4.3.8 Water and energy conservation measures

Airservices has a strong focus on increasing environmental efficiency within the organisation. This is achieved by reducing energy, water and waste impacts at our facilities. Accordingly, this project shall deliver:

- design options for the plant room that look to reduce the operational costs of energy and water consumption over the life of the asset;
- energy efficient systems and equipment that will support the whole building achieving and being able to maintain a National Australian Built Environment Rating System (NABERS) energy rating of at least 4.5 stars;
- water efficient systems and fixtures that will support the whole building achieving and being able to maintain a NABERS energy rating of at least 4 stars;
- a construction environmental management plan to manage the site works; including a waste management plan to achieve 80% recycling of construction and demolition waste;
- all wastes including asbestos will be collected, transported and disposed of in approved regional landfills in accordance with Western Australia's Environmental Protection (Controlled Waste) Regulations 2004. Contractors will not be permitted to dump wastes within property controlled by Perth Airport;
- disposal of redundant electrical equipment shall comply with the standard for collection, storage, transport and treatment of end-of-life electrical and electronic equipment; and
- procurement of products and services in accordance with the Australian Government's Sustainable Procurement Guide (2013).

4.3.9 Provisions for people with disabilities

The proposed project will comply with required provisions for disabled access detailed in the *Disability Discrimination Act 1992*. Provision for people with disabilities (including disabled toilets and wheelchair ramps to the main entrance) are currently provided at the facility.

4.3.10 Childcare provisions

The facility is deemed a restricted area. As such no child care provision has been included in the project.

4.3.11 Work, Health and Safety Measures

The proposed facilities will comply with Airservices internal work health and safety policies and procedures as well as the *Work Health and Safety Act 2011*.

In accordance with the *Building and Construction Industry Improvement Act 2005*, building contractors will be required to hold full occupational health and safety accreditation from the Office of the Federal Safety Commissioner under the Australian Government Building and Construction Occupational Health and Safety Accreditation Scheme. The construction site will be within a restricted area of the airports and will therefore be appropriately secured to prevent unauthorised access during the construction period. No special or unusual public safety risks have been identified.

5. Cost Effectiveness and Public Value

5.1 Project Budget

The overall budget of the proposed works is estimated to be \$23,054,890 million, exclusive of Goods and Services Tax. The project budget incorporates all construction costs, management and design costs, fittings, equipment and a risk and contingency provision.

A detailed breakdown of the cost of the main elements is provided in the confidential cost estimate (Submission 1.1) submitted separately.

5.2 Details of project delivery system

The project will be delivered using a design and construct project delivery model. In addition to the main design and construct contract, Airservices will engage independent consultants to review the contractor's designs and progress of the works. Airservices will maintain an involvement in the project in project management, engineering, safety assurance and environmental management to meet its statutory and regulatory obligations.

5.3 Construction program/project schedule

Subject to Parliamentary approval, the construction works are intended to commence in 2015. To meet the current OneSKY deployment schedule for Perth, the equipment room, power and cooling infrastructure upgrades are scheduled to be completed in early 2016.

5.4 Revenue

Airservices currently receives revenue for the provision of ATC services. The revenue arrangements will not change as a result of this project.

5.5 Public Value

The proposed works contribute to the safety of aviation at Perth. ATC is an essential service which must be maintained if Perth Airport is to continue to operate the airport at its current passenger volume.

6. Acronyms

Term	Description
ACCC	Australian Competition and Consumer Commission
ADATS	Australian Defence Air Traffic System
ARFF	Aviation Rescue and Fire Fighting
ATC	Air Traffic Control
ATM	Air Traffic Management
ATSC	Air Traffic Services Centre
BCA	Building Code of Australia
CMATS	Civil Military Air Traffic Management System
FIR	Flight Information Region
LTPA	Long Term Pricing Agreement
NABERS	National Australian Built Environment Rating System
PCC	Pricing Consultative Committee
PWC	Parliamentary Standing Committee on Public Works (PWC)
RAAF	Royal Australian Air Force
TAAATS	Australian Advanced Air Traffic System